Sexual and reproductive health among female university students in Indonesia: Unaddressed issues and implications

Nurdiyanah Syarifuddin*[1], Hai Phung[2], Cordia Chu[3]

[1, 2, 3] Centre for Environment and Population Health, School of Medicine and Dentistry, Griffith University, Queensland, Australia
[4] Public Health Department, Universitas Islam Negeri Alauddin Makassar, Gowa, Indonesia

DOI: 10.24252/al-sihah.v18i1.69157
Received: 20 May 2026 / In Reviewed: 2 June 2026 / Accepted: 21 June 2026 / Available online: 30 June 2026
©The Authors 2026. This is an open access article under the CC BY-NC-SA 4.0 license

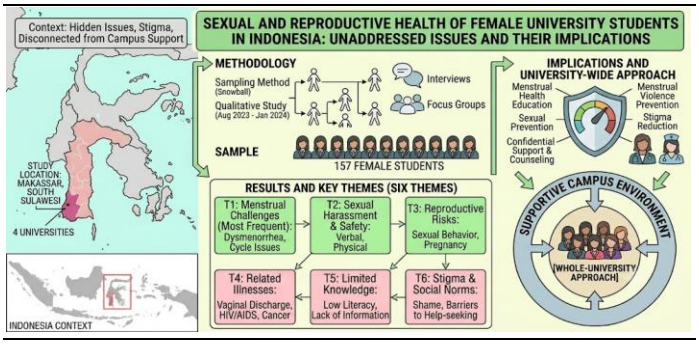
ABSTRACT

Sexual and reproductive health (SRH) issues among female university students in Indonesia remain insufficiently recognised within higher education settings, often hidden by stigma and disconnected from formal campus-based support systems. This study explored the SRH issues among female university students in Indonesian universities. A qualitative study involving 157 female university students from four universities in Makassar, Indonesia. Data were collected through semi-structured interviews and focus group discussions and analysed using thematic analysis. Six interconnected themes were identified: menstrual and physical health challenges, sexual harassment and safety concerns, sexual behaviours and reproductive risks, sexual health-related diseases and prevention concerns, limited SRH knowledge and awareness, and sociocultural norms and stigma. Menstrual problems were the most frequently reported concern, while pregnancy outside marriage, harassment, HIV/AIDS, breast and cervical cancer, and vaginal discharge were recognised as important but often poorly understood SRH issues. Stigma, shame, and limited SRH literacy constrained discussion and help-seeking, leaving students' SRH concerns largely private and disconnected from university-based support. The findings highlight the need for whole university approaches that integrate menstrual health, sexual violence prevention, confidential support services, and stigma reduction to address unaddressed SRH issues in Indonesian higher education.

ABSTRAK

Masalah kesehatan seksual dan reproduksi (KSR) di kalangan mahasiswi di Indonesia masih kurang mendapat perhatian di lingkungan pendidikan tinggi, sering kali tersembunyi di balik stigma dan terputus dari sistem dukungan formal di kampus. Penelitian ini mengkaji masalah KSR di kalangan mahasiswi di perguruan tinggi Indonesia. Sebuah studi kualitatif melibatkan 157 mahasiswi dari empat universitas di Makassar, Indonesia. Data dikumpulkan melalui wawancara semi-terstruktur dan diskusi kelompok terfokus, kemudian dianalisis menggunakan analisis tematik. Terdapat enam tema yang saling terkait: tantangan kesehatan menstruasi dan fisik, pelecehan seksual dan kekhawatiran akan keamanan, perilaku seksual dan risiko reproduksi, penyakit terkait kesehatan seksual serta kekhawatiran akan pencegahannya, pengetahuan dan kesadaran yang terbatas mengenai kesehatan seksual dan reproduksi, serta norma sosiobudaya dan stigma. Masalah menstruasi merupakan kekhawatiran yang paling sering dilaporkan, sementara kehamilan di luar nikah, pelecehan, HIV/AIDS, kanker payudara dan serviks, serta keputihan diakui sebagai isu-isu kesehatan seksual dan reproduksi yang penting namun seringkali kurang dipahami. Stigma, rasa malu, dan rendahnya literasi kesehatan seksual dan reproduksi (KSR) menghambat diskusi dan upaya mencari bantuan, sehingga masalah KSR yang dihadapi mahasiswa sebagian besar tetap menjadi rahasia dan terputus dari dukungan yang disediakan oleh perguruan tinggi. Temuan ini menyoroti perlunya pendekatan holistik di tingkat perguruan tinggi yang mengintegrasikan kesehatan menstruasi, pencegahan kekerasan seksual, layanan dukungan rahasia, dan pengurangan stigma guna menangani masalah KSR yang belum teratasi di dunia pendidikan tinggi Indonesia.

