'If she's pregnant, then that means that her dreams fade away': Exploring Experiences of Adolescent Pregnancy and Motherhood in Rwanda

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Abstract

Adolescent motherhood can alter the future opportunities available to girls and the challenges they face. This article considers how adolescents' capabilities are influenced by pregnancy and motherhood, using a mixed-methods case study of Rwanda. Adolescent motherhood impacts girls' lives across multiple capabilities including education, psychosocial well-being, voice and agency, and economic empowerment. Rarely were adolescent mothers in our sample supported to return to school, for instance. Their pregnancy and motherhood were stigmatised by their families, peers, wider community and service providers. The psychosocial consequences of adolescent motherhood are significant, linked to social isolation and multifaceted stressors, including poverty. Despite recent policy and service improvements, adolescent mothers continue to be left behind.

Keywords

Adolescents

Motherhood

Pregnancy

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Capabilities

Sexual and reproductive health and rights

Introduction

Adolescence is a period of opportunities and risks, and individuals' experiences and behaviours during adolescence can have lifelong consequences. Many adolescents are sexually active, and while they may want to avoid pregnancy, they often lack knowledge about or access to contraception or the agency to make decisions about their sexual and reproductive autonomy. Adolescent motherhood can significantly alter the future opportunities available to girls. We need to better understand the implications of adolescent pregnancy and motherhood, centring the insights and experiences of adolescents within their individual context (household, community, society). This paper considers how adolescents' lives are influenced by adolescent pregnancy and motherhood, using a capabilities framework for a case study of Rwanda.

'Leave no one behind' underpins the Sustainable Development Goals (SDGs) and Agenda 2030 of the United Nations' Every Woman Every Child (EWEC[1]) global strategy (UNSG 2015). Both approaches emphasise equity. Inequities related to sexual and reproductive health rights (SRHR) force attention to be paid to the diverse factors operating at multiple levels (individual, community, structural) that affect adolescents' abilities to exercise agency in their sexual and reproductive lives. Adolescents globally experience significant inequities in SRHR. A study of coverage of maternal and reproductive health indicators (2008–2017) in 58 countries shows that adolescents: have lower coverage of family planning interventions than women aged 20–49 years; had the slowest rate of improvement in coverage for reproductive health; and that children of adolescent mothers were significantly disadvantaged (Amouzou, Jiwani et al. 2020). Approaches to leave no one behind need to ensure equity in access to SRHR information and services for adolescent girls.

To identify who is being left behind, and how to intervene, there is a need for disaggregated data to illuminate inequities (Boerma, Victora et al. 2020). The evidence on adolescent sexuality in Rwanda – including non/ consensual sex – is limited. A qualitative study of rural secondary students in Rwanda

identified two stereotypical sexual interactions: 'experimental' sex between adolescents, and transactional sex with older partners (Michielsen, Remes et al. 2014). The authors concluded that young people have little capacity or agency to manage their vulnerabilities in these relationships. Evidence from Rwandan secondary school students identified gendered norms relating to sexual coercion and its acceptance, including but not limited to age-disparate relationships (Van Decraen, Michielsen et al. 2012).

The Rwandan evidence base on adolescents, contraceptive use and services is more extensive, reflecting secondary analyses of Demographic and Health Survey data (Hakizimana, Logan et al. 2019, Uwizeye, Muhayiteto et al. 2020). A regional comparison of young women's (15–24 years) contraceptive use shows how Rwanda lags significantly behind its neighbours, despite increases in contraceptive use over the last twenty years (Dennis, Radovich et al. 2017). Even when adolescents are aware of, and knowledgeable about, effective contraception, its use remains low for reasons that include: judgemental service providers; inaccessible services; low availability of specialist healthcare workers, socio-religious norms, concerns about side effects; stigma (and the need for privacy/secrecy); and the costs of accessing and using services (Binagwaho, Fuller et al. 2012, STPH 2015). A survey of social and healthcare providers in urban Rwanda concluded that SRH services are "fairly accessible" to adolescents, but noted that family members and faith leaders may actively discourage use of contraception and / or promote abstinence (Ndayishimiye, Uwase et al. 2020).

Adolescent pregnancy is common in Rwanda; more than a tenth (11.5%) of girls aged 18 have begun childbearing (NISR 2016) and a non-representative sample survey of female adolescents found that 18% of those aged 16–19 years had given birth (Calder and Huda 2013). A study of near-miss maternal mortality found that unintended pregnancy and unmet need for contraception were common. Young women have low levels of awareness of effective long-acting reversible contraception, and demonstrate either no use of contraception or reliance on male condoms and/or

counting (Påfs, Musafili et al. 2016). Over a fifth (22%) of all pregnancies in Rwanda are estimated to end in induced abortion (Basinga, Moore et al. 2012) and a study on maternal near-misses among women of all ages in the capital, Kigali, showed that abortion was related to nearly half (45%) of all severe morbidities and over a quarter (28%) of mortalities (Rulisa, Umuziranenge et al. 2015). There are no age-disaggregated data or estimates on adolescent abortion-related care-seeking in Rwanda, but evidence from elsewhere in Africa suggests that adolescents are more likely to seek less safe abortion methods than older women (Bankole, Remes et al. 2020).

