

REVIEW ARTICLE

A narrative review of the literature on unintended adolescent pregnancies: Understanding their meaning, associated factors, and consequences

DOI: 10.29063/ajrh2025/v29i8.15

Jean Pierre Ndayisenga^{1,2,3*}, Abe Oudshoorn², Yolanda Babenko-Mould², Kimberley T. Jackson², Michaela Hynie^{4,5}, Donatilla Mukamana², Pauline Uwajenezza^{2,6} and Priscille Musabirema¹

School of Nursing and Midwifery, College of Medicine and Health Sciences, University of Rwanda, Kigali, Rwanda¹; Arthur Labatt Family School of Nursing, Western University, London, Canada²; Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada³; Department of Psychology, York University, Toronto, Ontario, Canada⁴; Centre for Refugee Studies, York University, Toronto, Ontario, Canada⁵; Département des sciences Infirmières, Université du Québec en Outaouais, Gatineau, Québec, Canada⁶

*For Correspondence: Email: jndayise@uwo.ca; jp.ndayisenga@utoronto.ca; Tel: +12262357998

Abstract

Every year, more than two million girls below the age of 15 become pregnant in low- and middle-income countries, and these pregnancies are more prevalent in sub-Saharan Africa, increasing maternal mortality and morbidity. Therefore, the objective of this narrative review of the literature was to present a detailed understanding of unintended adolescent pregnancies and explore the factors associated with these pregnancies, their consequences, and any gaps identified in the extant literature. The review included 19 articles accessed and retrieved from a variety of databases, namely: PubMed, ProQuest, Scopus, CINAHL, Western Libraries Catalogue, and Google Scholar. This review notes that adolescent pregnancies are primarily perceived to be social problems related to misconduct and delinquency, and across cultures, adolescent pregnancies are interpreted differently and given various meanings. The results of the review indicate that most unintended adolescent pregnancies are attributable to caused by a lack of sexual reproductive knowledge, and the effects of cultural factors such as limitations on open discussions between parents and children. Among the consequences of adolescent pregnancy included emotional trauma, social embarrassment, school dropout, and poverty. This narrative review highlights the need of exploring the issue of unintended adolescent pregnancies through a more comprehensive, multi-dimensional, and local perspective. By exploring the cultural, social, and political dimensions at the local context level, such approach can foster meaningful social and political changes, advocacy, and emancipation. (*Afr J Reprod Health* 2025; 29 [8]: 154-172).

Keywords: Adolescent pregnancy; adolescent mothers; consequences; factors; unintended adolescent pregnancy; teen pregnancy; meaning; narrative review

Résumé

Chaque année, plus de deux millions de filles de moins de 15 ans tombent enceintes dans les pays à revenu faible ou intermédiaire. Ces grossesses sont plus fréquentes en Afrique subsaharienne, augmentant la mortalité et la morbidité maternelles. Ainsi, l'objectif de cette revue narrative de la littérature était de présenter une compréhension détaillée des grossesses non désirées chez les adolescentes et d'explorer les facteurs associés à ces grossesses, leurs conséquences et les lacunes identifiées dans la littérature existante. La revue comprenait 19 articles consultés et extraits de diverses bases de données, à savoir: PubMed, ProQuest, Scopus, CINAHL, Western Libraries Catalogue et Google Scholar. Cette étude met en évidence le fait que, dans notre société, les grossesses chez les adolescentes sont généralement considérées comme des problèmes sociaux associés à l'inconduite et à la délinquance. Elle démontre également que la signification et l'interprétation de ces mêmes grossesses peuvent varier considérablement selon la culture. Les résultats de cette étude indiquent que la plupart des grossesses non désirées chez les adolescentes sont imputables à un manque de connaissances en matière de sexualité et de reproduction et aux effets de facteurs culturels tels que les limitations aux discussions ouvertes entre parents et enfants. Parmi les conséquences des grossesses chez les adolescentes figurent les traumatismes émotionnels, la gêne sociale, le décrochage scolaire et la pauvreté. Cette revue de la littérature souligne l'importance de considérer le problème des grossesses non désirées chez les adolescentes sous un angle plus large, multidimensionnel et local. En explorant les aspects culturels, sociaux et politiques au niveau local, une telle approche peut engendrer des changements sociaux et politiques significatifs, la promotion des droits de l'homme et l'émancipation. (*Afr J Reprod Health* 2025; 29 [8]: 154-172).

Mots-clés: Grossesse chez les adolescentes; mères adolescentes; conséquences; facteurs; grossesse non désirée chez les adolescentes; signification; revue narrative

Introduction

Presently, the rate of unintended adolescent pregnancy has been flagged as a public health concern with unequal distribution in low- and middle-income countries (LMICs) compared to higher-income countries (HICs).¹⁻⁴ Based on the most recent literature, adolescent pregnancies and births account for 11% of global births; approximately 95% of these births occur in LMICs.³⁻¹⁰ According to Darroch et al. approximately 21 million adolescent girls between the age of 15 and 19 and more than 2 million teenage girls under 15 years living in LMICs become pregnant every year.¹¹ In addition, among LMICs, the increased incidence of adolescent pregnancies is higher in Sub-Saharan Africa (SSA), with around 44.3% of women of childbearing age give birth before the age of 20, and that is contributing to the increased rates of maternal mortality and morbidity for both adolescent mothers and their babies.^{1,10,12-15}

Not only are the current rates of unintended adolescent pregnancies variable globally, but they are also shifting differentially. If there are no specific culturally relevant interventions and approaches developed to prevent and reduce unintended adolescent pregnancies, the existing literature indicates that the rate of unintended pregnancies among adolescent girls will continue to increase worldwide. However, the bulk of this increase would be located in LMICs, particularly in Eastern African counties.¹⁶⁻¹⁹

Pregnancies in adolescents are discouraged in many regions of the world because of the health risks and complications involved for both the adolescent mother and their infants. Therefore, the aim of this narrative review of the literature was to present a detailed understanding of unintended adolescent pregnancies and examine the factors that contribute to the increase of these pregnancy rates, their

consequences, and any gaps identified in the extant literature.

Methods

Literature search strategies

A semi-structured, narrative literature review was undertaken to gain a deep understanding about the issue of unintended pregnancy among the adolescent population with a broader focus on LICs, as well as a particular focus on Rwanda. The articles were accessed and retrieved from a variety of databases, namely: PubMed, ProQuest, Scopus, CINAHL, Western Libraries Catalogue, and Google Scholar (see Figure. 1). Reference lists from retrieved sources were used to identify any additional relevant articles. The keywords used were used and combined as follow: “meaning of adolescent” OR “teen pregnancy”; “cause” OR “risks factors”, “adolescent” OR “teen mothers” OR “adolescent motherhood” OR “adolescent pregnancy” OR “teen pregnancy” OR “unintended pregnancy” OR “young mothers” OR “adolescent pregnancy effect on families” OR “developing countries” OR “low-income countries” OR “Sub-Saharan Africa” OR “Rwanda”.