GRAPHICAL ABSTRACT



Keyword
female
reproductive health
sexual health
students
universities

*** Correspondence**
170 Kessels Rd, Nathan, Queensland 4111, Australia
nurdiyanah.syarifuddin@griffithuni.edu.au

ISSN-P : 2086-2040
ISSN-E : 2548-5334

INTRODUCTION

Sexual and reproductive health (SRH) among female college students is an increasingly important public health issue that is not being adequately addressed in higher education settings (Alhussaini et al., 2025; Chekol et al., 2023). University life marks a critical transition from adolescence to young adulthood, during which students experience greater personal autonomy, mobility, residence changes, peer influence, romantic relationships, academic pressure, and high digital exposure (Buyinza et al., 2025; Naudé & Esau, 2024). These conditions may increase vulnerability to unprotected sex, multiple sexual partners, unintended pregnancy, unsafe abortion, sexually transmitted infections, HIV exposure, and sexual violence (Brown et al., 2021, Paul et al., 2024; Wilkins et al., 2022). In Indonesia, this issue has major public health relevance because approximately 8.3 million students were enrolled across 4,524 higher education institutions, indicating a large population whose SRH needs may remain overlooked within formal university systems (Kementerian Pendidikan Kebudayaan Riset dan Teknologi Republik Indonesia, 2021). Addressing SRH in universities is also aligned with the Sustainable Development Goals, particularly SDG 3 on good health and well-being, SDG 4 on quality education, and SDG 5 on gender equality, because student welfare, bodily autonomy, protection from violence, and equitable access to health information are fundamental to educational participation and achievement.

Global and regional evidence indicates that female university students face multiple SRH vulnerabilities that extend beyond individual sexual behavior to include broader social, institutional, and cultural determinants (Lynch et al., 2025). Studies from ASEAN countries, including Indonesia, show that young people encounter SRH risks related to limited knowledge, unequal access to reliable information, and barriers to youth-friendly services (Harjana et al., 2026; Lee & Yeo, 2022; Suratana et al., 2022). University environments may also expose young women to physical and sexual violence, which can undermine psychological well-being, academic performance, and participation in campus life (Klencakova et al., 2023). At the same time, higher education institutions provide a strategic setting for prevention and support, because campus-based services, peer-led education, digital health tools, confidential counseling, and youth-friendly referral systems can improve SRH literacy, strengthen safer-sex negotiation, and increase access to condoms, HIV testing, emergency contraception, pre-exposure prophylaxis, and reproductive health counseling (Alhassan et al., 2025; Huang et al., 2022; Kuguyo et al., 2025). Therefore, universities are not only sites where SRH risks may emerge but also critical arenas for delivering comprehensive, equitable, and stigma-sensitive SRH interventions.

Despite the scale of the university student population and the increasing recognition of SRH risks among young women, SRH needs in Indonesian higher education remain largely hidden, fragmented, and disconnected from formal campus-based support systems. This problem is shaped by the convergence of stigma, limited SRH literacy, gendered norms, inadequate comprehensive sexuality education, and sociocultural restrictions that discourage open discussion of menstruation, sexuality, contraception, sexual violence, reproductive diseases, and pregnancy outside marriage (Al Zaabi et al., 2022; Astatke et al., 2024; Punjani et al., 2022; Titisari et al., 2025). The 2017 Indonesia Demographic and Health Survey reported that only 12% of women aged 15–24 knew where to find reproductive health information, reflecting persistent gaps in access to credible and youth-friendly SRH knowledge (National Population and Family Planning Board [BKKBN] et al., 2018). A general solution is therefore needed through a whole-university approach that integrates SRH literacy, menstrual health support, sexual violence prevention, confidential counseling, referral pathways, and stigma reduction into student welfare policies and services, while ensuring that interventions are culturally responsive, gender-sensitive, and accessible to diverse student populations (Achen et al., 2023; Huang et al., 2022; Mcharo et al., 2022; Prémusz et al., 2025; Usonwu et al., 2021).

Scientific literature increasingly emphasizes that universities should move beyond fragmented health promotion activities and adopt integrated SRH systems that combine education, prevention, counseling, and service referral. Peer-led and campus-based interventions have been shown to be promising because they position students as active agents in identifying risks, challenging misinformation, and creating supportive communication spaces for sensitive SRH topics (Alhassan et al., 2025; Huang et al., 2022). Digital health tools also offer important opportunities to reach students who may be reluctant to seek face-to-face support due to shame, fear of judgment, or privacy concerns. When combined with in-person services, digital platforms can provide confidential SRH information, support safer decision-

making, and link students to trusted care pathways, including HIV testing, contraception, emergency contraception, and counseling services (Huang et al., 2022; Kuguyo et al., 2025). Such multimodal strategies are particularly relevant in contexts where parental oversight decreases during university life, but social stigma continues to limit students' willingness to disclose SRH concerns.

