

ORIGINAL ARTICLE

RISK FACTORS OF TEENAGE PREGNANCY IN SARAWAK: GROUNDED THEORY APPROACH

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ABSTRACT

Teenage pregnancy remains a significant public health concern in Sarawak, with rates among the highest in Malaysia, affecting the health and well-being of adolescent mothers, their children, and society. Despite its prevalence, locally grounded qualitative evidence on the risk factors specific to Sarawak's multicultural and geographic context remains limited. This study addresses this gap by identifying the risk factors associated with teenage pregnancy in Sarawak, as the foundational phase in developing a culturally contextualised risk assessment tool for teenage pregnancy (TeenRAT). A qualitative grounded theory approach was utilized to explore the experiences of 20 mothers aged between 20 and 35, recruited from rural and urban settings across four divisions in Sarawak: Kuching, Sibuan, Miri, and Limbang. They were recruited using a purposive sampling technique. In-depth interviews were conducted from February to October 2022 until data saturation was achieved. Data triangulation was obtained through focus group discussions with relevant stakeholders. Data analysis was guided by Strauss and Corbin's grounded theory coding procedures using NVIVO-12 software. Ten themes and 38 sub-themes emerged as risk factors, with family dynamics and relationships identified as the key factor across themes. The findings provide a locally grounded evidence base for developing TeenRAT, which has the potential to support nurses, school health workers, and community health practitioners in early identification of adolescents at risk of teenage pregnancy in Sarawak.

Keywords: *Pregnancy in Adolescence; Risk factors; Qualitative research; Grounded Theory; Malaysia*

INTRODUCTION

Teenage pregnancy is a serious public health concern worldwide¹, affecting the health and well-being of adolescent mothers, their children, and society. In Sarawak, Malaysia, the rate of teenage pregnancies remains one of the highest in the country, showing the importance of addressing this issue². Many risk factors contribute to this problem, including socio-economic, a lack of sexual and reproductive health (SRH) education, cultural norms, insufficient parental guidance, alcohol consumption, drug abuse, and exposure to pornography. Other factors, such as peer influence and exposure to harmful behaviors like substance abuse, further increase the risk of pregnancies among adolescents³.

The effects of teenage pregnancy are well documented and wide-ranging. Health risks for young mothers include obstructed labor, high blood pressure during pregnancy, and anemia. Their babies are also at higher risk of low birth weight, early death, and developmental problems^{2, 4}. Besides health issues, teenage pregnancy disrupts education, creates financial

difficulties, and exposes young mothers to stigma, which limits their chances for better opportunities and independence^{2, 5}. In Sarawak, cultural stigma around unmarried pregnancies, and weaknesses in customary marriage laws make the problem worse, reducing young women's ability to access health care services⁶.

Programs like the One-Stop Teenage Pregnancy Committee (OSTPC) and the My Beloved Generation initiative have tried to reduce teenage pregnancies in Sarawak. These efforts must address the root causes or risk factors and use appropriate strategies sensitive to local cultures^{2, 6}. For example, while the One-Stop Teenage Pregnancy Committee focuses on providing immediate support and counseling, it should address cultural stigma or provide long-term educational strategies for prevention. Many adolescents rely on the internet^{6, 7}, and their peers^{5, 8} for SRH information, which often leads to misunderstandings and poor choices^{6, 9, 10}. Societal shame^{2, 5, 6} also leads to underreporting, making it harder to understand the real extent of the problem and develop effective public health strategies. This study aims to identify the risk

factors that lead to teenage pregnancies in Sarawak, as part of a mixed-methods study in developing a Teenage Pregnancy Risk Assessment Tool (TeenRAT). Understanding these risks will inform effective prevention programs or policies to reduce incidences related to this population.

METHODS

Study design

This study utilized a grounded theory approach, specifically the Straussian tradition¹¹, to explore the risk factors associated with teenage pregnancies in Sarawak. Its open, axial, and selective coding procedures suit the

conceptualization of risk factors from participants' lived experiences.