For this narrative review only included articles that met the following criteria: 1) peer-reviewed, 2) published between 2012 and 2022, 3) to avoid some challenges related to language translation of scientific works done in other languages like French, this review exclusively considered articles written in the English language, 4) reporting on studies about adolescent or teen pregnancies and issues. Finally, a full-text review and assessment identified 19 studies that ultimately met the inclusion criteria.

Reviewed studies characteristics

Among 5409 studies, 19 met the inclusion criteria. They were conducted across four continents:

fourteen in Africa,^{1,4,12,14,18,20,22–25,27–29} two in America,^{26,32} one in Europe,²¹ one in Asia,³⁰ and one in Australia.³¹ These comprised six studies that applied quantitative, one mixed method, six qualitative, and six secondary analysis study designs. Most study participants were young girls between 13 and 20 years old. In one study, participants were women aged 17-30, and another included participants aged 19-49.

The definition and the meaning of adolescent pregnancy

Following our narrative review, our findings indicated that historically, pregnancy and motherhood are considered to be significant and vital experiences in the lives of many women.

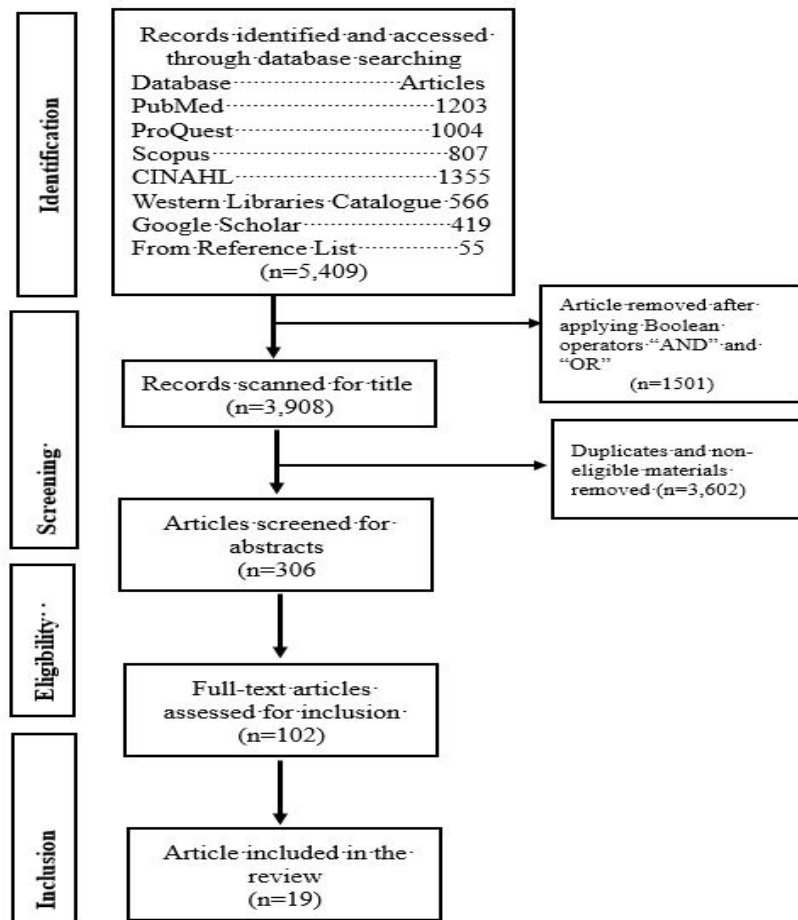


Figure 1. Flow Chart of Narrative Review

Results

Table 1: Characteristics of the studies included in the review

No	Author and year	Country	Population	Age group included in the review	Design	Main research objective/aim
1	Ahinkorah et al 2021 ¹²	32 Sub-Saharan African (SSA) Countries	95,703 Female adolescents	15-19	Secondary data analysis of data from Demographic Health Survey from 32 SSA counties	Determine the prevalence of first adolescent pregnancy and its associated factors in SSA
2	Ajala, 2014 ²⁰	Nigeria	6,591 females were selected for this analysis	15-19	Secondary data analysis of Nigeria Demographic and Health Survey 2028 using descriptive and inferential analysis	To scrutinize factors related with teenage pregnancy and fertility in Nigeria
3	Akpinar and Teneler, 2022 ²¹	Turkey	2755 women	19-49	Cross-sectional study: Secondary Data analysis pf the Turkey Demographic and Health Survey (TDHS)	To compare the frequency of the negative birth outcomes and the stunting under the age of five in children of adolescent and non-adolescent mothers and determine the relation of sociodemographic factors based on the national data of the TDHS

No	Author and year	Country	Population	Age group included in the review	Design	Main research objective/aim
4	Akpor et al., 2017. ²²	Nigeria	Eighty participants who were parents and community leaders	13-19	Qualitative explorative and contextual utilizing the Community-as-Partner Model	Understand the perceptions and experiences of parents and community leaders of two communities in Nigeria regarding teenage pregnancy and their understanding of teenage sexuality and contraception. The study also explored the availability of teenage pregnancy preventions programs
5	Aziato et al., 2016 ¹⁸	Ghana	A total of 92 adolescent girls participated into Fifteen Focus Group Discussion	10-19	A vignette-based focus group used to have adolescents reflect on scenarios that happen to others during unwanted pregnancy	To investigate the experience and perceptions of adolescents who have experienced a recent pregnancy and undergone a termination of pregnancy
6	Coast et al., 2019. ²³	Rwanda	The qualitative sample included 20 key informants and 24 female adolescents participated, Quantitative Sample included	15-19	A mixed method:	This study examined the multiple implications of adolescent pregnancy and motherhood by considering six capabilities: education and learning, bodily integrity, physical and reproductive health and nutrition, psychosocial well-being, voice and agency, and economic empowerment

No	Author and year	Country	Population	Age group included in the review	Design	Main research objective/aim
7	Gatsinzi, 2022 ²⁴	Rwanda	117 female adolescents Five young women	16-20	Qualitative study: Case study design	Investigate the lived experiences of out-of-school teenage mothers during pregnancy, and post-delivery
8	Habitu et al., 2018 ²⁵	Ethiopia	514 teenagers	15-19	Community-based cross-sectional study	Assess the prevalence and associated factors of teenage pregnancy in Wogedi, Northeast Ethiopia
9	Hakizimana et al., 2019 ¹	Rwanda	2,768 Women included in the analysis	15-19	Secondary data analysis of 2014/2015 Rwanda Demographic and Health Survey	Identify the risk factors contributing to teenage pregnancy in Rwanda
10	Hall et al., 2015 ²⁶	United States	794 women	18-20	Longitudinal cohort study	Investigate relationships between social discrimination, stress and depression symptoms, and unintended pregnancy among adolescent and young adult women
11	Kagabika and Irambona, 2021 ²⁷	Rwanda	240 teenagers	15-20	Survey Research design	Determine the causes of teenage pregnancy and to identify the challenges and consequences faced by the community
12	Kayiranga et al., 2019 ²⁸	Rwanda	245 adolescents	15-19	A cross-sectional quantitative study	Determine adolescent perceptions of how their lives would change if they experienced an adolescent birth