The literature also indicates that comprehensive sexuality education and SRH literacy interventions are essential to address shallow, fragmented, or inaccurate knowledge among female university students. Recent studies have identified substantial literacy gaps, including evidence that many students are unable to identify women's SRH issues, suggesting that formal education may not sufficiently prepare young women to understand reproductive risks, disease prevention, bodily changes, or available support systems (Chilambe et al., 2023; Mejia et al., 2024). Inadequate comprehensive sexuality education, misinformation, reliance on informal sources, and stigma-driven silence contribute to poor risk assessment and delayed help-seeking (Astatke et al., 2024; Punjani et al., 2022; Williams et al., 2024). These challenges intersect with gendered norms and cultural expectations, which may frame sexuality as a moral issue rather than a health concern, thereby discouraging students from accessing support (Suveren, 2025; Tshivule et al., 2025). Therefore, effective solutions should combine evidence-based SRH education, culturally sensitive communication, gender-inclusive health literacy strategies, and trusted campus-based support structures that normalize care-seeking without reinforcing stigma.

In Indonesia, existing SRH research has contributed important insights into adolescents' knowledge, attitudes, and information needs, particularly within school-based settings (Amalia et al., 2021; Diarsvitri & Utomo, 2022; Muthmainnah et al., 2021; Pinandari et al., 2023; Wardiati et al., 2023). Other studies have focused on specific SRH issues, including HIV/AIDS, contraception, sexual compulsivity, and child marriage (Buston et al., 2023; Gayatri & Fajarningtiyas, 2023). Although these studies provide valuable evidence, they tend to examine SRH through issue-specific or school-based perspectives rather than exploring how female university students understand and experience multiple SRH concerns during higher education. This leaves an important gap in knowledge regarding how young women in universities perceive menstrual health, sexual harassment, reproductive risks, sexual health-related diseases, SRH information access, and sociocultural stigma as interconnected dimensions of student well-being.

The novelty of this study lies in its focus on unaddressed SRH needs among female university students in Indonesian higher education, examined through students' perspectives across four universities in Makassar. Rather than treating SRH as a single-issue concern, this study explores how menstrual and physical health challenges, sexual harassment and safety concerns, sexual behaviors and reproductive risks, sexual health-related diseases, limited SRH knowledge, and sociocultural stigma intersect in everyday university life. This focus is important because SRH concerns may remain private and disconnected from institutional support due to shame, moral judgment, and social consequences. Therefore, this study aimed to explore unaddressed SRH issues experienced by female university students in Indonesia and generate context-specific evidence to inform responsive, confidential, and stigma-sensitive university SRH policies and services.

METHODS

Study Design

This research employed a qualitative descriptive study design to explore sexual and reproductive health challenges experienced by female university students in Indonesia. This study was conducted from August 2023 to January 2024. The study formed part of a broader research project examining SRH among university students in higher education settings.

Study Setting

The study was conducted across four universities in Makassar, South Sulawesi, Indonesia, including two public and two private institutions. The participating universities represented diverse higher education settings with varying organisational structures and student populations.

Participants and Recruitment

Female students enrolled at the four participating universities were recruited using purposive sampling to ensure diversity in academic disciplines and years of study. Eligible participants were aged 18 years or older, currently enrolled at one of the participating universities, and provided informed consent. Recruitment was conducted through university communication channels, student

Table 1
Characteristics of female university students participating in the study

Characteristics	n	%
Age (years)		
18	13	8.3
19	35	22.3
20	35	22.3
21	37	23.6
22	37	23.6
Academic field		
Social sciences and economics	55	35.0
Health sciences	50	31.8
Natural sciences and engineering	32	20.4
Education, law, and religious studies	20	12.7
Academic enrolment		
First year	32	20.4
Second year	34	21.7
Third year	39	24.8
Fourth year	52	33.1

organisations, and faculty networks.

A total of 157 female students participated in the study, and all completed individual semi-structured interviews. Among these participants, 28 subsequently participated in four focus group discussions to further explore emerging themes and shared experiences. Participants were aged 18–22 years and represented diverse disciplines, including social sciences and economics, health sciences, natural sciences and engineering, and education, law, and religious studies. Students from all years of study were represented, with the largest proportion in the fourth year. (See Table 1).

Data Collection and Analysis

Data were collected between August 2023 and January 2024, through focus group discussions (FGDs) and individual semi-structured interviews, conducted in Bahasa Indonesia. FGDs lasted approximately 60–90 minutes, while interviews lasted 30-60 minutes. All discussions and interviews were audio-recorded with participants' consent and subsequently transcribed verbatim.

Data were analysed using thematic analysis following the six-step approach proposed by Braun and Clarke (Braun et al., 2019). The analysis focused on identifying the range of SRH issues and challenges perceived and experienced by female students.

