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‘You have a lot of mirrors’: structural and socioecological factors impacting adolescent pregnancy and reproductive health in the Amazon basin, Peru, a qualitative study

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Abstract

Loreto, in the Peruvian Amazon, has one of the highest adolescent pregnancy rates in the country. However, underlying causes of adolescent pregnancy are not fully understood as data are limited in Indigenous and remote Amazonian communities. This study investigated adolescent reproductive health within Loreto using an ecological systems framework. Forty-one semi-structured interviews were conducted in June 2022: community leaders ($n = 12$) and adolescent participants between 15 and 17 years of age (pregnant girls, $n = 11$; never pregnant girls, $n = 9$; and boys, $n = 9$). We also conducted focus group discussions with community health workers and educators in October 2022 (three focus groups, $n = 15$). Adolescent reproductive health is complex with multi-layered factors that put girls at higher risk of pregnancy. We found a paradoxical relationship between expected social and gender norms and individual desires. This research provides a contextual understanding of the lived experience of adolescents and young people in the Amazon region of Peru. Our findings suggest the need for greater exploration of the contradictory ideas surrounding adolescent pregnancy and female sexuality.

Keywords

Adolescent pregnancy; sexual and reproductive health; indigenous youth; ecological systems model; Peru

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> [My mom] always tells my sister... “You have a lot of mirrors; you see the mistakes of your classmates. You have a mirror, you have friends who have children, you see how they suffer, and do you want that?” (Male adolescent)

Introduction

In Peru, the percentage of adolescents ever pregnant is highest among rural areas, the *selva* (jungle) region, and in the lowest wealth quintile of the population (INEI 2019). Loreto, a predominately rural Amazonian department of Peru with high levels of poverty and a large indigenous population (MIDIS 2023), has one of the highest rates of adolescent pregnancy (Sanchez 2019) and some of the poorest maternal and child health indicators in the country (INEI 2021).

Adolescent pregnancy carries an increased risk of maternal and perinatal morbidity and mortality (Conde-Agudelo, Belizán, and Lammers 2005). Complications during pregnancy and childbirth are the leading cause of death among girls aged 15–19 years (WHO 2021). Infants of adolescent mothers have a 50% increased risk of neonatal death compared to infants born to mothers in their early twenties (Conde-Agudelo, Belizán, and Lammers 2005).

The occurrence and distribution of adolescent pregnancy are affected by the convergence of multi-layered factors at the individual, interpersonal, community, and societal levels (Caffe et al. 2017). These include harmful gender norms, limited female agency, poverty, early sexual unions, gender-based violence, social exclusion, low school attendance and quality, and limited access to sexual and reproductive health (SRH) services (Azevedo et al. 2012; Caffe et al. 2017; Naswa and Marfatia 2010; Starrs et al. 2018). Adolescent pregnancy has also been linked to poorer employment and educational outcomes (PAHO 2017; Sanchez 2019).

As Caffe et al. (2017, 4) suggest, ‘There is no single portrait of a teenage mother’, highlighting the need for a nuanced approach to understanding adolescent pregnancy, particularly among Indigenous youth. Adolescent pregnancy among Latin American indigenous communities is a complex interplay of cultural norms, traditional health beliefs, knowledge gaps, and structural barriers to SRH (Terborgh et al. 1995). Among Ecuadorian Amazonian people, with increased exposure and integration into the dominant society women’s desire for larger families has decreased over time, attributed to greater access to SRH information and contraceptives (Davis, Bilsborrow, and Gray 2015). However, among Indigenous communities of Chiapas, Mexico, the belief that adolescents should adhere to the cultural and reproductive health practices of their parents persists, perpetuating generational SRH ideas, myths, and taboos (Villalobos et al. 2023).

In Peru, stigma, distrust, and embarrassment contribute to the underutilisation of formal healthcare by Indigenous people (Badanta et al. 2020; Guerra-Reyes 2019; Westgard et al. 2019). Our study expands upon this body of research using an ecological systems framework to provide an in-depth examination of culturally-specific norms, structural factors, and

individual knowledge, attitudes, and behaviours that shape SRH experiences of Kukama Indigenous youth of Peru's Amazon.