No	Author and year	Country	Population	Age group included in the review	Design	Main research objective/aim
13	Kidan Ayele et al., 2018 ²⁹	Ethiopia	414 females	15-19	A community-based case control study	Identify determinants of teenage pregnancy
14	Mangeli et al., 2017 ³⁰	Iran	16 teenager mothers	14-19	Qualitative study through inductive conventional content analysis	Explore the challenges encountered by Iranian Adolescent mothers during the transition to motherhood
15	Ngum et al., 2015 ³¹	Australia	16 African Born refugee young women	17-30	Qualitative: Phenomenology	Solicit the lived experiences of African Australian young refugee women who have experienced early motherhood
16	Niyonsenga and Mutabaruka, 2020 ¹⁴	Rwanda	120 teen mothers	15-19	Cross-sectional study	Identify the factors of postpartum depression among teen mothers
17	Samano et al., 2017 ³²	Mexico	29 teen mothers	15-19	Qualitative: Ethnographic	Explore the social reality of pregnant teens in the Mexico City Metropolitan area
18	Uwizeye et al., 2020 ⁴	Rwanda	2,779 Teen Girls	15-19	Secondary data analysis of the Fifth Rwanda Demographic and Health Survey of 2014/2015	Bridge the gap by analyzing the association between household characteristics and teenage pregnancy in Rwanda
19	Wado et al. 2019 ¹⁶	Kenya Tanzania Uganda	Included adolescent from Kenya: 5820	15-19	Secondary data analysis of the Demographic Health	Identify the contextual factors that influence adolescent pregnancy and early

No	Author and year	Country	Population	Age group included in the review	Design	Main research objective/aim
		Malawi, Zambia	Tanzania: 2904 Uganda: 4263 Malawi: 5263 Zambia: 3675		Survey of mentioned countries	motherhood in five Easter African Countries

In different societies around the globe, parenthood is considered fundamental to both women's and men's identities.^{16,25,31} For example, in African countries like Rwanda, motherhood is considered a central pillar of stable community culture and social system.^{23,31} Contrarily, unintended adolescent pregnancies and motherhood in adolescence are comparatively unwelcomed and stigmatized in most of the societies. We noted that adolescent pregnancy is a social and cultural construct that, in most cultures, is perceived as a form of misconduct or delinquency.^{20,22} Unintended pregnancy at all levels is categorized as a social problem in that it is related to a variety of negative health and social outcomes.^{23,24} Adolescent motherhood occurs at a critical physiological and psychological developmental phase of adolescents' lives that is strongly connected to overall health and social impacts and consequences on the lives of adolescent mothers, their infants, and their families.^{21,23,27,30} For example, adolescent motherhood has various adverse effects on young mothers, their partners, their parents, their extended families, and to their extended society.^{21,23,32} The majority of adolescent pregnancies are unintended or not desired, and most young mothers find themselves unprepared to transition to parenthood roles and responsibilities.^{1,27,28}

As stated above, most adolescent pregnancies are unintended. The term unintended adolescent pregnancy has been commonly defined as any pregnancy reported to be either unwanted or occurring when an adolescent girl had no desire or intention for motherhood.^{4,20,22,23,27,33,34} This is obviously contrasted with pregnancies occurring intentionally, which are usually accompanied by higher levels of preparation³⁵⁻³⁷. Within the literature, the term unintended pregnancy is used interchangeably with the terms unwanted pregnancy and unplanned pregnancy.^{18,27,29} An unplanned pregnancy is described as any pregnancy which is either unplanned or unwanted at the time

of conception or mistimed or result from either not using contraceptive methods or failure of used contraceptive methods. adolescent women or among other childbearing women of all ages, it is essential to consider different factors around the pregnancy, such as timing, planning, happiness, and wantedness of that particular pregnancy in a given situation and personal context, within a given social and cultural context.^{12,16,25,27} Frequently, the woman's intention to become pregnant is assessed and evaluated during and after pregnancy. According to Hall and colleagues²⁶, this helps to understand women's emotional status about that particular pregnancy before conception and after birth. It is noted that the desire to have a pregnancy may change substantially at any point through the course of the pregnancy.^{28,30,32} Unintended pregnancies can also relate to forced sexual activity such as child sexual abuse, rape, or coercion.^{27,29,32}

Adolescent pregnancy and childbearing in Africa, Rwanda, and neighboring countries

For this narrative review, reviewed studies indicated that the number of adolescent pregnancies in Rwanda, along with neighboring countries such as Burundi, Tanzania, Uganda, and Kenya, persists above the historic low of less than 7%.^{1-3,17} Using logistic regression, Hakizimana *et al.* conducted a secondary analysis study to explore risk factors leading to unintended pregnancy among Rwandan adolescent girls.¹ Data were sourced from the 2012-2015 Rwandan Demographic and Health Survey (DHS) which included a sample of 2768 females aged from 15 to 19 years old. Hakizimana *et al.* reported that the overall rate of adolescent pregnancy was at 7.3%.¹ The findings from this study showed that Rwandan adolescent girls were at more likely to have unintended pregnancies at 17 years old (OR=7.04, 95%CI: 2.67-18.58, p<0.001, 18 years old (OR=3.78, 95%CI: 1.36 - 10.47, p=0.011), and 19 years old (OR= 3.85, 95%CI: 1.34

- 11.01, $p=0.012$) compared to adolescent girls aged under 16 years old. Various studies highlight that the issues of unintended pregnancies among adolescent girls from Rwanda and similar developing countries are multifaceted, lined to various sociodemographic factors, including educational level, reproductive health-related knowledge, and contextual factors like religion and culture, economic factors like poverty, and limited access to Sexual-Reproductive Health Services and Rights (SRHR).^{7,22,24}

Causes and factors contributing to the issue of unintended pregnancy among adolescents