Ethical Considerations

Ethical approval for this study was granted by the Griffith University Human Research Ethics Committee, Australia (Ref. No. 2023/429). Approval to conduct the study was also granted by the four participating universities. All participants received a study information sheet and provided written informed consent prior to participation. Participation was voluntary, and confidentiality and anonymity were maintained throughout the study.

RESULTS

The analysis revealed six interconnected themes reflecting the sexual and reproductive health (SRH) issues faced by female university students in Indonesia. The themes included: 1) menstrual and physical health challenges, 2) sexual harassment and safety challenges, 3) sexual behaviours and reproductive risks, 4) sexual health and disease prevention concerns, 5) limited SRH knowledge and awareness, and 6) sociocultural norms and stigma.

Menstrual and Physical Health Challenges

Menstrual and physical health challenges were the most frequently discussed SRH concern, mentioned by eighty-eight (56.1%) participants (See Table 2). Students described menstruation as a recurring source of physical discomfort that affected their daily activities, concentration, and participation in academic life. Experiences ranged from mild discomfort to severe pain accompanied by dizziness, fatigue, and reduced mobility. Several participants

Table 2
Identified key sexual and reproductive health issues by participants

SRH Category	Issues Addressed	n	%
Menstrual and physical health challenges	Menstrual issues and personal genital hygiene	88	56.1
Sexual health-related diseases and concern	Breast cancer, cervical cancer, STIs and HIV/AIDS	17	10.8
Sexual behaviours and reproductive risks	Consensual and pre-marital sex, pregnancy outside marriage, and abortion	26	16.6
Sexual harassment and safety challenges	Catcalling, sexual harassment, and mental health issues	27	17.2
Limited SRH Knowledge and awareness	Explicitly denied or unable to identify SRH issues or reported non-SRH issues	39	24.8
Sociocultural norms and stigma	Feeling shy, ashamed, afraid, taboo, or fear of judgment	20	12.7

Note: Participants could report multiple SRH issues. Percentages do not sum to 100%.

reported that menstrual symptoms occasionally interfered with lecture attendance and academic performance, highlighting the extent to which menstrual health can influence students' educational experience. One participant explained:

> *"Sometimes when I am menstruating, it's really annoying if I suddenly get really sick when I'm attending a lecture." (P128, 21 years)*

The nature and severity of menstrual symptoms varied considerably between participants. Symptom severity varied. While some students described manageable symptoms, others reported significant pain and physical distress during menstruation. Participants often emphasised that menstrual experiences differed between individuals and that some women experienced more severe symptoms than others. Another participant noted:

> *"When it comes to menstruation, it's different for everyone. Some people experience severe stomach pain, while others feel pain all the way to the head."* (P133, 22 years)

Participants also perceived academic stress as contributing to menstrual irregularities and other reproductive health concerns:

> *"When we are stressed because of our courses, our menstrual cycle becomes irregular. It can be delayed or sometimes no menstruation."* (P70, 19 years)

Concerns about menstrual hygiene on campus also emerged, underscoring challenges in managing personal hygiene, particularly during long hours spent on campus.

> *"We might have vaginal discharge because we study for hours, so that we have to change underwear many times a day."* (P22, 22 years)

Another participant stated:

> *"Maybe it's more about personal hygiene. If you are a student, especially if you are busy, you may forget to keep yourself clean"* (P130, 20 years)

Despite these impacts, no participants described accessing university health services or academic accommodations for menstrual health. Menstruation was thus experienced as an individual burden to be endured, disconnecting it from institutional health support or policy.

Sexual Harassment and Safety Challenges

Sexual harassment was reported by twenty-seven (17.2%) of participants as a significant concern affecting female students' sense of safety and emotional well-being (See Table 2). Participants described catcalling, unwanted attention, and verbal harassment as common experiences encountered in daily life. Although these behaviours often involved no physical contact, they were perceived as forms of harassment that generated discomfort and insecurity. One participant stated:

> *"Usually catcalling, most often."* (P77, 22 years)

Another participant explained:

> *"The biggest issue is harassment. It doesn't have to involve physical contact. Being whistled at or stared at intensely is already harassment."* (P91, 19 years)

These experiences generated insecurity and restricted participation in public spaces, yet no participants reported incidents to university authorities or identified campus prevention mechanisms. Harassment was normalised as common rather than recognised as a violation requiring institutional response, positioning the campus as an unsupportive environment for female students' well-being.