Evidence about adolescent motherhood in Rwanda has two main frames – social problem and public health - reflecting a pattern identified by Macleod and Feltham-King (Macleod and Feltham-King 2019). A study of paradoxes of women's empowerment in Rwanda included interviews with adolescent mothers in Rwanda and identified the shame of unmarried motherhood. Girls are described as losing *agaciro* (value) when they become pregnant, and have to leave school because of the incompatibility with childcare (Berry 2015). A study of adolescent mothers living in a Rwandan refugee camp identified the ways in which stigma intersected with girls' in/ability to remain in education (Ruzibiza 2020). A non-peer-reviewed qualitative study of the needs of adolescent mothers reported far-reaching impacts on their lives, many rooted in the stigma of an adolescent pregnancy, including: being forced to leave the parental home; being unable to secure justice; mental ill-health; curtailment of education; and poverty, leading to inability to seek healthcare (for the mother and her child) (Kvinna 2018). A descriptive observational study of postpartum depression among adolescent mothers in Rwanda concluded that nearly half (48%) of the convenience sample had clinically high levels of depressive symptoms (Niyonsenga and Mutabaruka 2020). A hypothetical ranking exercise about barriers to future aspirations with Rwandan adolescents in a non-peer reviewed study found that 'without exception' education and poverty were identified as critical to girls achieving their life aspirations, with pregnancy and rape

ranked third and fourth respectively (Calder and Huda 2013). Notable from this work is the implicit causal pathway between rape, pregnancy, education and, ultimately, poverty.

However, we still know relatively little about Rwandan adolescent girls' experiences of pregnancy and motherhood, and the implications for their lives. In order to examine the multiple implications of adolescent pregnancy and motherhood, we use a framework that incorporates six capabilities: education and learning; bodily integrity; physical and reproductive health and nutrition; psychosocial well-being; voice and agency; and, economic empowerment (GAGE 2019). This socio-ecological framework is rooted in a gendered capabilities approach informed by the work of Martha Nussbaum (Nussbaum 2011) and Naila Kabeer (Kabeer 1999) that explicitly incorporates the ways in which adolescents' environments shape their lives and trajectories. Next we provide an overview of structural factors – policies, laws, services – that form part of the environment within which adolescents experience pregnancy and motherhood.

Structural factors related to adolescent pregnancy and motherhood

The challenges facing adolescent mothers in Rwanda are set against a national context that is relatively enabling, at the regional level (Coast, Jones et al. 2019). Table 1 provides details of national legislation and policy frameworks relating to adolescent SRH in Rwanda. The cross-sectoral National Integrated Child Right Policy (NICRP) complies with the United Nations Convention on the Rights of the Child (UNCRC) and is aligned with international agendas such as the SDGs and Agenda 2030's call to leave no one behind. In 2011, the Ministry of Health (MoH) adopted the Adolescent Sexual Reproductive Health and Rights Policy, setting out the need to provide adolescents with greater access to information on contraception and healthcare. Contraceptive services are available through village community health workers alongside limited 'youth-friendly' SRH services (Tuyisenge, Hategeka et al. 2018). In the National Strategy for Transformation (NST1), goal 60 is to scale up

awareness and use of contraception 'with a particular focus on the youth' (Rwanda 2017). NST1 is framed by enhancing Rwanda's demographic dividend, linked to its large young population with 62% of the population aged below 25 years. This framing is a shift from the country's Economic Development and Poverty Reduction Strategy II (2013–2018), which prioritised limiting population growth for economic development, in addition to a health or human rights framing (Dennis, Radovich et al. 2017).

The current Health Sector Strategic Plan (Rwanda 2018) highlights adolescent pregnancy and its health risks and builds on earlier efforts to expand the availability of contraception from community health workers (Wesson, Munyambanza et al. 2011, Dennis, Radovich et al. 2017). Some girls are not covered by health insurance, while those that are covered may face high out-of-pocket costs. Adolescents are deterred from seeking contraception and risk being stigmatised if they try to access SRH services, facing barriers at multiple levels (family, community, healthcare institution) when they try to do so (2CV 2014, Rwanda 2018). Adolescents' needs for accurate SRH information remain unmet to a large extent (Hub 2011, Abbott, Mutesi et al. 2014). The current Health Sector Strategic Plan emphasises the need for affordable and accessible contraception for all ages, together with non-judgemental counselling and services for adolescents (Rwanda 2018). The Competence-based Curriculum aims to provide age-appropriate school-based sexuality education (Rwanda 2015).

Rwanda amended its abortion law (Government of Rwanda, 2012) to permit legal safe abortion under certain circumstances and developed new guidelines to increase access to post-abortion care, but implementation of services remains limited (Påfs, Rulisa et al. 2020). The law was updated in 2019, and although the regulations address access for adolescents, requests for abortion for any female below 18 years must be made by a guardian or legal representative.

Table 1 about here

Legal and safe abortion thus remains difficult to obtain in Rwanda, particularly for adolescents (Umuhoza, Oosters et al. 2013, Påfs, Musafili et al. 2016), while post-abortion care is available but its accessibility and quality varies (Vlassoff, Musange et al. 2015).