Materials and methods

Theoretical approach

Bronfenbrenner's Ecological Systems framework (1977) allowed us to gather in-depth contextual information on the factors that influence adolescent pregnancy and SRH. Bronfenbrenner's ecosystems are presented as concentric circles with the individual at the core. Herein, we examined individual, microsystem, exosystem, and macrosystem levels (Figure 1). We were interested in how ecosystems influence the SRH knowledge, behaviours, and attitudes of Amazonian Indigenous youth

Study design/analysis

This study was conducted in Loreto's Nauta and Parinari districts with assistance from the Universidad Peruana Cayetano Heredia's *Mamás del Río* project, and its established network of community health workers (Reinders et al. 2023; Social Innovation in Health Initiative 2022).

We applied inductive and deductive approaches using semi-structured questions to draw inferences on identified factors within each ecosystem while simultaneously exploring emerging patterns and themes. For example, within the macrosystem, we asked adolescent participants to share their thoughts, feelings, or experiences about social expectations in their community with additional probes about marriage, education, parenting, life at home, religion, and traditions. SRH questions aimed to elicit information about the experiences of young people within their community rather than individual experiences and practices so as to reduce the possibility of social desirability bias (Westgard et al. 2019).

After obtaining informed consent, demographic information was collected from all participants through an interviewer-administered paper survey. Interviews were conducted in Spanish, audio-recorded, and lasted 45–90 min. When a participant declined the recording, notes were handwritten. Recordings were transcribed and uploaded to ATLAS.ti software for analysis.

A codebook was developed using themes and subthemes that emerged during interviews and field debriefings. The codebook was finalised in Excel and uploaded to ATLAS.ti. Six interviews were selected to test intercoder reliability across code groups. Discrepancies in coding were reviewed, discussed, and recoded through a consensus process.

Study sites

Interviews were conducted in 11 Indigenous communities located 210 km along the Marañón River, all but one was accessed by boat. Community sizes ranged from 120 to 400 people. At the time of the study, the combined population of Nauta and Parinari was 39,858 people whose primary religious affiliations were Catholic or Evangelical, and who ethically identified as Kukama Kukamiria. The predominant language in the communities

was Spanish. Main livelihood activities included fishing and farming; households closer to larger markets sold tourist handicrafts.

Not all communities had access to health centres or schools. Health services and personnel were more dispersed in river communities further from the main port of Nauta City (Hausmann et al. 2022). Access to water, sanitation, and electricity was limited. Electricity was only accessible from 6 pm to 10 pm with support from solar panels. Despite these challenges, in the last decade, communities along the Marañón River have had increased access to communication technology from mobile phone towers.

Semi-structured interviews

We conducted semi-structured interviews with adolescents and community leaders in June 2022. Inclusion criteria for adolescent participants were: Spanish-speaking; 15–17 years of age; living within the study sites; and attending school full-time before March 2020. We included pregnant adolescents who were primigravida or primiparous (having become pregnant 6 months after the start of the COVID-19 pandemic). Non-pregnant female adolescents were nulliparous. Adolescent boys had no paternity exclusion criteria. Community leaders included medical professionals, obstetricians, and tribal or youth leaders, and were required to be Spanish-speaking and to have worked/resided within Nauta or Parinari.

Purposive and snowball sampling was used. Study sites were selected based on the availability of pregnant adolescent girls meeting our inclusion criteria and with permission from the local *apus* (tribal leaders). Once granted permission, we first interviewed the *apu*. Next, we interviewed the young women; each were asked to refer an adolescent male and never-pregnant adolescent female. When referrals could not be made, we relied on the community health workers or obstetrician to recruit within the community.

Focus group discussions

The interview guide was adjusted to further explore emerging themes through focus group discussions (FGDs) with secondary school educators and community health workers in October 2022. FGDs were conducted in population centres to accommodate a secure and private space. Community health worker FGDs were separated by sex; educators were not due to the small group size. Inclusion criteria for educators were: Spanish-speaking, and working both currently and before March 2020 within a secondary school as an educator, other staff member, or administrator within Nauta or Parinari. Community health worker participants were *Mamás del Río* members, worked within Nauta or Parinari before the pandemic, and Spanish-speaking.