The causes and factors of adolescents' unintended pregnancies are very broad and include misogyny, age discrepancy in relationships, media influence, peer pressure, absent parents, glamorization of pregnancy, lack of knowledge, sexual abuse or rape, adolescent/ teenage drinking, dating violence, childhood environments, low education expectations, foster care, poverty, early marriage, and traditional gender roles.^{3,27,29,31} It is crucial to evaluate and acknowledge all factors to avoid unintentionally blaming young women for pregnancies that are often outside of their control, or the result of several factors imposed upon them. Habitu *et al.* conducted a community-based cross-sectional study with 542 adolescent girls aged 15-19 to assess the prevalence and associated factors of teenage pregnancy in Wogedi, the Northeast part of Ethiopia.²⁵ In the study, Habitu *et al.* noted that the majority of Ethiopian adolescent pregnancies (63.3%) were unplanned, and 65% of participants mentioned that their pregnancies resulted from earlier marriages, with 20% associated with non-use of contraceptives.²⁵ Using bivariable logistic regression analysis, Habitu *et al.* found that there was a significant link between unintended pregnancies among Ethiopian adolescent girls and demographic factors including age, adolescents'

and their parents' monthly income, and their parents' religion.²⁵ In addition, Habitu and colleagues indicated that an increased number of adolescent pregnancies correlates significantly with other demographic variables such as family living arrangement, educational level, marital status, occupation, and socio-economic status. The results from Habitu *et al.* indicated that adolescent girls lacking access to contraceptive methods had tenfold increased risks of becoming pregnant unintentionally compared to adolescent girls who used contraceptive methods (OR=10.62; 95% CI:5.28, 21.36). Similarly, Hakizimana *et al.* found that limited access to and an increased proportion of non-use of contraceptives among adolescent girls are among the key factors driving the increase in unintended pregnancies within this population group.¹

Moreover, Habitu *et al.* and Uwizeye *et al.* highlighted that adolescent girls from divorced households were almost twice as likely to have unintended pregnancies compared to those from married families (OR=1.98; 95%CI: 1.13, 3.93).^{4,25} The increased risks of becoming pregnant unintentionally among adolescents from divorced parents could be attributed to the limited or low shared parental support and inadequate communication about SRHRs compared to those from married parents.^{4,25} These risks could also be correlated to factors that are both influenced by broader social issues such as poverty. Similarly, another community-based case-control study was conducted by Kidan Ayele *et al.* in Ethiopia with a random sample size of 414 female adolescents (with a ratio of 1:2 case-control, 138 and 276, respectively) to identify determinants of unintended pregnancies among Ethiopian adolescent women living in the Degua Tambien District.²⁹ Using a multivariable logistic regression to evaluate predictors of teenage pregnancy with a $p<0.025$, Kidan Ayele *et al.* found that lack of or poor communication between parents and their

adolescent children about SRHR-related topics was significantly associated with an increased number of adolescent pregnancies.²⁹

Kagabika and Irambona conducted a survey to establish the real cause and consequences of teenage pregnancy in Kirehe District of Rwanda.²⁷ Using both self-administered questionnaires, a total of 240 teenagers experiencing pregnancy participated in this study. In this study, unmet economic needs, peer pressure, social media influence, lack or limited knowledge about reproductive health, and perspective of the peers about sexual behaviours were examined as independent variables that could lead to unplanned sex. Dependent variables in this study included family conflicts and poverty, poor education, school dropout, and poverty. This study indicated that the risk of unintended adolescent pregnancy is highly linked to adolescent educational level, where 48.8% of respondents had not completed their primary education, and 33% completed primary education. Kagabika and Irambona found that in Kirehe District of Rwanda, adolescent girls who lost both parents were more likely to have unintended pregnancies than those with both parents.²⁷ According to Kagabika and Irambona, the majority (77.5%) of adolescents engaged in unprotected sexual practices because they lacked knowledge about sexual reproductive health.²⁷ Furthermore, Kagabika and Irambona commented that the increased rate of unintended adolescent pregnancies in the Kirehe District (66.2%) could be attributed to cultural beliefs such as the lack of free time to discuss sex within Rwandan families, parents' inability or unwillingness to share sexual health information with their children, and a greater emphasis on abstinence only versus considering other information on birth control.²⁷ The findings of Coast *et al.* indicate that high poverty and low education levels among rural adolescent girls are strongly correlated with high adolescent pregnancy rates.²³ Adolescents with disadvantages

characterized by poverty, social and economic instabilities within their families, orphans who lost both parents, or single-parent families are more likely to become pregnant unintentionally due to socioeconomic and social disadvantages.

Hakizimana *et al.* conducted a secondary data analysis of Rwanda Demographic Health Survey (DHS) 2014-2015 to identify different risk factors contributing to adolescent pregnancies.¹ This secondary analysis used data collected from a sample of 2768 adolescents between 15 to 19 years old, 7.3% of whom currently had or had previously experienced unintended pregnancies. Hakizimana and colleagues found that the prevalence of adolescent pregnancies is higher among Rwandan adolescent girls with only primary education compared to those with higher education (OR=0.36, 95% CI 0.22 - 0.61, $p < 0.001$).¹ In addition, they found many adolescent girls who became pregnant unintentionally were due to not using contraceptive methods. From the results of their bivariate analysis, Hakizimana *et al.* indicated that the first adolescent pregnancy is significantly associated with contraceptive methods used, intention to use condoms, competency of using condoms, and region of residence, noting differences between rural and urban areas of Rwanda.¹ Furthermore, Hakizimana and colleagues commented that the increased number of adolescent pregnancies in Rwanda is significantly associated with the level of adolescent literacy ($p < 0.007$), knowledge of the ovulation cycle ($p < 0.003$), and their economic status ($p < 0.005$). Moreover, in their multivariate analysis, Hakizimana and colleagues indicated that the frequency of watching television, frequency of listening to the radio, and frequency of reading magazines or newspapers were not significant risk factors of unintended adolescent pregnancies.¹ It is notable that while some attention has been given to socio-cultural factors such as media messages, variables studied still primarily focus on personal factors such as knowledge.

In their recommendation, Hakizimana and colleagues stressed that to address the issue of unintended pregnancies among adolescents, policymakers and stakeholders need to design programs and develop policies that consider the needs of adolescent girls and their partners in their social context.¹ The authors highlight the relationship with education level and note the value of having a society with the majority of girls educated at the secondary level. Moreover, Hakizimana and colleagues suggested that adolescent SRHRs programs need to place more emphasis on the use of and access to contraceptive methods instead of insisting only on abstinence.¹ What is not noted is the relationship between condom use and gendered power, including issues of adolescent girls impregnated by adult males.