Research design, methods and analyses

Our mixed-methods evidence includes qualitative interviews with key informants and young mothers, as well as focus group discussions with young mothers. Quantitative face-to-face interviews were conducted with adolescent mothers and non-mothers. All researchers were made aware of their obligations in relation to confidentiality and had signed formal agreements to maintain confidentiality. For additional detail on research methodology and instruments see (placeholder for methodological article in special collection). We refer to individuals who had given birth or were pregnant before age 18 as 'adolescent mothers'. We refer to individuals who had never been pregnant as 'non-mothers'. A minority of respondents classified as 'adolescent mothers' may not have subsequently become mothers if the pregnancy did not result in a live birth.

Study location

Quantitative survey data was collected from one sector (administrative unit below the district) each in three provinces (Kigali, Southern, Northern), purposively selected for exhibiting a range of economic and social vulnerabilities (Table 2). Selected sectors have similar poverty headcount indexes to the province overall (NISR 2017) and are in districts (Gasabo, Huye, Gakenke) where at least 5% of women aged 15–19 have had a live birth (NISR 2016). Qualitative interviews were conducted in these three sites, plus an additional two sites (Nyabihu distict in Western Province and Ngoma district in Eastern Province) using the same criteria.

Table 2 about here

In each of the five sites, researchers conducted four key informant interviews (KIIs), one focus group discussion (FGD) with adolescent mothers, and five individual in-depth interviews (IDIs) with adolescent mothers (with the exception of Gasabo, where four IDIs were conducted). The quantitative survey was conducted with adolescent mothers and non-mothers in three sites.

Qualitative sample

Key informant interviews were conducted with 20 individuals, drawn from a range of government and community organisations, including para-social workers (community health workers). Individuals were purposively selected for working with or on adolescents, in education and health. Qualitative IDIs were conducted with 24 female adolescents aged 15–19 years who had given birth before the age of 18 (n=22) or were currently pregnant before the age of 18 (n=2).

Adolescent mothers were selected through purposive sampling. In the three sites where the quantitative survey took place, adolescent mothers were sampled from the survey respondents. It proved difficult to re-contact surveyed adolescent mothers, reflecting the stigma of adolescent motherhood and the demands on adolescent mothers' time. In the two sites where there was no quantitative survey (Jomba and Remera), the research team purposively sampled adolescent girls who had given birth before the age of 18, and two interviews were conducted with adolescents who were pregnant. Participants were identified by local leaders and community health workers. Five FGDs were conducted with adolescent mothers. Overall, in each of the five sites, four key informant interviews, one FGD with adolescent mothers and 5 individual interviews with adolescent mothers were conducted [with the exception of Gasabo with four individual interviews with adolescent mothers]. FGD with adolescent mothers were recorded and used community and institution mappings to stimulate discussion.

Quantitative sample

Quantitative surveys were conducted with 117 adolescent females aged 15–19 years, of which 50 had given birth or were pregnant before the age of 18, and 67 were non-mothers. To identify adolescents aged 15–19 to sample in the three quantitative sites, village leaders and community health workers prepared lists of all households in their villages that had adolescent girls aged 15–19 as members. Community health workers were also requested to list adolescent girls who had given birth or were pregnant and under 18. Enumerators visited the identified households to confirm eligibility of the adolescent girls and enroll them in the study. Thus, in our quantitative analyses "adolescent mothers" refer to female adolescents who had given birth or been pregnant before age 18, and "non-mothers" refer to female adolescents aged 15-19 who never been pregnant. The surveys, which included questions on adolescent sexual and reproductive health (SRH), nutrition, education, paid work, experiences of violence and gendered attitudes, were translated into Kinyarwanda. Surveys were administered verbally by trained female enumerators using tablet-based software in a private setting away from the home with the adolescent respondent. Enumerators were trained in ethical procedures to ensure confidentiality. In addition, a survey was conducted with the primary female caregiver in the adolescent's household, which included household-level data (on assets, household composition, uptake of safety net programmes, etc.). Data was uploaded to BoxSync using secure procedures to ensure security of participant data throughout the data collection and analysis process.

Qualitative analyses

The analyses use the Gender and Adolescence: Global Evidence (GAGE) conceptual framework (GAGE 2019). GAGE is a 9-year longitudinal research project on gender and adolescence across multiple low- and middle-income countries (LMICs) (placeholder for GAGE conceptual article in special collection). Adolescents are situated at the centre of this socio-ecological framework. Our framework encompasses the deeply gendered processes by which adolescents acquire key

capabilities during this life stage, and how these capabilities are affected by pregnancy and motherhood before the age of 18. We developed a thematic code book informed by our conceptual framework, inviting comments from researchers involved in the fieldwork to sense-check codes and add nuance. FGDs and interviews were recorded and transcribed directly into English by professional transcribers external to the research team. Coding was done using MAXQDA qualitative data analysis software. A limited number (n=2) of coders were given common training and the first transcript by each coder was checked for reliability, and through spot-checks thereafter.