Study area

The research recruited female participants from four divisions with high teenage pregnancy rates: Kuching, Sibü, Miri, and Limbang (Figure 1). Between 2018 and March 2023, Kuching recorded the highest number of cases among adolescents aged 17 years and below ($n = 732$), followed by Sibü ($n = 585$) and Miri ($n = 561$), together accounting for over 50% of all cases reported across the state during this period¹². Participants from Sibü and Limbang came from rural areas accessible by road, while those from Kuching and Miri were from urban areas.

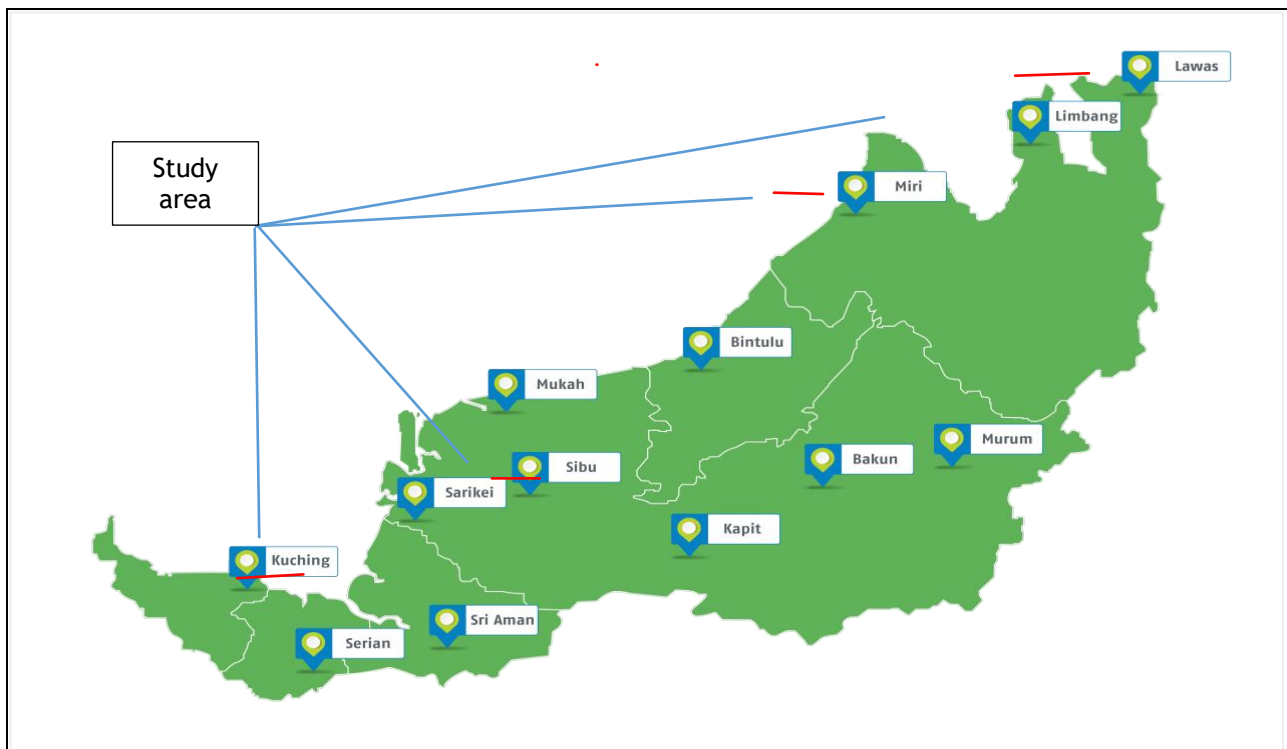


Figure 1. Study area from four divisions in Sarawak, Malaysia

Participants selection

A total of 20 mothers aged between 20 and 35 who experience teenage pregnancy were recruited because they are 'fit for the purpose' of answering questions related to risk factors in teenage pregnancy. Inclusion criteria were: (i) female, (ii) aged between 20 and 35 years, (iii) had experienced teenage pregnancy before the age of 19, (iv) either married or unmarried at the time of interview, and (v) residing in one of the four selected divisions at the time of recruitment. Participants were excluded if they were unable to communicate in Bahasa Malaysia or the local language, presented with severe mental health conditions or cognitive impairments that would impede participation, or if their pregnancy was a result of sexual assault or rape. Data collection