Ethics

Ethical approval was received from the Institutional Research Ethics Committee at the Universidad Peruana Cayetano Heredia (SIDISI Code: 2071919) and also from the university of Arizona's Institutional Review Board (STuDY00001109). Informed consent from participants and parents of minors were obtained; informed assent was also obtained

from those under the age of 18 years. Participants were provided with modest compensation ($2.50 USD–$3.75 USD) for their time.

Results

Study participants

Interviews took place with 11 pregnant adolescents/young women, nine never-pregnant adolescent girls/young women, nine adolescent boys/young men, and 12 community leaders. The mean age of adolescent participants was 15.9 years; half self-identified as ethnically Kukama. The remaining individuals did not specify an ethnicity despite living in a recognised Indigenous communities. Seventeen participants were currently enrolled in secondary school while eight graduated and four dropped out of the study during the pandemic.

Community leaders included seven male *apus*, four female medical professionals, and one female youth leader with a mean age of 44.5 years. Most had completed secondary school or higher and identified as Kukama. FGDs included two groups of community health workers and one group of educators, each with five participants. The mean age was 45.7 years with eight having completed secondary school or higher. All community health workers identified as Kukama. Obstetricians and educators identified as non-indigenous.

Macrosystem factors

Gender roles—Gender roles for men and women were prescriptive with strong ties to machismo and marianismo (Shannon et al. 2017). Women typically occupied domestic spaces and were responsible for household *cosas de mujeres* (women's things), including cooking, washing, laundry, cleaning, and childcare. When girls became mothers, they were obliged to adhere to their assigned gender roles and tasks. Young girls had restricted mobility but were permitted to attend school or work in the *chacras* (fields) when accompanied by a family member. Conversely, boys and men assumed roles outside the domestic sphere.

> Because they're men, they don't wash the dishes, as they say, they don't wash clothes because they think they're men, you know? They don't do anything... We [girls] have to help mom by washing the dishes, helping with cooking, cleaning the house, doing the many things that need to be done (Non-pregnant adolescent).

Men undertook work like fishing, farming, splitting firewood, and carrying water. They were allowed more freedom to participate in community programmes and income-generating activities. Their *fuerza* (strength) was considered an important asset and given preferential consideration when evaluating the value of male and female-designated work.

Gender heteronormative stereotypes were strongly enforced and when not strictly followed resulted in discriminatory labelling. Men who engaged in household chores were considered homosexual. Women who occupied outdoor spaces and challenged gender roles were considered *marimacho* (tomboys). This defamatory and homophobic language was a means to enforce gender constructs:

> For example, a teenage boy cannot, for example, wash the dishes, cannot pick up a broom... A young woman... cannot, for example, repair an engine and go fishing. She has to depend on her brother if she wants to go. If [a boy], for example, helps with the dishes, he's going to be gay. Or for example, if the young woman starts playing soccer, she is going to develop male hormones and she is going to be *marimacho* (Community leader).

These gender beliefs and expectations have their origins in political and historical events connected to colonisation and marginalisation of river communities (Motta 2011) and to poverty (Favara, Lavado, and Sanchez 2016). However, gender structures are dynamic and constantly evolving (Goicolea 2010). Young people in the study had changing perceptions around male and female work, assigning tasks to both genders. A young male participant noted that 'even boys too' help their mothers. Social norms are changing due to the influx of traffic and new technology in the region, along with efforts to promote gender equality in Indigenous populations (united Nations 2010). Youth must navigate traditional gender expectations alongside those of modernity.

Social expectations

Early defined adulthood.: For young girls, adulthood was loosely associated with the start of menses at around the age 12 when girls *tienen más cuerpo* (have more body) and were assumed to commence sexual relations. Adulthood was further defined by the ability of the girl to take on the household chores usually prescribed to their mothers, or when they became mothers, which was seen as desirable at a young age:

> Men say, "At 18, a woman is already old." That they should have their children at 12 or 13 years old, 14 years old (Community leader).

For boys, adulthood was defined as taking place between 14 and 18 years of age, corresponding to changes in their bodies and the moment when they could take their father's place in physically demanding activities within the community.

Female sexual objectivity.: Among community outsiders, there existed a stereotype that women of the Amazon were *calientes* (hot) or hypersexual. Their sexual desires were believed to derive from the jungle heat and their high consumption of stimulants, such as *aguaje*, fruit from palm trees native to the Amazon. This perpetuated the idea that *selva* girls were overtly sexual:

> As they say here in the *selva* because they eat a lot of *aguaje* they are very hot, very hot girls. If we do not orient them to that, self-love, they will be very, very promiscuous (Community leader).