Quantitative analyses

The quantitative analysis is primarily focused on supporting the thematic findings of the qualitative analysis and aims to describe the differences between adolescent mothers and non-mothers. Significant differences between adolescent mothers and non-mothers were determined using the following bivariate linear regression:

$$y = \alpha + \beta_1 \text{Adolmother} + \varepsilon \quad \text{(equation 1)}$$

In the regression equation, y is the outcome for an individual and β_1 is an indicator for the individual being an adolescent mother. The model in equation 1 is then further expanded to look at outcomes of interest using a multivariate regression model as follows:

$$y = \alpha + \beta_1 \text{Adolmother} + X + \varepsilon \quad \text{(equation 2)}$$

Where X represents a set of control variables determined to be significantly different between the adolescent mothers and non-mothers and includes respondent age, an indicator for current enrollment in school, highest grade attended, and location. Note that school enrollment was also significantly different, but no adolescent mothers were in school so this is not included in the model. Due to the small number of non-mothers reporting ever having had sex (n=6), a comparative analysis was not conducted for indicators related to sexual experience. For ease of presentation, we used linear probability models for binary outcomes but the effect sizes and associations are qualitatively the same as findings using logistic regression. Statistical analyses were conducted using Stata15.1.

Ethics

The quantitative survey received approval (13/9/19) from the Rwanda National Ethics Committee (RNEC) (No. 861/RNEC/2019). The qualitative research received approval (23/9/19) from RNEC (No. 801/RNEC/2019). Researchers were trained on research ethics, how to interact appropriately with adolescents, and referral process for identified risks of harm or adverse events. Participants were provided with, and read out loud, a document describing: the purpose of research and process of data collection; the risks and possible benefits of participating; their rights to confidentiality; and their rights to end participation or subsequently withdraw from the study. If participants were under 18 years and living with a guardian, participants provided their written assent and their guardian provided consent. If participants were over 18 or living alone or with a partner, they provided their own written consent.

Results and analyses

We present our mixed-methods evidence thematically, reflecting the chronological themes emerging from the qualitative analyses: relationships, sex and contraception; pregnancy disclosure; and the consequences of adolescent motherhood. We merge evidence and insights across our evidence sources to give the fullest picture possible. Table 3 provides some overall characteristics of the quantitative sample.

Table 3 about here

Among our quantitative samples, mean ages were 17.6 years for mothers and 16.6 years for non-mothers. The mean age of respondents in the qualitative research was 17 years. While there were differences in school enrollment and educational attainment (discussed below), there was not

significant differences between adolescent mothers and non-mothers in the quantitative sample for household level variables such as household size, an asset index, or literacy of the household head.

Relationships and sex

To understand the experiences of adolescent mothers first requires understanding of the circumstances - relationships and non-/consensual sex - that led to pregnancy. This is because, for example, whether a boyfriend accepts or denies paternity of a pregnancy can have implications for the support that an adolescent mother receives. Or, if a pregnancy was the result of rape, the ways in which this has implications for how an adolescent's family or community treat her.

Data on age at first sex were collected in the quantitative survey. Among adolescent mothers, the age at which they first had sexual intercourse ranged from 12 to 18 years (Table 4); a minority of adolescent non-mothers had also had sex – including at a young age – but due to the small number of non-mothers reporting ever having had sex (n=6), we did not conduct an analysis for indicators related to sexual experience.

Table 4 about here

Consensual sex

More than half (15/24) of respondents in the qualitative research described the sex that led to pregnancy as consensual and part of a 'love relationship'.

> *We were in love. He told me to go and visit him, and when I went there, that is when he got me pregnant.*
>
> (Adolescent aged 19 years, rural, consensual sex with boyfriend, IDI)

Girls in consensual love relationships presumed or hoped this would lead to formal (legal) marriage:

Before we slept together, we were in love and he usually was telling me that he needs to take me to his family, to show them that he has a girl he wants to marry.

(Adolescent aged 17 years, rural, cohabiting consensual relationship, IDI)

Given the stigma surrounding adolescent sexuality and pregnancy, it was not unusual for girls to frame their sexual activity in terms of being 'tempted' into it:

There was a neighbouring boy that used to tempt me with small money like 200 Rwandan francs and make me do things I didn't know. Because I hadn't gone to school I had no idea about how to get pregnant… then he impregnated me.

(Adolescent aged 17 years, rural, sex in exchange for goods, IDI)

This respondent explicitly linked her lack of education to her lack of understanding about how she might become pregnant. This is reflected in the quantitative data, where 64% (n=32) of adolescent mothers had heard of a method to delay pregnancy, compared to 84% (n=56) of non-mothers (Table 4). Key informants framed some girls' sexual activity as motivated by poverty, and differentiated between gendered norms for girls' and boys' sexual practices:

When a girl experiences a life of poverty, it pushes her to get involved in sexual intercourse. *This may result in her adopting some bad behaviours for her to get what she did not get in her family, while a boy is not easily deceived. Also, a girl can have an unwanted pregnancy not due to bad behaviour but because of poverty that made her do what's unworthy of her.*

(Community health worker, Kigali, KII)

The stigma of being sexually active before marriage means that adolescents keep these relationships secret. Adolescents were clear that the only reason – apart from pregnancy – for disclosing sex might be if it were non-consensual:

> *Because he did not do it by force, there was no reason to reveal it to people*.
>
> (Adolescent aged 18 years, rural, consensual sex with boyfriend, IDI)

Coercive sex and sexual violence

In the quantitative survey, 26% of adolescent mothers reported being forced by a male who was not their husband or partner attempt to have sexual intercourse with them. In the bivariate analysis, this is significantly higher than non-mothers, where 10% reported this experience ($p<0.05$); what is notable is the levels of reported forced sex amongst adolescents. More than a fifth (22%) of all adolescents reported being touched sexually or being forced to touch a male who was not their partner or boyfriend. There was not a statistically significant difference between adolescent mothers and non-mothers experiencing unwanted sexual touching in both the bivariate and multivariate analyses (Table 5). In the qualitative data, consensual sex and rape are both reported by adolescent mothers.