was stopped when the saturation point was achieved^{11, 13}. Participants were recruited using a purposive sampling technique. Village heads acted as gatekeepers and key informants, facilitating access to the community and identifying mothers who had undergone teenage pregnancy in the particular area. The researcher contacted the village heads via phone or text messages for this purpose. Subsequently, the snowballing sampling method was employed to identify other mothers with similar experiences. The primary aim was to locate mothers who could offer firsthand accounts of their experiences with teenage pregnancy. All participants were informed about the purpose of the study and provided written consent before participating in interviews.

Data collection and analysis

Data collection was conducted from February to October 2022. Data was collected through open-ended in-depth interviews using the local language, allowing the participants to freely share their experiences. The duration of interviews lasted 60 to 90 minutes and were audio-recorded with consent. Field notes capturing observations, reflections, and emerging analytical thoughts were written immediately after each interview, consistent with Strauss and Corbin’s memo-writing practice¹¹. Interview prompts emerged from participants’ responses rather than being theory-driven, consistent with grounded theory inquiry¹¹. Saturation was determined iteratively when no new themes or codes emerged and existing themes consistently recurred. Data were triangulated through focus group discussions with welfare officers in charge of shelter homes, family health specialists, a clinical psychologist, a religious expert, and a public health matron¹⁴.

The interviews were transcribed and the researcher utilized grounded theory coding techniques. Following transcription, data analysis proceeded through three stages. First, in open coding, the researcher read through the transcripts line by line and identified initial codes using NVIVO-12 software. Second, in axial coding, related codes were grouped and connections between categories were established to explain emerging patterns. Third, in selective coding, a core category was identified that unified all categories, forming the basis for the conceptual understanding of risk factors contributing to teenage pregnancy. This process moved from raw transcript data to concepts, sub-themes, and themes, as illustrated in Table 1. Data collection, coding, and analysis occur immediately, concurrently, and throughout^{11, 14}.

Table 1. Example of grounded theory data analysis procedure

Open Coding	Axial Coding	Selective Coding / Concept
I was in school at that time. Before finishing Form 5, my father passed away, so there was no support to pay for exams, so I had to quit school. After that, I worked in Limbang. During that time, I met my boyfriend. We worked at the same place. Seeing each other every day, we eventually started talking, becoming friends, and that was it. I also met his family. How do I say this, it felt like I was deceived, by him and his family, all of them. I thought they genuinely wanted to take me in at that time. So, I ended up pregnant during that time.	“in school” “form 5” “father passed away” “no support” “quit school” “worked” “met my boyfriend” “met his family” “deceived” “pregnant”	Quit school because no financial support. Have to work, met boyfriend but deceived and get pregnant. Concept→ Financial support Sub-theme: House hold income Theme: Socioeconomic

Rigour

Trustworthiness was established through four strategies. Credibility was strengthened through prolonged engagement with data, triangulation via focus group discussions, and member-checking with two mothers who confirmed the interpretations. Transferability was supported through description of context, participants, and procedures, alongside rich verbatim quotations, enabling readers to assess the applicability. Dependability was addressed through supervisory review of coding decisions and NVIVO-12, which provided a transparent record of the process. Confirmability was achieved through a reflexive journal in which the researcher documented her positionality as a Sarawakian nurse with experience in adolescent

reproductive health, openly acknowledging her influence on analysis. A completed Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist confirmed adherence to qualitative research¹⁵. Ethical approval was obtained from Medical Research Ethics Committee (MREC) of Universiti Malaysia Sarawak (*RUJUKAN ETIKA: FME/22/35*). Participants experiencing distress during the interview could discontinue and were offered counselling.