Adolescent pregnancy.: Adolescent girls became pregnant between the ages of 12–17 years, typically by older men. Some participants said it was 'normal' for women to bear children at a young age but it was rare to see adolescent boys become fathers. It was believed that younger mothers had a greater physical capacity to give birth and raise children.

> As my father says, it is better young than when old because when you are young... you have more strength... and you can have your baby (Non-pregnant adolescent).

The idea of motherhood may also be attractive to adolescent girls since it provided a pathway to greater community engagement. Young mothers were permitted to participate in communal assemblies and were privy to social benefits not afforded to non-pregnant adolescents.

> We consider that adolescent as a mother, and many times, we, as authorities, cannot leave them aside. We have to unite them... She is going to have her benefits if there is support (Community leader).

Somewhat contradictorily, community leaders believed that adolescent girls became pregnant for a variety of reasons; these included their sexual precocity, their 'low instincts', lack of parental control, or to secure a male partner.

Exosystem factors

Access to SRH services—Adolescents expressed difficulty visiting the health posts because this often required crossing the Marañón River. Additionally, young girls were required to be accompanied for fluvial travel, which further hindered access to discrete and private consultations. Obstetricians assigned to rural health posts were only contracted for a year and all identified as non-Indigenous.

In communities with health posts, adolescent girls hesitated to utilise them. They believed that they needed parental consent despite a government resolution discontinuing this practice (MINSA 2019). Additionally, young people expressed concern over community gossip. The small size of the communities fostered less anonymity when seeking services at the health post. Adolescents feared being observed and this was a source of potential embarrassment.

Adolescents were more inclined to seek help from informal health networks including clandestine pharmacies or community health workers. As government-hired workers in public clinics, obstetricians were required to report the number of clients and contraceptives they distributed. If young people sought contraceptives from clandestine pharmacies, obstetricians were not able to include them in their quota. There was a concern that clandestine pharmacies lacked oversight and were not qualified to inform, educate, or distribute contraceptives.

> Clandestine pharmacies where they sell contraceptive methods without any obstetric prescription, right? They don't explain to them how they are going to take it; they sell them the morning-after pills as if they were selling bread, there is no control over how that should be, right (Community leader)?

In some areas with no health posts, community members including adolescents relied on community health workers for medication, consultations, and health information. However, community health workers were not utilised in the same way across all communities. Community health workers with *Mamás del Río* were limited in their ability to perform these tasks as they lacked training beyond the project's role of providing prenatal education.

Access to formal SRH education—SRH education was considered inconsistent, incomplete, and insufficient, largely provided by visiting organisations or school teachers. Health posts were also considered sources of SRH information. When financially viable, the obstetrician would travel to neighbouring communities to provide SRH education to youth. Young people were also exposed to SRH education in school; however, the information provided varied. Most SRH education was described as female-centred, and focused on how to prevent unwanted pregnancy. Adolescents received more information about HIV compared to other STIs. However, their understanding of HIV transmission and treatment was incomplete.

Technology.: Young people were frequent and prolific users of technology. This paralleled the growth of Internet access in the region and government-issued tablets for educational purposes during the COVID-19 pandemic. Young people used this technology to communicated with peers using social messaging platforms, to play games, and to access information. The Internet was a preferred source of information about SRH among young people, and to avoid gossip and criticism at the health posts, or among peers or parents.

> They [community women] criticise a lot, so sometimes I say, “Mom, it’s... better not go out, don’t get involved with people because I don’t want to be criticised.” And often many [community women] say, “Oh, that girl is pregnant, that girl is pregnant.” ... so sometimes I didn’t want to go [to the health post], because sometimes mothers go, young ladies who have children [go] and... they see you there. Those ladies are going to say, “Oh no, suddenly she is doing this that’s why she is coming.” That’s why I ran away from that, I mostly preferred to listen on the Internet, to listen to information and so on (Non-pregnant adolescent).

However, the use of modern technology was not well supervised and created a source of tension for community leaders who believed it provided an unnecessary distraction, a tool for Westernisation, and a means to access ‘bad things’, including pornography.