Non-consensual sex is a common feature of adolescent girls' lives and was reported in both the qualitative IDIs and in the quantitative survey; nearly three-quarters (74%) of adolescent mothers reported in the survey that they were 'not at all willing' when they first had sex (Table 4). For adolescents who become pregnant because of non-consensual sex, there is a triple stigma to contend with: sex, pregnancy and non-consent.

I was like an idiot because it was the time I came from countryside. I entered in his house and then he directly closed the door because there was no one else around there… So, because there wasn't any one around, it [rape] *was done.*

(Adolescent aged 18 years, raped by an acquaintance, IDI)

One respondent was pregnant due to having been raped by her employer; she had left her rural home to migrate to an urban area:

I was a maid and later I got pregnant. My boss had a wife and when she went to work, he pretended to go for work, but he came back after his children went to school and then he closed the doors and then he raped me.

(Adolescent aged 19 years, IDI)

Adolescents reported that stigma – including against girls who have been raped – would frequently mean their families keeping everything secret, and not pursuing justice. In some cases, adolescents or their parents decided not to report the rape in case the father of the child would provide economic support, but this support rarely materialised. Adolescents were aware that it was possible to seek justice, but identified structural barriers to doing so:

Sometimes, you go to Rwanda Investigation Bureau (RIB) and they tell you to go back to local leaders and put your claim there. But the problem is that you might claim against someone and find that your local leader is their relative, and the claim just vanishes like that.

(Adolescent mother, FGD, Western Province)

Key informants acknowledged the difficulties that adolescents who have to disclose a pregnancy due to rape have to contend with, in the seeking of justice:

If it [rape] *happens and by chance the adolescent girl gives information, leaders follow the case and punish those who committed the crime. However, the adolescent girls cannot easily give the information because they think it is shameful to share information.*

(School teacher, Kigali, KII)

The stigma of adolescent pregnancy in general – not only in cases of rape - affects both adolescents and their families. This is reinforced by normative perspectives that presume poor or absent parenting as the cause of adolescent pregnancy:

The causes of unwanted pregnancy start from families, when a child grows without someone who controls and advises her on how to behave as an adolescent.

(Government officer, Eastern Province, KII)

Knowledge, access to and use of contraception

Adolescents in our study had diverse knowledge understanding and experience of using contraception; reflecting universal patterns that knowledge does not necessarily translate to use. In the multivariate analysis, adolescent mothers in our survey were significantly ($p<0.05$) less likely than their non-mother peers to have had a source of information about puberty (60% vs 88%). Non-mothers reported having spoken to their guardians about puberty more so than adolescent mothers did. Non-mothers were also significantly more likely to have talked with their own mother about menstruation than adolescent mothers in the bivariate analysis ($p<0.01$) (Table 5). Given that puberty and menstruation have occurred prior to motherhood, it is possible that girls who are less likely or able to discuss issues relating to physical maturity might have less knowledge about pregnancy or contraception; however, as we do not have any data on the content of these intergenerational conversations, this suggestion is speculative.

Table 5 about here

In the qualitative interviews, only one adolescent mother reported having ever used contraception before becoming pregnant. She said she reminded her partner to use the male condom, but that he had lied to her about using one. By contrast, adolescents reported that, having become mothers, they received information about contraception as part of maternity care.

Some girls had limited knowledge about contraception:

> *Yes, I knew it. I knew that sleeping with a boy makes a girl pregnant. I knew that sex without protection leads to pregnancy. And we did not use any protection, and I got pregnant.*
>
> (Adolescent aged 17 years, rural, consensual cohabiting relationship, IDI)

For others, knowledge of contraception did not translate to use, possibly reflecting limited agency to insist on contraceptive use with a consensual partner, or low understanding about the likelihood of pregnancy, or an inability to access contraceptive services, or non-consensual sex:

> *I knew that if you are in family planning, you don't get pregnant. However, I did not use family planning as I did not think of giving birth.*
>
> (Adolescent aged 19 years, rural, non-consensual sex with an acquaintance, IDI)

In some cases, adolescents had concerns about side effects of contraceptives:

> *I heard from people saying that when women use those family planning methods, they get headache, dizziness, or have eye problem. So, I think those things can destroy my health.*
>
> (Adolescent aged 19 years, non-consensual sex with boyfriend, IDI)

Many healthworkers find the provision of contraception to adolescents challenging, reflecting community-level norms stigmatizing adolescent sexuality. Key informants' views and mis/information informed their contraceptive counselling for adolescents, reflecting a service environment that does not facilitate contraceptive use by sexually active adolescents:

> *Telling a girl of 14 or 15 years to put that thing* [female condom] *is not well trusted, what if she puts it into* [herself] *and fail to conceive! I encourage the under 18 girls to be abstinent.* *(*Para-social worker, Eastern Province, KII)

Such community-based advice often contrasts with policy statements:

> *There should not be an obligation of using family planning methods, but they* [healthcare workers] *should accept it and give to any child who would ask for it.*
> (Government official, Southern Province, KII)