RESULTS

Participant characteristics

Twenty mothers aged between 20 and 35 who had experienced teenage pregnancy participated.

Mean age at first pregnancy was 16.7 years (SD = 1.3; range 13 to 18). Participants came from Sibu (n = 9), Kuching (n = 5), Limbang (n = 4), and Miri

(n = 2). At conception, 15 (75%) were married and five (25%) were unmarried (Table 2).

Table 2. Participant Demographics (N = 20)

Participant	Current Age	Age at First Pregnancy	Division	Marital Status at Pregnancy
P1 (Ain)	20	16	Limbang	Married
P2 (Anta)	25	17	Sibu	Unmarried
P3 (Bibi)	30	18	Sibu	Married
P4 (Boby)	35	17	Sibu	Married
P5 (Cece)	20	17	Limbang	Married
P6 (Cing)	27	18	Limbang	Married
P7 (Clair)	20	17	Sibu	Unmarried
P8 (Doll)	30	18	Sibu	Married
P9 (Emm)	23	15	Sibu	Married
P10 (Era)	27	18	Kuching	Unmarried
P11 (Jenn)	26	13	Sibu	Married
P12 (Liz)	20	16	Limbang	Unmarried
P13 (Lin)	35	16	Sibu	Married
P14 (May)	24	18	Kuching	Married
P15 (Rin)	20	17	Miri	Unmarried
P16 (Roz)	20	18	Miri	Married
P17 (San)	30	15	Sibu	Married
P18 (Sari)	32	16	Kuching	Married
P19 (Tas)	26	18	Kuching	Married
P20 (Tini)	35	16	Kuching	Married

Note: Pseudonyms are used to protect participant confidentiality. Age at first pregnancy refers to the age at which the participant first became pregnant. Participants represented diverse ethnic backgrounds including Iban (n = 10), Malay (n = 5), Bidayuh (n = 2), and Lun Bawang (n = 3).

Risk factors of teenage pregnancy

Ten themes and 38 sub-themes were identified as risk factors. *Vulnerable adolescents*: refers to personal characteristics that placed adolescents at elevated risk, including negative peer influence, disability, being an adopted child, running away, being the eldest daughter, and early caregiving. *Social influence on teenage pregnancy*: intergenerational acceptance of early marriage and pregnancy where mothers or sisters had themselves experienced teenage pregnancy. *Socio economic*: low household income that led to school dropout and early marriage as perceived solutions. *Substance abuse*: alcohol and tobacco use as coping mechanisms, linked to risky sexual behaviour. *Living situation*: overcrowded homes, lack of utilities, and frequent relocation that disrupted social support and stability. *Intimate and sexual experiences*: early relationships, premarital sex, sexual abuse, and desire for

motherhood, all directly associated to teenage pregnancy. *Knowledge on sexual and reproductive*: inadequate understanding of contraception and the consequences of sexual behaviour. *Poor emotional well-being*: unhappiness, low self-esteem, neglect, and anger, often linked to family conflict and prompting early marriage as escape. *School experiences*: absenteeism, disciplinary issues, bullying, poor academic performance, learning difficulties, and school dropout. *Family dysfunctioning*: parental divorce, lack of support, authoritarian control, poor communication, conflict, and arranged marriages.

The Sunburst Chart illustrating the representation of themes and sub-themes is presented in Figure 2, and Table 3 presents the thematic analysis of risk factors for teenage pregnancy based on insights from mothers who experienced it.