Sexual Behaviours and Reproductive Risks

Sexual behaviours and reproductive risks emerged as another important dimension of female students' SRH experiences. Participants frequently referred to pregnancy outside marriage as one of the

reproductive challenges affecting university students. Discussions suggested that premarital pregnancy was widely recognised as an important concern among young women and was perceived as a consequence of risky sexual behaviour. One participant explained,

> *"It's like being pregnant out of wedlock; that's mostly the case, and many people are also pregnant out of wedlock."* (P118, 22 years)

Another participant commented:

> *"The one I hear most often is cases of pregnancy out of wedlock."* (P80, 19 years)

Participants' narratives indicate that premarital pregnancy was one of the most visible reproductive concerns discussed within their social environments. Although participants rarely described personal experiences, they frequently referred to incidents involving peers or stories circulating within university communities, suggesting that reproductive risks were recognised as relevant issues among university students. While pregnancy was visible in peer narratives, it was discussed primarily through moral and social consequences rather than health or prevention frameworks. Reproductive risk was thus acknowledged through shame, but not managed medically through prevention, leaving students vulnerable to unintended pregnancy without health system support.

Sexual Health-Related Diseases and Concerns

Concerns relating to breast lumps, breast cancer, cervical cancer, HIV/AIDS, and other reproductive conditions were mentioned by seventeen participants (10.8%) (See Table 2). These concerns were often discussed through peer experiences or information participants had heard rather than personal screening.

Breast health was one concern raised by participants. Some students referred to breast pain and lumps, usually based on what they had heard from friends.

> *"There are also some of my friends who have problems with their breasts. I have heard that there is pain in the breast, like there is a lump."* (P57, 20 years)

Participants also identified HIV/AIDS and cancers as important health concerns affecting young women. One participant broadly summarised the SRH issues they had encountered:

> *"HIV/AIDS and a lump in the breast, then it ended up being cervical cancer, that's what it is. So far, there have definitely been cases like pregnancy out of wedlock, and violence too."* (P54, 20 years)

Another participant described learning about HIV through narratives of shock and invisibility from the experience of a friend:

> *"There was one friend of mine who got HIV. I was really shocked when I heard that because she seemed to be fine, but it turns out she got it. As far as I know, it was because of sexual relationships with changing partners."* (P56, 18 years)

These accounts suggest that students recognised serious sexual and reproductive health-related diseases, but their understanding was often shaped by informal stories, peer experiences, and general awareness rather than structured SRH education, leaving risk perception low and prevention behaviours absent despite proximity to cases.

Limited SRH Knowledge and Awareness

Limited knowledge and awareness of sexual and reproductive health emerged as an important challenge among female university students. Although many participants recognised that SRH-related problems existed among young people, their understanding of SRH was often incomplete and inconsistent. Discussions suggested that participants were generally more familiar with visible social phenomena such as early marriage and pregnancy outside marriage, than with broader concepts of reproductive and sexual health, disease prevention or reproductive wellbeing.

Approximately one-quarter of participants reported being unaware of any SRH concerns or identified issues not directly related to SRH, suggesting a limited understanding of SRH as a broad health concept. One participant expressed uncertainty when asked about women's reproductive health problems:

> *"What are the problems with women's health? If you say an intimate health problem, I never know."* (P112, 19 years)

Participants were more familiar with socially visible phenomena but demonstrated limited understanding of their broader reproductive health implications. These findings suggest that SRH was thus associated with a limited number of visible social issues rather than a comprehensive understanding of sexual and reproductive health, disease prevention, or reproductive well-being. This limited awareness may influence students' ability to recognise SRH concerns, access reliable information, and seek appropriate support when needed.

Sociocultural Norms and Stigma

Sociocultural norms and stigma shaped participants' perceptions of sexual and reproductive health. Discussions frequently reflected prevailing social and moral expectations regarding sexuality, particularly in relation to premarital sexual relationships and pregnancy outside marriage. Rather than viewing these issues solely as health concerns, participants often described them within broader moral and cultural frameworks that emphasised social acceptability and personal behaviour. One participant explained:

> *"What usually happens on campus is getting pregnant before marriage because of promiscuity. That's as far as I know."* (P58, 20 years)

This quotation illustrates how premarital pregnancy was commonly associated with negative social judgements and moral interpretations rather than being discussed from a health or rights-based perspective. Such perceptions may reinforce stigma surrounding sexuality and reproductive health, potentially limiting open communication and discouraging students from seeking accurate information or appropriate support.

Stigma also produced self-censorship around information and help seeking. Shame and embarrassment blocked disclosure.

> *"I'm embarrassed, maybe some of my friends, including myself, have vaginal discharge. Maybe we want to see a doctor, but we're afraid, afraid of what people will think."* (P129, 19 years)

Overall, the findings suggest that sociocultural norms, cultural taboos, and stigma continue to shape how female university students understand and discuss SRH issues, as well as function as an institutional barrier. As a result, risks such as abnormal discharge, harassment, or anxiety about pregnancy were experienced somatically or socially, but not translated into health-seeking behaviour. Collectively, social norms and stigma kept SRH risks private and unmanaged, disconnecting students' lived experiences from institutional support despite recognising them as health concerns.