Pregnancy awareness and disclosure

To understand girls' trajectories to adolescent motherhood, it is important to understand how girls learn they are pregnant and subsequently disclose the pregnancy, to whom, and with what consequences. Understanding pregnancy awareness and disclosure in settings where pre-marital sexuality is highly stigmatized adds analytic insight to understanding the circumstances of adolescent motherhood. It illuminates how secrecy, stigma and shame reflect institutional and community norms about adolescent sexuality. Pregnancy awareness and timely confirmation also have critical implications for a girl's ability to access safe and legal abortion. Pregnancy disclosure means simultaneous disclosure of sexual activity – whether consensual or not – and the most common outcome was denial of paternity:

I immediately told him and he told me that they don't impregnate girls in his family. I felt like killing him if I was able to.

(Adolescent aged 18 years, urban, consensual sex with her boyfriend, IDI)

Since the moment I told him that I am pregnant, he already told me that the child is not his, that I should look for his/her father.

(Adolescent aged 18 years, raped by an adult male acquaintance, IDI)

Abortion is one of the potential outcomes considered by girls, sometimes linked to paternity denial:

Many people told me not to abort the baby, but I had made a decision of aborting it because it is what I wanted and no one was going to change my mind. I kept thinking about it, and I was confused. I didn't know what to do about it. And I could not find money, but if I had, I could have aborted it.

(Adolescent aged 18 years, urban, consensual sex with boyfriend, IDI)

One key informant framed the need for abortion for adolescent girls, explicitly linked to young age. Acknowledgement of abortion as an option by key informants we interviewed was rare:

For those who get pregnant while they are still young and don't accept it, they can allow them to abort.

(Government official, Southern Province, KII)

Consequences: for adolescent mothers

The chain of potential consequences for adolescent mothers – for future aspirations, education and employment, for example – is captured by the words of a community health worker:

If she's pregnant, then that means that her dreams fade away. If she's pregnant before she completes her studies, then she goes home to raise the baby. It's like her vision has just been erased.

(Community health worker, Kigali, KII)

In the qualitative IDIs none of the adolescent mothers reported wanting to become a mother at the time they became pregnant. In the quantitative survey, 10% of adolescent mothers reported that they wanted their pregnancy, 28% reported that the pregnancy was not wanted at that time, or ever and 62% wanted to wait until later to become pregnant (Table 4). Dissonance between the qualitative and quantitative data is to be expected; the critical insight is that the majority of adolescent mothers did not want to be pregnant at that point in their lives. Following disclosure of a pregnancy, adolescent mothers reported being treated differently by their families, reflecting a swift transition from childhood to adulthood as a result of pregnancy:

My parents? After they hear that everything changes, the way they take you before is different from how they take you now. You become a woman so they can't take you the same way.

(Adolescent aged 15 years, rural, consensual sex with her boyfriend, IDI)

Implications for education

Adolescent mothers experienced rejection by their peers, and some had to leave school to care for their child. None of the adolescent mothers surveyed were currently enrolled in school (compared with 58% of their peers who are not mothers) (Table 3). Adolescent mothers reported leaving school in anticipation of the attitudes they expected to face:

I dropped out because I didn't want the teacher to notice that I am pregnant. I thought that they would announce it in the school and that my classmates would mock me.

(Adolescent aged 18 years, raped by an adult male living in the same compound, IDI)

This is reflected in adolescent mothers achieving lower levels of school grade than their peers (6.4 vs 7.8, $p<0.001$) (Table 3). For a minority of girls interviewed, their families provided support – for them and their child – and an enabling environment to return to school:

It was not a problem for my mom to take care of my baby because she is the one who requested me to go back to school. The baby used to stay at home with my mother and at school they used to give me permission to go and breastfeed her at noon time.

(Adolescent aged 19 years, raped by her boyfriend, IDI)

Stigma and social exclusion

Reflecting the rapid transition from childhood to adulthood as a result of pregnancy, many adolescents described the shrinking of their social world and their ability to be seen outside of the home:

All my friends rejected me when they saw what happened. I was alone and I could see it, and I started to hate myself. I was worried, and I feared to go in public and wished to stay at home all the time.

(Adolescent aged 19 years, non-consensual sex with her boyfriend, IDI)

Individual friendships ruptured, reflecting the normative stigma associated with adolescent pregnancy:

A girl, we studied in the same class, she saw what happened to me and she is no longer my friend because she may say that I can lead her into bad behaviours and she gets pregnant too because I gave them a bad example.

(Adolescent mother, FGD)

Girls' relationships with the father of their baby changed over time (Table 6). Pregnancy and motherhood disrupt girls' consensual sexual relationships and reduce their social networks and support. While 82% of girls reported being engaged, living with or in a relationship with a boyfriend before the pregnancy, only 54% reported staying in this relationship afterwards.

Table 6 about here

These relationship changes likely reflect instances of paternity denial and / or familial responses to stigmatized pregnancy and motherhood:

He does not help me, he does not ask me about our kid, he did not register the baby.