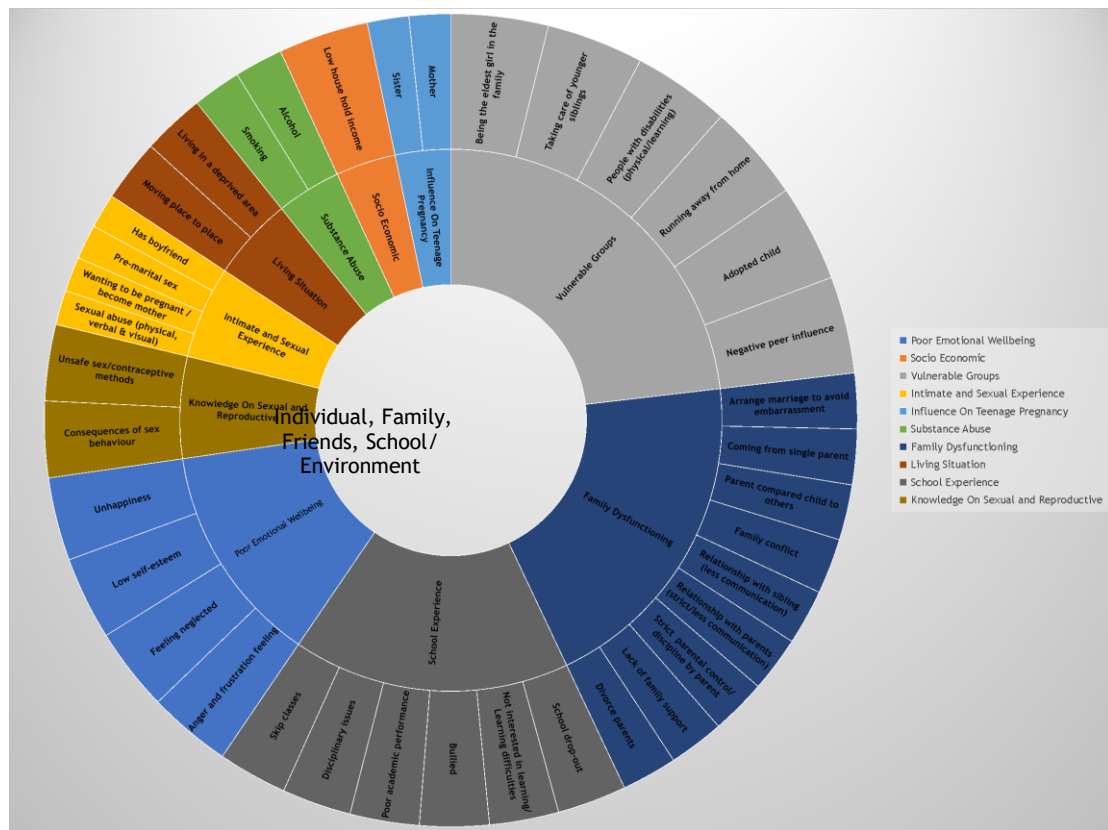


Figure 2. Sunburst chart depicting representation of themes and sub-themes of risk factors for teenage pregnancy

Note: 'Vulnerable groups' in the chart refers to 'vulnerable adolescents' as described in the thematic analysis.

Table 3. Thematic analysis of risk factors for teenage pregnancy based on insights from mothers who experienced it.

Themes and sub-themes	Sample verbatim
Vulnerable groups	
Negative peer influence	"I rarely went to school because I was rebellious and often hung out at shops or followed friends to play computer-like games. I frequently skipped classes and school."
Adopted child	"Whenever my adoptive parent scolds me, spoke harshly, or compared me to my friends, it made me start considering reckless actions."
Ran away from home	"I had a few arguments with my aunt, and my uncle got angry with me after I hit one of their children with a fly swatter, leaving a red mark. So, I decided to run away from home at night while they were asleep."
People with disabilities	"People said I have some mental difficulties, as I was slow to understand and I avoid socializing."
Being the eldest girl	"I would cook for my family whenever my father went fishing or worked on the farm."
Taking care of younger siblings	"My mother passed away when I was just 12 years old, and I took on the responsibility of caring for my siblings."
Social influence on teenage pregnancy	
Mother	"My parents also got married in their teens, around 17 or 18. Something like that."
Sister	"My sister got married when she was 18 years old."
Socio Economic	