DISCUSSION

This study reveals that female university students in Makassar experience multiple SRH issues that are insufficiently recognised and discussed within campus settings. The central finding is a disconnect between lived experience and health-seeking behaviours: students recognised menstrual problems, harassment, and reproductive vulnerabilities as health concerns, stigma and limited SRH literacy as important SRH issues, yet these concerns were often difficult to name, discuss, or seek support for.

Menstrual and physical health challenges were the most commonly reported concerns among eighty-eight participants. Symptoms such as menstrual pain, irregular cycles, fatigue, dizziness, and vaginal discharge were frequently reported and described as interfering with daily life and academic engagement, with academic stress and university schedules cited as exacerbating factors. Similar concerns have been reported in studies from Iran, China, South Africa and India, where menstrual and reproductive health problems were identified as important concerns among young women and university students (Chokhandre et al., 2024; Crankshaw et al., 2020). In Indonesia, these findings suggest that integrating menstrual health into campus health and student well-being programmes would support the implementation of Indonesia's youth-friendly reproductive health policy framework under Permenkes No.2/2025 (Kementerian Kesehatan Republik Indonesia, 2025).

Sexual harassment and safety concerns were another important dimension of students' SRH experiences. Catcalling, unwanted attention, and other forms of harassment affected students' sense of safety and well-being, showing that SRH is connected to gendered experiences, bodily autonomy, and campus safety. In Indonesia, Permendikbudristek No. 30/2021 and Ministry of Religious Affairs Regulation No. 73/2022 require higher education institutions to prevent and respond to sexual violence (Kementerian Agama Republik Indonesia, 2022; Kementerian Pendidikan Kebudayaan Riset dan Teknologi Republik Indonesia, 2021). However, participants' accounts suggest a continuing gap between policy requirements and students' everyday experiences, highlighting the need to strengthen implementation, reporting mechanisms, confidentiality, and student-facing support systems.

Participants recognised HIV/AIDS, breast lumps, breast and cervical cancers as important SRH concerns, although their understanding appeared to be derived largely by peer experiences and informal sources rather than structured health education. Alongside these disease-related concerns, participants also identified pregnancy outside marriage as a key reproductive health issue. These challenges highlight that female students' SRH experiences extended beyond clinical health issues to include reproductive vulnerability, gendered safety and social risks. Similar

patterns have been reported internationally, where limited SRH literacy coexists with unintended pregnancy, gender-based harassment, and inadequate preventive practices among university students (Mutinta, 2022; Tobiaw et al., 2021). This interconnectedness reinforces a holistic lens that integrates reproductive health, gender equity, and campus safety.

The study further revealed critical gaps in SRH knowledge and awareness, with approximately one-quarter of participants (24.8%) either explicitly reporting that they were unaware of any sexual and reproductive health concerns or describing issues that were not directly related to SRH. This suggests that some students may have difficulty recognising SRH as a broad concept encompassing physical, sexual, reproductive, psychological, and social dimensions of well-being. Instead, participants often associated SRH with only a small number of visible or socially recognised issues, such as early marriage or pregnancy outside marriage. Similar limitations in SRH knowledge have been reported among university students in where inadequate knowledge hinders young people's ability to assess risks, seek timely care, and make informed reproductive choices (Amanu et al., 2023; Chekol et al., 2023; Mwamba et al., 2022). Information alone is insufficient. Health literacy requires safe vocabulary, supportive social environments, and institutional legitimacy that enable students to recognise symptoms and risks as legitimate health needs rather than private or moral concerns.

Finally, sociocultural norms and stigma emerged as the cross-cutting factors that kept SRH issues hidden and insufficiently addressed. Premarital sex and pregnancy outside marriage were frequently framed within moral and cultural norms contexts that discouraged open dialogue and help-seeking. Similar findings have been reported internationally, where cultural norms, stigma, and social expectations shape SRH behaviours (Alam et al., 2024; Reynolds et al., 2021). Stigma therefore operates not only a sociocultural barrier but also an institutional barrier, when students do not perceive university environments as safe or legitimate spaces for discussing SRH concerns. These findings highlight a gap between students' live experiences and Indonesia's commitment to reproductive health rights under PP No.61/2014 and the youth-friendly reproductive health services mandated by Permenkes No. 2/2025 (Government of Indonesia, 2014; Kementerian Kesehatan Republik Indonesia, 2025).

Overall, these findings show that SRH issues and risks are normalised and unmanaged in Indonesian universities due to stigma silencing speech, not the absence of need. While consistent with global patterns, the local expression is shaped by sociocultural, moral and institutional contexts. Addressing this requires a whole-university approach that targets a broader scope than just knowledge.