> The youth who are, I don’t know, seventeen years old, fifteen years old do have social networks because they already have access to the internet, to social networks. So, it’s like they’re doing everything that people do in Western society and it’s almost the same, only with a little more delay. (Community leader)

Microsystem factors

Early sexual unions—Informal unions were more common in these communities compared to the formal institution of marriage. Partnerships were acknowledged once parental approval had been obtained for cohabitation, most often after the girl becomes pregnant, and usually to an older adult man. In our study, pregnant adolescent participants were in relationships with adult male partners eight to 15 years older. Young girls sought older male partners for economic security, or in one case, to escape domestic violence in the home:

> I talked the other day with a [teenage] mother... and she told me that her partner is here, he was 24 years old, and this boy had offered her a lot of things: to support her, take care of her, protect her, whatever the girls want. Today they want a cell

> phone, they want some shoes, some sneakers, some clothes, what their parents can't give them (Educator).
>
> They [my parents] beat me up. And, like that, well... sometimes we would run away and no, my parents didn't realise it. But one day my dad said that he wanted to talk with [my partner], to come to an agreement... Then we got together (Pregnant adolescent).

It was undesirable for girls to be seeking a partner at an older age, as 'no one wants to be single at 30'. Men, meanwhile, sought younger girls:

> If you've noticed, the majority here, the men are older, and their women are young. And jokingly they say that: "They want fresh meat" [laughs], that's what they tell you, it's what you hear, language that is still used here in the jungle (Community leader).

Parental influence—Parents were identified as a primary source of SRH education. The mothers of adolescent girls provided them with information about abstinence and pregnancy avoidance at the start of menses, using their own experiences. These discussions were not comprehensive and often excluded reference to modern contraceptive methods. Adolescent boys were provided with SRH information by their fathers in which sex was more freely discussed.

Parents held considerable influence over youth partnerships. Parents may force a union when their daughter becomes pregnant, even if it is against her will. However, some girls experienced abandonment after pregnancy. This usually occurred in relationships with older men from outside of the community (e.g. fish traders, construction workers) over whom the parents had little influence.

Peers—Peers had an important role to play both in knowledge attainment and social engagement. Many adolescents relied on friends for SRH information, usually peers of the same sex who shared what they learned from experience, school, the Internet, parents, health posts, older siblings, or partners.

> Sometimes among friends, we start talking like this in a group... As women, we have [trust]. We say, "Oh yes, I don't want to get pregnant, what can I do?" Sometimes everyone has knowledge [about this], right? And little [by] little, we help each other like this (Non-pregnant adolescent).

Peer groups were also sources of bullying at school or within the community; pregnant adolescent girls were especially targeted, and bullying was more severe for those who were abandoned during pregnancy. Girls were blamed for not taking proper preventive measures or being too sexually experienced. As one young man recalled,

> I saw [the pregnant girl bullied] by my friends...many. "There are condoms", they told her. "She's fucked." That's how they made jokes (Male adolescent).

Consequently, some girls choose to hide their pregnancies by leaving school or delaying health visits. Peer-to-peer interactions were limited among pregnant adolescents. Social

isolation was experienced when girls moved to a new community for work or to live in their partner's parental home. Others lacked social connection within their own communities.

Individual level factors

Sexual initiation—Sexual initiation for girls often took place around 13 years of age and for boys around four years later. Different reasons were provided as to why girls begin sexual relations at a young age. Some suggested it was because of their desire for sex and the need to fulfill 'what their bodies ask of them' as well as to 'experiment', while others believed that sex was a means of securing a relationship or girls were pressured to do so. Some girls were coerced into having sex as *la prueba del amor* (a proof of love). Early sexual initiation could also be a result of exploitation and entry into the sex trade:

> I can tell you; they start from the moment they want to. There are some who want a man, nine years old, ten years old. There are some, that as they say, they sell their body. Many (Pregnant adolescent).

Additionally, parents were blamed when adolescent girls initiated sex early because they lacked supervision over their children.