Themes and sub-themes	Sample verbatim
Low house hold income	"I am the youngest of eight siblings. After my father passed away, I had to drop out of school in Year 6 because we couldn't afford it. I got married at the age of 13 after spending a long time at home."
Substance abuse	
Alcohol	"I started drinking alcohol when I was in Form 3, usually around 3 cans of either Tiger or Anchor."
Smoking	"I've never been to a pub, but I did smoke during secondary school."
Living Situation	
Living in a deprived area	"Our home is cramped, and there are times when we have to share a room with our parents. We live in a longhouse without electricity, relying on a generator, and we use river water for bathing."
Moving place to place	"My father first worked in Miri, then moved to Kuching, and later returned to Miri."
Intimate and sexual experience	
Having boyfriend	"I quit school when I was in Form 4 because I lost interest in studying and preferred spending time with my boyfriend."
Pre-marital Sex	"I had sex with my boyfriend when I was 15, but I didn't get pregnant."
Wanting to be pregnant / become mother	"I never thought about why I might get pregnant at a young age because I felt happy to have my own family."
Sexual abuse (physical, verbal & visual)	"It was like bullying. In school, they would make false accusations and spread rumors without any proof. They said whoever wants to sleep with me, it's RM50 per night."
Knowledge on sexual and reproductive	
Unsafe sex/contraceptive methods	"I was fifteen when I had sex with my boyfriend. I didn't wear any protection. I was lucky that I didn't become pregnant."
Consequences of sex behaviour	"I didn't know I was pregnant. I suddenly missed my period, but I didn't pay much attention to it. I told my parents about it. My mother noticed that I was sleeping a lot, eating, and then sleeping again, as if I was about to faint. I had a stomachache at home, but I didn't realize that I was about to give birth."
Poor emotional wellbeing	
Unhappiness	"My parents' divorce made me unhappy because it wasn't like other families."
Low self-esteem	"I feel low self-esteem because I don't see myself as beautiful. When a friend introduced her brother to me, I decided to get married right away."
Feeling neglected	"My parents seem to show favoritism, and it makes me feel like crying when I think about it. For example, if there's something good, my sister gets to have it, while I end up with what's not so good. That's part of why I got married—I felt it would be better to live with my husband's family."
Anger and frustration feeling	"I wasn't allowed to go out, which made me angry, so I locked myself in my room. I felt I had fulfilled my responsibilities by doing all the housework and taking care of my younger siblings. After finishing school, I told my parents I wanted to get married."
School experience	
Skip classes	"I frequently skipped classes and, within a month, I missed two weeks of school to play computer games."
Disciplinary issues	"I was caned for breaking school rules, and other times I had to clean the toilets or pick up trash around the classroom."
Poor academic performance	"When I entered secondary school, my exam results dropped significantly compared to primary school."

Themes and sub-themes	Sample verbatim
Bullied	"I faced problems at school, such as stress from studying. I felt like being bullied. At times, they spread baseless rumors and false accusations."
Not interested in learning/learning difficulties	"I had no interest in school at all because the way of learning mathematics and science subjects were particularly challenging, and it was harder to remember things at this level."
School drop-out	"I didn't want to go to school because it was far from home and required taking a boat."
Family dysfunctioning	
Divorce parents	"My father and mother divorced when I was in primary 2, and that was a difficult experience for me."
Lack of family support	"My mother said, 'since you're no longer in school, it's better for you to get married. Few people are already proposing.'"
Strict parental control/discipline	"My parents don't allow me to go out. It feels like they're being strict, and it makes me angry and want to rebel."
Relationship with parents (strict/less communication)	"Since my mother isn't great at giving advice, I rarely turn to her for guidance."
Relationship with sibling (less communication)	"I tend to keep my problems to myself. I've never shared my feelings with my siblings."
Family conflict	"As a teenager, I witnessed my foster parents arguing frequently, and in the end, they divorced."
Parent compared child to others	"Why aren't you as clever as your friend? Look at them, they always help their mother, unlike you."
Coming from single parent	"Since my father passed away, my mother has been a single parent and doesn't have a job. Being the eldest child, I had to leave school in Form 5 to help support the family."
Arrange marriage to avoid embarrassment	"I had to leave school because my family accepted a marriage proposal from my current husband's family after they heard rumors about me frequently going out at night with boys."