Socio-culture and political factors related to or associated with adolescent pregnancy

In their study, Hakizimana and colleagues highlighted that teenage marriage and sexual abuse are significant risks contributing to the increased number of adolescent pregnancies in LMICs, including Rwanda.¹ Most of the underage or illegal marriages are related to community tradition and beliefs or norms or sometimes from parental arrangements, and contributing to increased the number of unintended adolescent pregnancies.^{1,12,20,25,29} In some other context, unintended adolescent pregnancies could be also used at times for justification of forced under-age marriages or sexual abuses.^{1,16,20} Moreover, some of the existing SRHR services that are in place are not adolescent-friendly services as they emphasize abstinence only.^{1,27,29} In relation to that, different studies noted that policymakers, religious leaders and community leaders, educators, school' leaders, and parents who prioritize abstinence before marriage believe that increasing the access to SRHR services for adolescent people

at the community level settings may result in, or motivate, adolescents to engage in sexual practices. However, this perspective fail to considering how the limited access to those services and resources may increase adolescents' risk of unprotected sex, which consequently leads to unintended pregnancies, and sexually transmitted infection and diseases.^{16,22,26} Different studies call on policymakers from LMIC to increase the access and availability of adolescent reproductive health (RH) services that are adolescent or youth-friendly as an effective way of preventing unintended pregnancies.^{1,14,16,23}

The effect and consequences of unintended adolescent pregnancies

Adolescent mothers experience psychological, physical, cultural, social, and religious challenges.^{14,23,27,30} The literature indicates that an increased number of unintended adolescent pregnancies could be considered an indicator of early sexual activity among adolescents, which is indirectly linked to a greater number of sexual partners and increased risks of sexually transmitted infections and diseases. Niyonsenga and Mutabaruka¹⁴ stated that adolescent girls are particularly vulnerable as paternalistic societies place the majority of the blame for a pregnancy on them. However, Sámano *et al.* commented that clearly both young women and young men should be responsible in the case of an unintended pregnancy without blaming girls only.³² Unfortunately, it is the young women who bear the brunt of poverty, school discontinuity, and the potential for being socially shunned and stigmatized.²³ Furthermore, as a result of becoming pregnant unintentionally and lack of support from their boyfriends, parents, and community members, many adolescent mothers experience long-term poverty and homelessness. As a consequence of unintended pregnancy, many adolescent mothers

often experience a challenging time to keep their job or to find the time to work at the same time as caring for their children, while simultaneously being less qualified to be hired in many positions as they may not be able to complete their education.²¹ According to Hakizimana *et al.* adolescent pregnancies resulting from adolescent marriage are associated with various negative consequences for young women's health as well as for the extended community as a whole.¹ Literature indicated that married adolescent women experienced increased socioeconomic challenges, such as the inability to afford nutritional needs, are more vulnerable to psychological problems, are more likely to drop out of school, and ultimately face increased maternal morbidity and mortality.^{27,29} Most of the existing literature encourages policymakers to consider any marriage before 18 years old as a risk to human rights and a barrier to SRHR. Those recommendations call for community members, civil societies, religious leaders, local authorities, and stakeholders in health and human rights to work collaboratively in fighting against early marriage.¹ According to Hakizimana *et al.* there is a need to promote community members' behaviour changes that contribute to the reinforcement of laws and policies related to the SRHR of adolescent populations.¹

Using purposive sampling, Mangeli *et al.* conducted a qualitative study to explore the challenges experienced by Iranian adolescent mothers during the transitional period to motherhood.³⁰ This study involved 16 adolescent mothers who participated in face-to-face, in-depth interviews. Eligible participants were asked to describe their experiences of motherhood and the challenges experienced as adolescent mothers. Mangeli and colleagues found that Iranian adolescent mothers experienced the following challenges: emotional and mental distress, inadequacy in maternal roles, receiving insufficient support from their friends, parents, and community

members, physical problems, and increased burden of responsibilities.³⁰

Mangeli *et al.* and colleagues mentioned that it was almost difficult for adolescent mothers to address and respond to several needs, including caring for their babies, finding time to participate in community activities, interacting with their friends, continuing schooling, working, and doing housekeeping.³⁰ According to Mangeli *et al.*, the majority of participants experienced physical problems related to pregnancy, childbearing, and breastfeeding.³⁰ Those physical problems negatively affected adolescent mothers' lives and affected their ability to play maternal roles as adolescent mothers. Similarly, other studies indicated that many adolescent mothers are at high risk of developing obstetrical problems during and after pregnancy, such as hypotensive disorders like preeclampsia; anemia; abnormal deliveries like dystocia, caesarian sections, fistula, breast engorgement; and postpartum infections.^{14,21,23}

Moreover, the literature indicates that many adolescent mothers experience emotional and mental distress like depression, shame, guilt, disrupted and broken relationships with their family members and community members, stigma, frustration, regret, worries, and fear, social isolation, homelessness, loneliness, denial, and shock as a result of becoming pregnant unintentionally and being blamed by society, including by their parents, friends, and relatives.^{21-24,27,30,31} Other sources of stress among adolescent mothers in their respective communities include lack of social support, taking responsibility alone without the support of their boyfriends, unpreparedness, and dependence on others.^{24,30} Children born from adolescent mothers due to unintended pregnancies are more likely to experience childhood abuse as well as being at higher risk for neglect and stigmatization both from their family and from their community.^{31,41,42} For example, in Rwandan society, those children born

to single adolescent mothers or out of wedlock are commonly labelled as IBINYENDARO or “bastard” in English, a term meaning that their mothers were impregnated in an unknown place by an unknown person or have no involved father.⁴³ This labelling of IBINYENDARO⁴³ is a stereotype and an indication of how different societies are still discriminating against young girls and placing blame on their behaviours and responsibilities around the issue of unintended pregnancy and pregnancy decisions. Therefore, this could be considered as a cultural and historical factor in Rwandan norms, values and stigma around adolescent pregnancy.

There are many other possible negative consequences for children born from adolescent mothers, including low birth weight and prematurity, welfare dependence, living with chronic poverty, limited or insufficient health care, mental and developmental challenges, and school failure.^{24,41,44} For example, Ganchimeg et al. found that the risk of having low birth weight babies is 21% higher among adolescent mothers than mothers aged 20 and above.⁴¹ As noted in this review, low birth weight increases the risks of child death under five years of age, cerebral palsy, blindness, deafness, intellectual disability, and abnormal cognitive behaviours.⁴⁵

Discussion

This literature review helps in understanding the definition and meaning of unintended adolescent pregnancy across cultural contexts. This includes statistics and the magnitude of adolescent pregnancy in general, with a focus on low-income countries, particularly Rwanda. Additionally, we present herein various factors deemed to influence the number of unintended adolescent pregnancies that consider the socio-cultural, historical, structural, and political context of Rwandan society. Finally, the review explores different

consequences associated with unintended adolescent pregnancy.

The findings of this review indicate that unintended pregnancies among adolescents are multidimensional, with sociocultural, educational, and economic factors contributing to their prevalence. Our analysis reveals that adolescent pregnancy is commonly framed within a society that emphasizes motherhood as a fundamental aspect of women's identity; however, for adolescents, such pregnancies are unintended and carry significant social stigma.^{38,46,47} There is no doubt that a lack of comprehensive sexual education contributes to the stigma associated with sexual health, particularly among rural and marginalized communities, where cultural taboos continue to prevent open discussions about sexual health.^{42,48} As a result of these cultural beliefs, as well as limited access to contraceptive methods, there is a higher rate of unintended pregnancies among adolescents in sub-Saharan Africa, which includes Rwanda and neighboring countries.^{3,17,42,48}

Based on the findings of this narrative review, it is evident that inadequate sexual education and limited access to reproductive health services significantly contribute to the high rate of unintended pregnancies. It is, therefore, essential to improve access to comprehensive sexual education programs that are culturally sensitive and inclusive of various community perspectives. The role of schools, healthcare providers, and community leaders in facilitating open and constructive discussions about sexual health and contraception could be highly needed, particularly in rural and underserved areas.