Contraceptive knowledge and use—Although condoms were accessible, they were not used because they were perceived as reducing pleasure for men. Community leaders also believed that they promoted promiscuity among youth. Oral contraceptives were available but needed to be taken daily, which was considered problematic for adolescent girls who might miss doses, rendering them ineffective against pregnancy. The side effects of the pills, such as nausea, amenorrhoea, modified menstruation cycles, and weight change, were also seen as undesirable. Some feared that they caused cancer, stroke, infertility, and even death. Older adult women discouraged others from using modern contraceptives and perceived them to be especially harmful to adolescents, instead recommending the use of locally available medicinal plants for birth control.

Starting hormonal contraceptives at menses was usually decided upon by parents. In sexual relationships, men had greater decision-making power when it came to condom use. Because men preferred not to use condoms, adolescent girls chose hormonal contraceptives with or without the knowledge or support of their partners. Conversations about SRH between men and women were usually unidirectional with women being less able to advocate for themselves.

> It must be a bit complicated [for girls to tell their partner to use a condom]. Suddenly the man wants to have a child and the woman doesn't, it is likely that she will get pregnant (Male adolescent).

That said, the data highlighted changing attitudes. Remarkably, young men recognised the value of involving their sexual partners in SRH decision making. However, most of the relationships observed were between adolescent girls and adult men where female autonomy may be more limited.

Desire for children among adolescents—There were mixed narratives about motherhood among participants. Some pregnant adolescents considered it 'not a problem'

and ‘not a mistake’, emphasising motherhood as a source of joy. Other expressed remorse. Adolescent boys viewed adolescent pregnancy as a matter of paternity, offering examples of men within their communities denying responsibility to avoid obligatory unions. In these instances, ‘it is worse [for the pregnant adolescent girl] if they do not have a partner’ due to the economic hardship of raising a child. Non-pregnant adolescent girls viewed pregnancy as a barrier to their educational ambitions.

When asked at what age adolescents would prefer to have children, most claimed that older was better. The mean ideal age for motherhood was highest among non-pregnant adolescent girls ($n = 8$) at 24.1 years. Pregnant adolescents ($n = 10$) had a slightly lower mean ideal age of 22.6 years while adolescent boys ($n = 9$), had the lowest mean at 21.2 years. When asked about the reason for delay, some said that older women’s bodies were better ‘fitted to have a baby’ and that at a younger age, girls were not prepared physically and mentally. Adolescents also emphasised that having children later allowed girls to complete their education, have a profession, and ‘enjoy their youth’. Older mothers were believed to be more able to support their children financially and emotionally.

When adolescent girls had children, they assumed the primary role of caretaker; education and other pursuits were secondary. For those continuing their education, it was difficult to balance childrearing, domestic work, and school. One pregnant adolescent described her daily routine, which left very limited time to study:

> In the morning [my mother] makes breakfast, I wash the dishes, I sweep the house... when my partner leaves, I clean my daughter... Then, I’m make lunch again. From there I rest again, wash. And [this is how] I spend every day (Pregnant adolescent).

Tensions and contradictions between ecosystems

Contradictions exist in our data between factors at the macrosystem level and perceptions at the individual level. Although some adolescents desired to have children at a young age, others embraced delaying motherhood in pursuit of educational or career aspirations. This was an obvious contradiction between societal and gender expectations for girls and what girls may desire at an individual level. However, economic opportunities and the desire for financial stability and social recognition may push young women to pursue early unions and childbearing as their future pathway (Del Mastro 2023). This highlights the existence of an aspiration–expectation gap, especially prominent among those of low economic and minority status (Arbona 1990), and among young women compared to young men (Keshavarzi et al. 2022).

Discussion

This study in Peru’s Amazon basin used Bronfenbrenner’s ecological systems model to gain a better understanding of adolescent pregnancy, focusing on the interplay between different ecosystems on SRH knowledge, attitudes, and behaviours. The macrosystem highlighted cultural and social expectations, restrictive gender roles, harmful stereotypes of *selva* girls, and community perceptions of adolescent pregnancy. The exosystem provided

greater insight into the structural barriers to SRH access including healthcare availability and travel limitations. Formal services were also underutilised due to confidentiality and privacy issues; some adolescents preferred to use clandestine pharmacies or community health workers instead. The COVID-19 pandemic and regional development projects increased technology use among adolescents who utilised the Internet as an alternative source of SRH information. The microsystem was largely comprised of parents, peers, and sexual partners, each having considerable influence on the SRH of adolescents. At the individual level, despite early sexual debut and contraceptive misinformation, many adolescents indicated a desire to postpone parenthood.