Given the diversity of issues identified, universities should consider integrating SRH within broader health promotion and student wellbeing strategies rather than relying on isolated educational activities. Three priorities emerge from the findings: 1) normalising SRH discussion through peer-led education and staff training that frames SRH as well-being, not only morality; 2) ensuring confidential, youth-centred support with clear privacy protocols to reduce anticipated stigma; and 3) integrating SRH into existing systems such as orientation, counselling and student well-being programmes. A whole-university approach that integrates policy, education, support services, student engagement, and supportive campus culture may provide an effective framework for addressing SRH issues in higher education institutions (Muraleedharan et al., 2025; Okanagan Charter, 2015; WHO, 1986).

This study has several strengths, including a large qualitative sample of female students from four universities in Makassar and the use of both interviews and focus group discussions to capture individual and shared perspectives on SRH issues. However, all universities were located in one city, which may limit transferability to other Indonesian regions and institutional contexts. The purposive, female-only sample also means the findings may not reflect the experiences of male students or students with diverse gender identities. Given the sensitivity of SRH, some participants may have withheld personal experiences or provided socially acceptable responses. Despite these limitations, the study provides context-specific insights into SRH issues among female university students and contributes to understanding SRH in higher education settings.

CONCLUSIONS

This study shows that sexual and reproductive health concerns among female university students in Indonesia are diverse, interconnected, and often overlooked within campus environments. Students reported menstrual and physical health problems, sexual harassment, reproductive risks, sexually transmitted disease concerns, limited SRH knowledge, and sociocultural barriers. Although

menstrual problems were most frequently mentioned, issues such as unintended pregnancy, HIV/AIDS, cervical and breast cancer, and vaginal discharge were also perceived as significant but inadequately understood. These findings indicate that students' SRH needs extend beyond individual risk behaviour and are strongly shaped by silence, shame, and limited access to reliable information and institutional support.

The study contributes context-specific evidence from four universities in Makassar by demonstrating how stigma and insufficient SRH literacy can prevent students from identifying, communicating, and addressing their health needs. Universities should strengthen student welfare systems through integrated SRH education, menstrual health support, sexual violence response mechanisms, confidential counselling, and culturally sensitive referral services. Future studies should evaluate the effectiveness of campus-based SRH interventions across broader Indonesian higher education settings.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the participating universities in Makassar, South Sulawesi, Indonesia, for their support during the research process, as well as to the female university students who generously shared their experiences and perspectives for this study.

FUNDING

This study was funded by "Beasiswa Indonesia Bangkit" Kemenag – LPDP (Ministry of Religious Affairs, Republic of Indonesia – Indonesia Endowment Fund for Education).

AUTHORS' CONTRIBUTIONS

Nurdiyanah Syarifuddin contributed to the conceptualisation of the study, data collection, data analysis, and drafting of the manuscript. Hai Phung contributed to the study design, supervision, and critical revision of the manuscript. Cordia Chu contributed to supervision, methodological guidance, and critical review of the manuscript. All authors reviewed and approved the final version of the manuscript.

AUTHORS' INFORMATION

Nurdiyanah Syarifuddin, SKM., MPH is a candidate doctoral in the Centre for Environment and Population Health, School of Medicine and Dentistry, Griffith University, Queensland, Australia, and an assistant professor in Public Health Department, Universitas Islam Negeri Alauddin Makassar, Indonesia. Dr. Hai Phung, MD, MPH, PhD and Prof. Cordia Chu, PhD. are senior lecturer affiliated with the Centre for Environment and Population Health, School of Medicine and Dentistry, Griffith University, Queensland, Australia.

COMPETING INTERESTS

The authors confirm that all of the text, figures, and tables in the submitted manuscript work are original work created by the authors and that there are no competing professional, financial, or personal interests from other parties.

REFERENCES

Achen, D., Fernandes, D., Kemigisha, E., Rukundo, G. Z., Nyakato, V. N., & Coene, G. (2023). Trends and challenges in comprehensive sex education (CSE) research in Sub-Saharan Africa: A narrative review. *Current Sexual Health Reports*, *16*(4), 221–229. https://doi.org/10.1007/s11930-023-00362-1

Al Zaabi, O., Heffernan, M. E., Holroyd, E., & Jackson, M. (2022). Parent-adolescent communication about sexual and reproductive health including HIV and STIs in Oman. *Sex Education*, *22*(5), 611-627. https://doi.org/10.1080/14681811.2021.1980719

Alam, P., Lin, L., Thakkar, N., Thaker, A., & Marston, C. (2024). Socio-sexual norms and young people's sexual health in urban Bangladesh, India, Nepal and Pakistan: A qualitative scoping review. *PLOS global public health*, *4*(2), e0002179. https://doi.org/10.1371/journal.pgph.0002179