(Adolescent aged 17 years, rural, consensual sex with her boyfriend, IDI)

Key informants tended to present the girls' family as the most appropriate or unproblematic source of support for adolescent mothers. In some cases key informants reinforced the stigma of adolescent motherhood "*No man would accept her with a child*":

When she gets pregnant, she comes home and lives with her parents and they raise the child together. You can't chase her away while she's your child. But rather, you keep her home and you both raise the child, pay insurance for him/her. No man would accept her with a child. So

what she does is stay home and help her parents and what parents do in return, they try to find money to provide her with whatever she needs.

(Village security leader, Western Province, KII)

Normative stigmatizing views about adolescent sexuality, pregnancy and motherhood were experienced by adolescents throughout the pregnancy, including during childbirth:

You tell her/him that s/he is hurting you, s/he tells you that 'When you were doing it [having sex]*, did you think of the outcome of it?' And you feel offended.*

(Adolescent mother, FGD)

Psychosocial well-being

Taking the quantitative data on mental health and ability to talk to someone about their problems together with the range of worries that adolescent mothers reported, a picture emerges of adolescent mothers being less able to talk to people about a wide range of problems and being more likely to experience poorer mental health than their peers who are not mothers. Compared to their peers, the bivariate analysis indicates that adolescent mothers were significantly less likely to have ever talked with community members about a serious problem affecting the community (14% vs 31%, $p<0.05$) , though there is not a statistically significant relationship between mothers and non-mothers in the multivariate analysis (Table 5). Our quantitative evidence suggests that adolescent mothers also experience significantly higher likelihood of being moderately or severely depressed in both the bivariate and multivariate analyses (Table 7). In the bivariate analysis, adolescent mothers were also more likely to report suicidal ideation in the past two weeks compared to non-mothers (20% vs 9%, $p<0.05$) , while this relationship is no longer significant with the inclusion of covariates in the model..

Table 7 about here

Adolescent mothers were significantly less likely to be able to talk to their male or female guardian about problems compared to their peers who are not mothers. Half of non-mothers reported being able to talk to a female guardian about marriage, future work, religion, and bullying compared to only 30% of adolescent mothers ($p<0.05$). 19% of non-mothers and 6% of adolescent mothers reported being able to talk to a male guardian about these topics ($p<0.05$). In the multivariate models, while there were similar trends, the differences were not statistically significant difference between adolescent mothers and non-mothers speaking with their male or female guardians on these topics (Table 5). Adolescent mothers reported lots of worries for themselves and their child, for the present and for the future. For some, denial of paternity added to these worries:

> *It really worries me. Because I have heard that when children grow up, they can make you crazy while asking who is his/her father… oh my God it worries me.*
>
> (Adolescent aged 18 years, rape by an adult male acquaintance, IDI)

Economic insecurity

Adolescent mothers face economic insecurity as a result of motherhood, needing to provide for themselves and their child, with no or limited support:

> *As I gave birth at earlier age, I am not even able to pay health insurance and I am not able to feed the baby.*
>
> (Adolescent aged 16 years, rural, consensual sex with love partner, IDI)

Just over half (53%) of the adolescents reported being involved in paid work (46% mothers vs 58% non-mothers) (Table 5) and adolescent mothers find it harder to find regular paid work, in part due to the need for childcare:

Now I am not able to cultivate [farming] *because of the baby. No one will give you a job when you are going to spend time caring for the baby…*

(Adolescent aged 16 years, rural, consensual sex with love partner, IDI)

These constraints mean that adolescent mothers are typically engaged in petty trading or working on someone's plot of land for very limited income:

Do you think that selling avocadoes can give you money?… Before, there was nothing to worry about… but now, I think about what my baby will eat, will wear, and so on.

(Adolescent aged 18 years, rural, consensual sex, IDI)

I do it all… I can take a field and when I find someone who is renting I put in some physical labour and I go with them… to take care of my children… I carry them with me to the field.

(Adolescent aged 18 years, rural, consensual sex with a love partner, IDI)

In most cases adolescent mothers earn very little, which may explain why they reported lower savings than non-mothers, with significant differences in both the bivariate and multivariate analyses (12% vs 36%, $p<0.05$) (Table 5).

Limitations

There are limitations to our evidence and analyses. In our quantitative evidence, we cannot establish whether adolescents who are mothers were – before they became mothers – different from adolescents who are not (yet) mothers. We can only compare how adolescent mothers and non-mothers differ at the time of data collection. The highly stigmatised context of adolescent pregnancy and motherhood meant that systematic sampling of mothers from the survey for qualitative

interviews was not possible; our evidence is therefore restricted to those surveyed adolescent mothers who consented to be re-contacted and interviewed in depth. We do not know if the adolescent mothers who refused re-contact are systematically different from those who consented to re-contact and interview.

Discussion

Using a socioecological framework that centres an individual's capabilities reveals how adolescent motherhood exposed adolescents to experiences of enacted stigma (from friends, family and community [including healthcare workers]), internalized stigma (feelings of shame and disgrace) and led to behaviours to avoid or reduce stigma (secrecy, not going to school, contemplating induced abortion). The stigmatizing of adolescent pregnancy and motherhood – particularly unmarried adolescents – has been identified in other African contexts (Hall, Manu et al. 2018).