Emergent theme

Each theme is illustrated below with a representative participants excerpt.

Vulnerable adolescents

P5 (Cece), an adopted child, recalled: "My adoptive mother always compared me to the neighbour's children... I started harming my own hands whenever I felt sad." P19 (Tas) described how caregiving burdens made marriage feel like relief: "I was the one my family depended on... I thought that once I got married, I would finally be free."

Social influence on teenage pregnancy

Intergenerational patterns of early marriage were evident, with progressively younger ages across siblings. P9 (Emm) described: "There are four of us siblings... My eldest sister got married at 19, my second sister at 16, and I myself at 18."

Socio-economic conditions

Low income drove early school dropout. P18 (Sari) explained: "Since my father passed away, I stopped schooling at Primary Six... there was no money for education, but I really wanted to study." Hardship was often followed by early marriage as an economic strategy.

Substance abuse

Alcohol and smoking began in unsupervised peer settings. P5 (Cece) recalled: "I used to skip school. I went with a female friend, and we drank alcohol at her house. Her parents did not scold us."

Living situation

Geographic isolation and frequent relocation disrupted schooling and severed protective community ties. P13 (Lin), from a remote village, said: "I stopped schooling at Primary Six... it was difficult to go to school because it was far and there was no road. From the village we had to use a boat."

Intimate and sexual experiences

Reduced family oversight enabled early relationships, and sexual exploitation. P3 (Bibi), who who started working as a sales promoter after losing her father, described: "For the first time being away, I felt a sense of freedom... That's where I met my boyfriend at my workplace... I became pregnant."

Knowledge of sexual and reproductive health

Contraceptive knowledge was largely absent. P2 (Anta) explained: "I really did not know that having sexual relations with that man could lead

to pregnancy. I also did not know about condoms or anything else... we definitely did not use anything."

Poor emotional well-being

Neglect, low self-esteem, and unhappiness drove adolescents toward early marriage as a means of escape. P17 (San) explained: *"I felt neglected and sometimes I cried because of how they treated me. That is why I married early. I thought that if I lived with other people, like my husband's family, maybe things would be better."*

School experience

Bullying and academic difficulties led to disengagement. P5 (Cece) described persistent bullying: *"At school, there were classmates both boys and girls who liked to disturb me, like bullying, and sometimes slandered me with bad words."*

Family dysfunction

Family dysfunction was the most prominent theme, cutting across parental divorce, absent family support, authoritarian control, and arranged marriage. P10 (Era) said: *"I was afraid of my father because he was a hot-tempered person. His discipline was strict, if he said no, then no... When I was mad, I left, kind of ran away from home to my cousin's house."* P2 (Anta) added: *"After my father and mother divorced, I stayed with my mother... My mother was busy with work, and I was on my own."*

DISCUSSIONS

This study identified ten themes and 38 sub-themes as the risk factors for teenage pregnancy in Sarawak. Mean age at first pregnancy was 16.7 years (range 13 to 18) is similar to patterns in many developing countries^{3, 16}. Eight sub-themes appear new in the literature: adoptee status, eldest daughter burden, running away, persistent unhappiness, perceived neglect, anger from unfavourable family comparisons, frequent relocation due to parental contract work, and arranged marriage to avoid social embarrassment. These findings suggest that locally grounded inquiry can reveal types of risk that broader, number-based studies often overlook^{17, 18}.

Interpreted through Bronfenbrenner's¹⁹ ecological systems theory, the findings show layered influences. At the microsystem level, family dysfunction, poor emotional well-being, and intimate relationships were the most direct contributors, similar to evidence from the Philippines where adolescents living with neither parent were more than four times more likely to experience teenage pregnancy²⁰, and Ethiopia where parental divorce was independently associated with adolescent pregnancy¹⁶. At the mesosystem level, disrupted family life and school

disengagement accelerated dropout, removing girls from a protective educational environment, a pattern also reported in Ghana, Kenya, and southern Ethiopia^{13, 18, 23}. At the exosystem level, parental work patterns and economic hardship indirectly shaped adolescents' conditions. Within the macrosystem, early union and childbearing are often culturally and religiously normalised²¹. Rising teenage pregnancy and SRH challenges in Sarawak further highlight the need to address these contextual factors^{21, 22}, and shows why ecological theory needs to be applied with cultural sensitivity.