Our study findings align with those from previous qualitative research and can add to our collective knowledge of the social factors that hinder adolescents in these communities from using contraceptives or seeking out greater SRH understanding. Guerra-Reyes and Iguiñiz-Romero (2019) found that peri-urban Amazonian women could be categorised into two classes: *mujeres de su casa* (of-the-house) and *mujeres de la calle* (of-the-street). Men tended to assume that *mujeres de su casa* possessed less sexual experience or knowledge and had higher morality than *mujeres de la calle*, who, in contrast, were considered more 'dangerous', sexually sophisticated, and had a higher likelihood of an STI. Thus, condoms were more frequently used in sexual relations with the latter. This was similarly found in another study in Nauta where participants associated condom use with promiscuous or unfaithful women (UNICEF Peru 2019). Overall, these constructs may explain why older men seek relationships with younger, less experienced women, and why adolescent girls may not advocate for condom use.

Guerra-Reyes and Iguiñiz-Romero (2019) also observed that before the first pregnancy, women were less able to negotiate their own reproductive health due to their lack of knowledge and inability to access modern contraceptives. A possible driving factor for this may be attributed to distrust in Peru's healthcare system especially among Indigenous communities due to discrimination and fear (Del Mastro et al. 2021; Guerra-Reyes 2019; Westgard et al. 2019). In this study, obstetricians working in rural communities of the Amazon were not Indigenous and worked on short-term contracts. This situation poses challenges in terms of establishing trust. As Shannon et al. (2017) highlighted in their study using a structural violence lens, the healthcare system acts as 'a mirror to reflect more widespread social inequities', and is not responsive to the needs of the community, further eroding women's trust in government-run SRH services.

Other barriers for adolescents include not knowing their SRH rights. In this study, youth participants were largely unaware that they could access SRH services without the presence of their parents or legal guardians, which would potentially negate their concerns about confidentiality. In 2019, a resolution was introduced by the Peruvian government to protect the SRH rights of adolescents (MINSA 2019). Specifically, it provided guidelines to ensure comprehensive and confidential healthcare. More education about these rights should be provided to young people to encourage greater access to SRH services.

Although Peru's Civil Code sets the legal age of marriage at 18 years, adolescents of 16 years with judicial consent may marry (Article 241) and there is no specific legal language

that protects against informal unions involving adolescents (MINJUSDH 2015). There was little evidence to show current law is effective in deterring early sexual unions—as observed in our research and as demonstrated in Peru's annual demographic data showing that 28% of women nationally start to cohabit before the age of 18 years and rates of cohabitation are highest in Loreto (PLAN International 2019). Adolescent pregnancy is both a cause and consequence of early unions; other drivers included poverty and family violence as also documented by van der Gaag and Rojas (2020).

Our findings suggest that Indigenous girls in the Amazon are sexualised at a young age. They are objectified and stigmatised by community outsiders including those within the healthcare system because of their perceived hypersexuality. Although women of the *selva* adamantly reject these types of representation, they are deeply engrained stereotypes (Motta 2011), which carry implications for young women seeking SRH services, and outside men who seek to have sex with them. It is important however to disentangle outsider misrepresentation of *selva* women from what is happening within the local communities that lead to early sexual initiation and high rates of adolescent pregnancy.

Formal health education in these communities does little to reduce adolescent pregnancy due to inconsistent programming, female-targeted messaging, and the provision of incomplete information. Likewise, SRH education in schools has limited effectiveness in changing the sexual practices and behaviours of adolescents (Garzón-Orjuela et al. 2021). Adolescents instead turn to the Internet, parents, and peers to obtain SRH information. In one study, SRH communication with parents was correlated with lower rates of adolescent pregnancy among Indigenous youth of Peru's central jungle (Mejia et al. 2021). These findings underscore the need for more effective SRH education in these communities that involves a broader network of formal and informal educators and that delivers consistent, comprehensive information. We suggest building upon the use of technology for SRH education. However, education alone is not enough; it must be coupled with more accessible, youth-friendly, and confidential SRH services tailored to the unique needs of the population. Considerable efforts are also needed to overcome the structural and cultural barriers faced by Indigenous people in the region, which can deter them from using government health services.