Furthermore, the review highlights the importance of socio-economic factors, such as poverty, family structure, and educational attainment, in shaping adolescents' likelihood of experiencing unintended pregnancies.^{1,12,20,25} The risk of becoming pregnant unintentionally is significantly higher among adolescents from disadvantaged backgrounds,

particularly those with lower educational attainment, broken family structures, or without adequate parenting opportunities from both parents.^{1,12,16,20} In addition, the lack of family support and communication regarding sexual health leaves adolescents vulnerable to early sexual initiation without adequate knowledge or use of contraception.^{6,17,49} In addition to the lack of adequate reproductive health services, such as family planning options, these young individuals face additional challenges in preventing unintended pregnancies.^{17,29,50} Therefore, targeted interventions are required to address these social determinants of sexual reproductive health. Therefore, some of the best ways to reduce unintended pregnancies may be to improve access to education, particularly for adolescents from disadvantaged backgrounds, and to develop family support systems that promote open communication about SRHRs. These educational programs aimed at promoting social determinants of SRHRs should be accessible to all adolescents, especially those in marginalized or low-income or rural communities, to help bridge the knowledge gap.

It is important to note that while unintended pregnancies among adolescents are often viewed from a health and social perspective, the emotional, psychological, and cultural dimensions should not be overlooked. As noted from this review, the stigma faced by adolescent mothers after experiencing unintended pregnancies is not only rooted in societal judgments but is also influenced by feelings of shame, internalized stigmas, and cultural pressures.^{3,14,17,29,50,51} Considering these aspects of stigma is critical in understanding the broader implications for adolescent mothers, as some adolescent mothers are often excluded from education, health care, and social inclusion.^{46,52,53} As a result of the intersectionality of these stigmas—personal, internalized, and societal—adolescent mothers require additional support in order to thrive

following unplanned pregnancies. In light of these findings, it is essential to address both the tangible aspects of adolescent pregnancy, such as healthcare and education, as well as the intangible aspects, such as emotional and psychological support. There is a need for healthcare providers, educators, and social workers to be trained to provide non-judgmental and empathic care, as well as a shift in society towards a more inclusive approach aimed at reducing stigmas and supporting young mothers. In order to achieve this goal, community-based programs should be implemented that focus on reducing stigma and promoting positive narratives about young mothers.

Moreover, it was found that unintended adolescent pregnancy often leads to long-term socio-economic consequences, including disruption of education, limited career prospects, and persistent poverty.^{18,21,23,24} Adolescent mothers are more likely to be excluded from formal education because they are at a higher risk of being excluded from employment opportunities and being restricted in their ability to move up the socio-economic ladder. Consequently, young mothers often face difficulties in providing for themselves and their children, perpetuating a cycle of poverty.^{46,54,55} Moreover, unintended pregnancies can be emotionally and psychologically draining for adolescents, resulting in long-term mental health challenges such as anxiety, depression, and social isolation^{18,24,26}. Therefore, the findings of this narrative review emphasize the need for comprehensive support services that extend beyond immediate healthcare and include education, socio-economic empowerment, and mental health services. In light of these consequences, it is crucial to provide adolescents with a supportive system that provides them with opportunities to continue their education and access employment programs that are tailored to young mothers. In addition, mental health services should be integrated into

reproductive health services in order to assist adolescent mothers with the emotional challenges they encounter.^{39,56,57}

Limitations

This narrative review exclusively included English articles published between 2012 to 2022; which may have limited the possibility of including some findings from other significant studies reported in other languages or published outside of the time range period considered for this review.

Conclusion

This literature review included peer-reviewed articles published between 2012 and 2022 to capture the existing knowledge and most recent scholarly works about unintended adolescent pregnancies, with a primary focus on LICs, particularly Rwanda. Although different studies were conducted around the social problem of unintended pregnancies among adolescents in different societies, there is a notable limitation in considering complex socio-cultural factors. The majority of studies explored individualistic factors, while others focused on the prevalence of adolescent pregnancies, rather than looking at how several factors are interconnected in complex socio-cultural ways. Though there were a variety of quantitative, qualitative, and mixed methods studies have been conducted in this area, none of them explored the meaning and consequences of adolescent pregnancy using a multi-dimensional perspective. For example, of the few studies conducted in Rwanda, most were secondary analyses of existing data from the Rwanda Demographic Health Survey. This only provides broad population trends, but not explanatory data for how these challenges unfold within a particular socio-cultural context and in a way that explains current increases. Therefore, research is also needed with Rwandan society

members, including adolescents, their parents, and other key informants to capture their perspectives, experiences, and beliefs about unintended pregnancies among single adolescent mothers. Studies need to be conducted to explore and determine what adolescent pregnancies mean from the multi-dimensional perspective of Rwandan community members in order to create a deeper, culturally specific understanding. Given the authors' focus on a detailed cultural understanding, the limited research in the Rwandan context is particularly noted. While trends from different countries and cultures provide a meaningful starting point, we must be cautious in extrapolating the experiences of all LICs. Therefore, to address questions about cultural and social factors affecting Rwandan adolescent mothers, studies should be conducted with the target population in mind. Research should use methodologies that could help to collect data that are culturally appropriate and capture historical context, values, beliefs, and perceptions regarding social and health behaviours within the Rwandan culture. Many studies did not address the link between cultural realities and socio-economic factors that are associated with the issue of adolescent pregnancies in the Rwandan context. This narrative review indicates why the social problem and concerns around adolescent pregnancies should be explored from a more comprehensive, multi-dimensional, and local perspective using critical theory and intersectionality theory as the theoretical frameworks. It is believed that the use of a Critical Theoretical lens would give potential participants and key informants the opportunities to describe the realities of their lived experiences, beliefs, thoughts, and other realities of their lives that contribute to the culture, social and political context, favorable to social and political action, changes, and emancipation. Additionally, the use of intersectionality when exploring more about the issue of unintended adolescent pregnancies in

Rwandan context may help to acknowledge the complexity and breadth of Rwandan society members' experiences and perspectives regarding the issue of adolescent pregnancies by recognizing power of political, culturally, and socially constructed thought and action.

Authors contribution

JPN, AO conceived and developed this review protocol. JPN conducted literature search, screening, and assessment of eligible studies. AO, MH, KJ, DM, YBM, PU, and PM confirmed the selected and eligible studies. JPN drafted the manuscript, and all authors were involved in reviewing and editing the draft, including approval of the final version.