Family dysfunction was the most prominent theme. Authoritarian and inconsistent parenting drove adolescents toward rebellion, secrecy, and early intimate relationships, while poor parent and daughter communication left girls without trusted guidance on sexuality, a pattern reported across Malaysia, Ghana, Kenya, and the Philippines^{17, 18, 20, 23}. A recent Selangor expert panel similarly identified family environment, including divorce, parental conflict, and parents being absorbed in long working hours, as the strongest factor in out of wedlock pregnancy among Malaysian adolescents²³. The present study extends this literature by showing that even intact families can create conditions for early pregnancy through three pathways: arranged marriages to avoid social embarrassment, intergenerational normalisation of teenage marriage, and emotional neglect of eldest daughters expected to take on adult caregiving roles. The eldest daughter sub-theme suggests that teenage pregnancy here is sometimes driven not by family breakdown but by families following cultural expectations that disadvantage adolescent girls.

Socioeconomic hardship functioned as a structural condition, with pathways from poverty to school dropout, workforce entry, and early marriage as a way of solving financial problems²⁴. However, the findings challenge the assumption that more education always protects girls. Smith-Greenaway et al.²⁶ showed that where contraception is hard to access, education can actually increase the risk of unintended pregnancy. Every participant who reported premarital sexual activity had used no contraception, and several did not realize that one sexual encounter could result in pregnancy. This mirrors findings from the broader Malaysian sexual and reproductive health (SRH) literature^{22, 27}, and Kenyan and Ethiopian studies where adolescents described being deceived by partners or lacking the information they needed^{3, 28}.

Substance use, negative peer influence, and unstable living conditions further added to vulnerability^{6, 17, 29}. Frequent relocation due to parental contract work has received little attention in earlier studies and may be specific to Sarawak's labour mobility patterns. By breaking

community ties, frequent moves weaken the protective layers that ecological theory identifies as important. These findings provide a strong foundation for the Teenage Pregnancy Risk Assessment Tool (TeenRAT) and suggest that effective prevention requires whole family approaches, parenting support, and culturally sensitive premarital counselling engaging with customary marriage practices in Sarawak.

CONCLUSIONS

In conclusion, the study reveals that teenage pregnancy is influenced by a combination of psychological, social, and structural factors mainly due to family dynamics and relationships. Positive family support, effective communication, and strong role models are crucial in preventing early pregnancies. On the other hand, dysfunctional family environments, lack of guidance, or poor emotional support can increase the likelihood of teenage pregnancies. These risk factors can be used as early screening tools to formulate targeted interventions aimed at reducing teenage pregnancy rates.

Limitation

Triangulation strengthened validity and reduced bias, and diverse ethnic and geographic representation enriched the data.

Two qualitative limitations should be acknowledged. First, the researcher's positionality as a Sarawakian nurse experienced in adolescent reproductive health helped participants disclose sensitive experiences but may have shaped interpretation. Reflexive journaling, supervisory review of coding, and stakeholder triangulation were used to manage and acknowledge this influence.

Second, the themes are closely embedded in Sarawak's multicultural and geographically diverse setting. Sub-themes such as the eldest daughter burden, frequent relocation due to parental contract work, and arranged marriage to avoid family embarrassment reflect local realities that may not transfer directly to other Malaysian states or developing countries without careful reinterpretation. Readers are therefore encouraged to assess transferability against the descriptions of context, participants, and procedures provided.

Conflict of interests

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS:

Sum, C. B. H., planned, interviewed, transcribed, analysed, and wrote the paper.

Saimon, R. participated in data analysis and transcribing, and writing of the final version for publication.

All authors have read and agreed to the published version of the manuscript.

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