The evidence base on the linkages between adolescence, pregnancy and mental health is very limited and dominated by evidence from high income countries and few low- and middle-income countries (BeLue, Schreiner et al. 2008, Fisher 2011, Dillon 2014, Siegel and Brandon 2014, Field, Honikman et al. 2020). Our evidence shows that the impacts of adolescent motherhood for psychosocial capabilities are significant and negative and reflect the multiple interconnected and cumulative ways in which pregnancy and motherhood affect adolescents' lives – curtailed education; social exclusion; worries about themselves and their child; internalized and enacted stigma; and, limited economic opportunities. Our evidence supports insights from a descriptive observational study of postpartum depression among teen mothers aged 15-19 years in Rwanda that identified that nearly half (48%) of the sample had clinically high levels of depressive symptoms (Niyonsenga and Mutabaruka 2020).

Adolescents in our study – both mothers and non-mothers – reported challenges to their bodily integrity from coercive sex and rape; adolescent mothers were significantly more likely to have experienced coercive sex or rape than their peers. Coercive sex was reported for peer and age-disparate relationships, and linked to gendered norms (Van Decraen, Michielsen et al. 2012, Michielsen, Remes et al. 2014). Legal justice for sexual violence was rarely reported, impacting adolescent voice and agency capabilities, reflecting both the stigma of having to disclose and structural factors that reduced trust or confidence in the justice system. Rwanda has made substantial investments and progress in justice services for sexual violence, however adolescents and key informants in our study identified stigma-related barriers to accessing and using these services.

Adolescents involved in consensual sexual relationships had limited agency in their ability to prevent pregnancy for a range of reasons including: partner refusal or coercion not to use; limited knowledge and understanding about fertility and contraception; concerns about side effects; and, healthworker attitudes that stigmatized adolescent sexuality. Adolescent girls in consensual sexual relationships are poorly equipped with contraceptive information or access to services that meet their contraceptive needs; they are left behind by a health system that has only recently begun to prioritise adolescents. However, information and services do not equate to use or contraceptive autonomy (Senderowicz 2020). Adolescents' access to contraception is shaped by a legal framework that criminalises consensual sex between adolescents who are minors , societal norms that stigmatise adolescent sexuality (Dennis, Radovich et al. 2017) and gendered norms around coercive sex. Access to justice for sexual violence is constrained, despite legal provisions, reflecting normative expectations that these matters can and should be dealt with privately by the girl's family (Umubyeyi, Persson et al. 2016).

Pregnancy – its disclosure and visibility – reveals hidden adolescent sexual activity that affect capabilities across domains. For many adolescent mothers, the desire to avoid or reduce stigma was linked to withdrawal from or rupturing of education, social networks and friendships. For some adolescent mothers induced abortion was considered as a way of avoiding the stigma of adolescent motherhood; our study does not include pregnant adolescents that aborted. Although the Rwandan penal code on abortion makes provision for a legal abortion on a range of grounds, including if the pregnant person is a child or as a result of rape, adolescents in our study did not appear to be aware of these provisions, reflecting low levels of knowledge and understanding among Rwandan healthcare workers (Påfs, Rulisa et al. 2020).

Disclosure of a pregnancy marked an instant transition from childhood to adulthood for some of our respondents. For the majority of adolescent mothers in our study, pregnancy signaled the end of their education, reflected in low school grade achievement compared to their peers. For a minority of adolescent mothers, supportive and enabling families and schools (childcare, returning home to breastfeed) meant that education could continue. Although Rwandan education policies make provision for pregnant schoolgirls to remain in education and for adolescent mothers to return to education (HRW 2018), there are barriers to adolescents being able to access this provision. For example, adolescent mothers could make use of the Early Childhood Development (ECD) Centres as a source of childcare. However, ECD fees are not included in compulsory, universal and free basic education which makes it difficult for adolescent mothers to afford the fees for their child. In addition, ECD are only accessible for children aged between three and six years which means that adolescent mothers have little access to childcare for children under three. Finally, ECD opening hours [8-11am] do not align with school hours [7am-5pm]. The need to provide and care for a child makes it exceptionally difficult for adolescent mothers to continue in education. National policy also makes no provision for an adolescent mother and her child if they are rejected both by the child's father and the girl's family; the implicit assumption is that families will provide.

The social exclusion of adolescent mothers identified in our analyses aligns with conclusions drawn from research on unmarried motherhood in Rwanda (Debusscher and Ansoms 2013, Berry 2015). For the majority of adolescent mothers, their economic capabilities were impacted by the demands of childcare; the sorts of income generating opportunities that could be combined with childcare, such as agricultural labour, were precarious and poorly paid.

Conclusion

Adolescent mothers in Rwanda face significant disadvantages across multiple capability domains, all connected by stigma of adolescent motherhood. Our mixed-methods analysis suggests that adolescent motherhood has negative implications for adolescent girls' lives and their likelihood of being further left behind. Concerted and multisectoral efforts – across education, justice and health – are critical to prevent sexual violence and unwanted adolescent pregnancy and to support adolescent mothers, to reduce the likelihood that adolescent mothers and their children are left behind and the intergenerational transmission of disadvantage.

Conflict of interest

On behalf of all authors, the corresponding author states that there is no conflict of interest.

Author roles

Conceptualization: EC, RI, MM. Primary research: PP, SB2. Methodology: EC, PP, SB1, SB2, RI, MM. Analysis: EC, RD, RI, MM, SB1. Writing – original draft: EC, RI, MM. Writing – review & editing: all authors.

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