Conflict of interest

The authors declare that there are no competing interests

References

- Hakizimana D, Logan J and Wong R. Risk factors for pregnancies among females age 15 to 19 in Rwanda: A secondary data analysis of the 2014/2015 Rwanda demographic and health survey (RDHS). *J Manag Strateg.* 2019;10(2):49. doi:10.5430/jms.v10n2p49
- Nkurunziza A, Van Endert N, Bagirisano J. Breaking barriers in the prevention of adolescent pregnancies for in-school children in Kirehe district (Rwanda): A mixed-method study for the development of a peer education program on sexual and reproductive health. *Reprod Health.* 2020;17(1):1-8. doi:10.1186/s12978-020-00986-9
- Sama CB, Ngasa SN, Dzekem BS and Choukem SP. Prevalence, predictors and adverse outcomes of adolescent pregnancy in sub-Saharan Africa: A protocol of a systematic review. *Syst Rev.* 2017;6(1):1-6. doi:10.1186/s13643-017-0650-0
- Uwizeye D, Muhayiteto R, Kantarama E, Wiehler S and Murangwa Y. Prevalence of teenage pregnancy and the associated contextual correlates in Rwanda. *Heliyon.* 2020;6(10):e05037. doi:10.1016/j.heliyon.2020.e05037
- De Groot R, Kuunyem MY and Palermo T. Child marriage and associated outcomes in northern Ghana: A cross-sectional study. *BMC Public Health.* 2018;18(1):1-12. doi:10.1186/s12889-018-5166-6
- Hindin MJ. Adolescent childbearing and women's attitudes towards wife beating in 25 sub-Saharan African countries. *Matern Child Health J.* 2014;18(6):1488-1495. doi:10.1007/s10995-013-1389-4
- Kassa GM, Arowojolu AO, Odukogbe AA and Yalew AW. Prevalence and determinants of adolescent pregnancy in Africa: a systematic review and Meta-analysis. *Reprod Health.* 2018;15(1):1-17. doi:10.1186/s12978-018-0640-2
- Rachakonda L, Rawate S and Shiradkar S. Teenage pregnancy. *Int J Curr Med Appl Sci.* 2014;4(2):59-63.
- Save the Children. *Promoting Girls' Right to Learn in West and Central Africa.*; 2017.
- World Health Organization (WHO). *Adolescent Pregnancy.*; 2018.
- Darroch JE, Woog V and Bankole A. ADDING IT UP : Costs and Benefits of Meeting the Contraceptive Needs of Adolescents. *New York Guttmacher Inst.* Published online 2016.
- Ahinkorah BO, Kang M, Perry L, Brooks F and Hayen A. Prevalence of first adolescent pregnancy and its associated factors in sub-Saharan Africa: A multi-country analysis. *PLoS One.* 2021;16(2 February):1-16. doi:10.1371/journal.pone.0246308
- Guttmacher Institute. Induced abortion worldwide. 2016;6736(May):1-2. doi:10.1016/B978-0-08-050836-8.50019-6
- Niyonsenga J and Mutabaruka J. Factors of postpartum depression among teen mothers in Rwanda: A cross-sectional study. *J Psychosom Obstet Gynecol.* 2020;0(0):1-5. doi:10.1080/0167482X.2020.1735340
- World Health Organisation W. Media centre preventing unsafe abortion. 2016;(May):1-5. doi:10.1080/00343404.2011.596701
- Wado YD, Sully EA and Mumah JN. Pregnancy and early motherhood among adolescents in five East African countries: A multi-level analysis of risk and protective factors. *BMC Pregnancy Childbirth.* Published online 2019. doi:10.1186/s12884-019-2204-z
- Yakubu I and Salisu WJ. Determinants of adolescent pregnancy in sub-Saharan Africa: A systematic review. *Reprod Health.* Published online 2018. doi:10.1186/s12978-018-0460-4
- Aziato L, Hindin MJ, Maya ET. Adolescents' responses to an unintended pregnancy in Ghana: A qualitative

- study. *J Pediatr Adolesc Gynecol.* 2016;29(6):653-658. doi:10.1016/j.jpag.2016.06.005
19. Todd N and Black A. Contraception for adolescents. *JCRPE J Clin Res Pediatr Endocrinol.* Published online 2020. doi:10.4274/jcrpe.galenos.2019.2019.S0003
 20. Ajala AO. Factors associated with teenage pregnancy and fertility in Nigeria. *Issn.* 2014;5(2):2222-1700.
 21. Akpinar CV and Teneler AA. Adolescent Motherhood and Negative Birth Outcomes, Stunting and Social Determinants: Secondary Analysis of Turkish National Data 2018. Published online 2022:1-13.
 22. Akpor O, Thupayagale-Tshweneagae G and Mmusi-Phetoe R. Parents and community leaders' perceptions of teenage pregnancy: A qualitative study. *Afr J Nurs Midwifery.* 2017;19(3):1-19. doi:10.25159/2520-5293/2810
 23. Coast E, Mwali MM, Isimbi R. 'If She's pregnant, then that means that her dreams fade away': Exploring experiences of adolescent pregnancy and motherhood in Rwanda. *Eur J Dev Res.* 2021;33(5):1274-1302. doi:10.1057/s41287-021-00438-5
 24. Gatsinzi P. Case study of the out of school Teenage Mothers' lived experiences and perceptions on education in Rusororo sector, Rwanda: A back to school framework. *Acad Journals Educ Res Rev.* 2022;17(March):120-130. doi:10.5897/ERR2021.4186
 25. Habitu YA, Yalew A and Bisetegn TA. Prevalence and factors associated with teenage pregnancy, northeast Ethiopia, 2017: A cross-sectional study. *J Pregnancy.* 2018;2018. doi:10.1155/2018/1714527
 26. Hall KS, Kusunoki Y, Gatny H and Barber J. Social discrimination, stress, and risk of unintended pregnancy among young women. *J Adolesc Heal.* Published online 2015. doi:10.1016/j.jadohealth.2014.11.008
 27. Kagabika MB and Irambona W. Causes and consequences of teenage pregnancy in Rwanda case of Kirehe District. *Int J Res.* 2021;8(8):548-577.
 28. Kayiranga D, Uwimana MC, Nyirazigama A, Mukeshimana M and Moreland P. Perceptions of adolescent parenting among high school adolescent students from selected rural and urban schools in Rwanda. *Rwanda J Med Heal Sci.* 2019;2(2):86. doi:10.4314/rjmhs.v2i2.3
 29. Kidan Ayele BG, Gebregzabher TG, Hailu TT and Assefa BA. Determinants of teenage pregnancy in degua tembien district, Tigray, Northern Ethiopia: A community-based case-control study. *PLoS One.* 2018;13(7):1-15. doi:10.1371/journal.pone.0200898
 30. Mangeli M, Rayyani M, Cheraghi MA and Tirgari B. Exploring the challenges of adolescent mothers from their life experiences in the transition to motherhood: A qualitative study. *J Fam Reprod Heal.* 2017;11(3):165-173.
 31. Ngum Chi Watts MC, Liamputtong P and McMichael C. Early motherhood: A qualitative study exploring the experiences of African Australian teenage mothers in greater Melbourne, Australia. *BMC Public Health.* 2015;15(1):1-11. doi:10.1186/s12889-015-2215-2
 32. Sámano R, Martínez-Rojano H, Robichaux D. Family context and individual situation of teens before, during and after pregnancy in Mexico City. *BMC Pregnancy Childbirth.* 2017;17(1):1-16. doi:10.1186/s12884-017-1570-7
 33. Maxson P and Miranda ML. Pregnancy intention, demographic differences, and psychosocial health. *J Women's Heal.* Published online 2011. doi:10.1089/jwh.2010.2379
 34. Phipps MG and Nunes AP. Assessing pregnancy intention and associated risks in pregnant adolescents. *Matern Child Health J.* Published online 2012. doi:10.1007/s10995-011-0928-0
 35. Hall JA, Benton L, Copas A and Stephenson J. Pregnancy intention and pregnancy outcome: Systematic review and meta-analysis. *Matern Child Health J.* Published online 2017. doi:10.1007/s10995-016-2237-0
 36. Keddem S, Frasso R, Dichter M and Hanlon A. The association between pregnancy intention and breastfeeding. *J Hum Lact.* Published online 2018. doi:10.1177/0890334417725032
 37. Singh S, Sedgh G and Hussain R. Unintended Pregnancy: Worldwide Levels, Trends, and Outcomes. *Stud Fam Plann.* Published online 2010. doi:10.1111/j.1728-4465.2010.00250.x
 38. Kassahun EA, Zeleke LB, Dessie AA. Factors associated with unintended pregnancy among women attending antenatal care in Maichew Town, Northern Ethiopia, 2017. *BMC Res Notes.* 2019;12(1):1-6. doi:10.1186/s13104-019-4419-5
 39. Ruzibiza Y. 'They are a shame to the community ...' stigma, school attendance, solitude and resilience among pregnant teenagers and teenage mothers in Mahama refugee camp, Rwanda. *Glob Public Health.* 2020;0(0):1-12. doi:10.1080/17441692.2020.1751230
 40. Tuyisenge G, Hategeka C and Aguilera RA. Should condoms be available in secondary schools? Discourse and policy dilemma for safeguarding adolescent reproductive and sexual health in Rwanda. *Pan Afr Med J.* 2018;31:1-12. doi:10.11604/pamj.2018.31.173.16549