Strengths and limitations

This study has several strengths. The diverse youth and community representation in our sample allowed us to gain a more holistic understanding of the social, cultural, and structural factors hindering access to SRH services and education. We also acquired valuable insight into factors contributing to the high rate of adolescent pregnancy and sources of resilience in a remote and largely Indigenous region of Peru. We were able to deepen our contextual understanding of adolescent lives which could serve as predictors of SRH knowledge, attitudes, and behaviours. In total, we collected data from 41 interviews, having reached saturation as evident through our FGDs when no new themes emerged.

We recognise the limitations of our study and the potential for further exploration. Firstly, social desirability may have influenced some of the responses, especially among adolescent participants. Because interviews focused on sensitive topics, such as SRH, participants may

have underreported sexual behaviours because of confidentiality concerns and reluctance to disclose potentially embarrassing personal information (Brener, Billy, and Grady 2003).

Secondly, interviews with non-Indigenous participants and those from FGDs may not have been representative of the population. The FGDs only included community health workers who could easily travel, and educators from one secondary school in our study site, likely biasing our sample. Furthermore, some young people declined participation possibly due to the sensitive nature of discussing SRH, unfamiliarity with qualitative studies, or time constraints; thus, those who agreed to participate in our study may have been different from those who declined.

Our research however lays the foundation for deeper studies into factors influencing pregnancy and abstinence in Amazonian rural communities. It highlights the importance of exploring the socioecological, contextual, facilitating, and often contradictory factors that can enable meaningful improvements in adolescent SRH. Our study might be extended in several different ways, including through comparative research across different adolescent and generational groups which could provide additional insight. Other topics needing further exploration include abortion, gender-based violence, mental health, and power relations between Indigenous youth and medical personnel. Additionally, examining how traditional SRH views are changing in Indigenous communities due to mainstream influences is recommended.

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Data availability statement

Qualitative data collected as part of this study are not publicly available as they contain potentially identifying information about the research participants.

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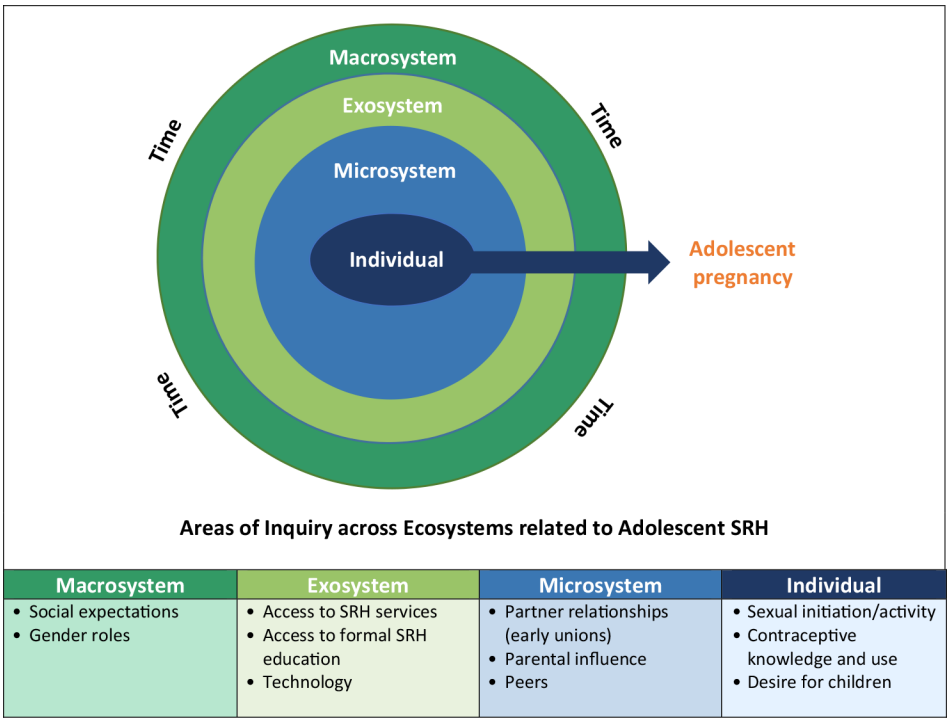

Figure 1.
The socio-ecological model on adolescent SRH (adapted from Bronfenbrenner 1977).