41. Ganchimeg T, Ota E, Morisaki N, et al. Pregnancy and childbirth outcomes among adolescent mothers: a World Health Organization multicountry study. *BJOG*. 2014;121 Suppl:40-48. doi:10.1111/1471-0528.12630
42. Morris JL and Rushwan H. Adolescent sexual and reproductive health: The global challenges. *Int J Gynecol Obstet*. 2015;131:S40-S42. doi:10.1016/j.ijgo.2015.02.006
43. Coast E, Jones N, Francoise UM, et al. Adolescent Sexual and Reproductive Health in Ethiopia and Rwanda: A Qualitative Exploration of the Role of Social Norms. *SAGE Open*. 2019;9(1). doi:10.1177/2158244019833587
44. Hodgkinson S, Beers L, Southammakosane C and Lewin A. Addressing the mental health needs of pregnant and parenting adolescents. *Pediatrics*. 2014;133(1):114-122. doi:10.1542/peds.2013-0927
45. Lee D. The early socioeconomic effects of teenage childbearing: A propensity score matching approach. *Demogr Res*. 2010;23:697-736. doi:10.4054/DemRes.2010.23.25
46. Yazdkhasti M, Pourreza A, Pirak A and Abdi F. Unintended pregnancy and its adverse social and economic consequences on health system: A narrative review article. *Iran J Public Health*. 2015;44(1):12-21.
47. Smithbattle LI. Stigmatization of Teen Mothers. *MCN Am J Matern Child Nurs*. 2013;38(August):235-241.
48. Amoadu M, Ansah EW, Assopiah P, et al. Socio-cultural factors influencing adolescent pregnancy in Ghana: a scoping review. *BMC Pregnancy Childbirth*. 2022;22(1):1-13. doi:10.1186/s12884-022-05172-2
49. Chung HW, Kim EM and Lee JE. Comprehensive understanding of risk and protective factors related to adolescent pregnancy in low- and middle-income countries: A systematic review. *J Adolesc*. 2018;69(October):180-188. doi:10.1016/j.adolescence.2018.10.007
50. Ntawuyirushintege S. *Factors Associated with Teenage Pregnancy in Eastern Province: Analysis of RDHS 2014-2015*. University of Rwanda; 2016.
51. Embleton L, Logie CH, Ngure K, et al. Intersectional Stigma and Implementation of HIV Prevention and Treatment Services for Adolescents Living with and at Risk for HIV: Opportunities for Improvement in the HIV Continuum in Sub-Saharan Africa. *AIDS Behav*. Published online 2022. doi:10.1007/s10461-022-03793-4
52. Raya-Diez E, Serrano-Martínez C, Pedro EDS and Montañés-Muro P. Risk Factors and Social Consequences of Early Pregnancy: A Systematic Review. *SAGE Open*. 2024;14(3):1-16. doi:10.1177/21582440241271324
53. Amjad S, MacDonald I, Chambers T, et al. Social determinants of health and adverse maternal and birth outcomes in adolescent pregnancies: A systematic review and meta-analysis. *Paediatr Perinat Epidemiol*. 2019;33(1):88-99. doi:10.1111/ppe.12529
54. Govender D, Naidoo S and Taylor M. "I have to provide for another life emotionally, physically and financially": understanding pregnancy, motherhood and the future aspirations of adolescent mothers in KwaZulu-Natal South, Africa. *BMC Pregnancy Childbirth*. 2020;20(1):1-21. doi:10.1186/s12884-020-03319-7
55. Sebanwa A and Semuhoza ES. Causes of early motherhood, consequences and prevention strategies: the case of early pregnant teenagers. *Rwanda J Soc Sci Humanit Bus*. 2021;2(1):132-147. doi:https://dx.doi.org/10.4313/rjsshb.v2i1.7
56. Moridi M and Aminshokravi F. "Ambivalence perception" the consequence of exposure to pregnancy in Iranian adolescent women: A qualitative study. *J Reprod Infertil*. 2018;19(3):157-166.
57. East P., Chien CN and Barber J. Adolescents' Pregnancy Intentions, Wantedness, and Regret: Cross-Lagged Relations With Mental Health and Harsh Parenting. *J Marriage Fam*. 2012;74(1):167-185. doi:10.1111/j.1741-3737.2011.00885.x. Adolescents