Alhassan, R. H. A. H., Haggerty, C. L., Fapohunda, A., Affan, N. J., & Anto-Ocrah, M. (2025). Exploring the use of digital educational tools for sexual and reproductive health in Sub-Saharan Africa: Systematic review. *JMIR Public Health and Surveillance*, *11*, e63309. https://doi.org/10.2196/63309

Alhussaini, N. W. Z., Elshaikh, U., Abdulrashid, K., Elashie, S., Hamad, N. A., & Al-Jayyousi, G. F. (2025). Sexual and reproductive health literacy of higher education students: a scoping review of determinants, screening tools, and effective interventions. *Global Health Action*, *18*(1), 2480417. https://doi.org/10.1080/16549716.2025.2480417

Amalia, R. B., Wittiarika, I. D., & Jayanti, R. D. (2021). Strategies to improve the adolescent's reproductive health knowledge in the traditional Islamic Boarding School in Sidoarjo, Indonesia. *Journal of Midwifery*, *5*(1), 14-21. https://doi.org/10.25077/jom.5.2.14-21.2020

Amanu, A., Birhanu, Z., & Godesso, A. (2023). Sexual and reproductive health literacy among young people in Sub-Saharan Africa: evidence synthesis and implications. *Global health action*, *16*(1), 2279841. https://doi.org/10.1080/16549716.2023.2279841

Astatke, R. H., Evans, Y.-Y., Baker, S., Simpson, M., & Thompson, T. (2024). A miseducation: Perspectives on sexuality education from Black women in the US South. *International Journal of Environmental Research and Public Health*, *21*(11), 1516. https://doi.org/10.3390/ijerph21111516

Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2019). Thematic analysis. In P. Liamputtong (Ed.), *Handbook of Research Methods in Health Social Sciences* (pp. 843-860). Springer Nature Singapore Pte.Ltd. https://doi.org/https://doi.org/10.1007/978-981-10-5251-4_103

Brown, E., Lo Monaco, S., O'Donoghue, B., Nolan, H., Hughes, E., Graham, M., & Gray, R. (2021). Improving the sexual health of young people (under 25) in high-risk populations: a systematic review of behavioural and psychosocial interventions. International journal of environmental research and public health, 18(17), 9063. https://doi.org/https://doi.org/10.3390/ijerph18179063

Buston, E., Sari, M. H. N., Nuraeni, T., Sulyastini, N. K., & Sholihat, S. (2023). Factors associated with knowledge of mother-to-child transmission (MTCT) of HIV/AIDS among young adults in Indonesia: Analysis of IYARHS. *Public Health of Indonesia*, *9*(3), 96-104. https://doi.org/10.36685/phi.v9i3.710

Buyinza, T., Buzigi, E., Kitimbo, J., Ssabika, G., Mbuliro, M., Kiwanuka, J., & Ndejjo, R. (2025). Socio-ecological factors influencing dietary behaviours among

adolescents and young adults in rural Eastern Uganda: A qualitative study. *PloS one*, *20*(12), e0337797. https://doi.org/10.1371/journal.pone.0337797

Chekol, B. M., Sheehy, G., & Siraneh, Y. (2023). Sexual and reproductive health experiences, access to services, and sources of information among university students in Ethiopia. *Frontiers in Reproductive Health*, *5*, 1271685. https://doi.org/10.3389/frph.2023.1271685

Chilambe, K., Mulubwa, C., Zulu, J. M., & Chavula, M. P. (2023). Experiences of teachers and community-based health workers in addressing adolescents' sexual reproductive health and rights problems in rural health systems: A case of the RISE project in Zambia. *BMC Public Health*, *23*(1). https://doi.org/10.1186/s12889-023-15199-5

Chokhandre, P. K., Vatavati, S. R., Pundappanavar, B. I., & Hallad, J. S. (2024). Menstrual disorder and its treatment seeking among adolescent girls in India: evidence from nationwide survey. *International Journal of Adolescent Medicine and Health*, *36*(6), 595-603. https://doi.org/10.1515/ijamh-2024-0101

Crankshaw, T. L., Strauss, M., & Gumede, B. (2020). Menstrual health management and schooling experience amongst female learners in Gauteng, South Africa: A mixed method study [Article]. *Reproductive Health*, *17*(1), Article 48. https://doi.org/10.1186/s12978-020-0896-1

Diarsvitri, W., & Utomo, I. D. (2022). Medical perspective of reproductive health education in Indonesian schoolbooks. *Frontiers in Public Health*, *10*, 1-9. https://doi.org/10.3389/fpubh.2022.943429

Gayatri, M., & Fajarningtiyas, D. N. (2023). Unmet Need for Contraception Among Young Women: Evidence From Indonesia. *Journal of Population & Social Studies*, *31*. https://doi.org/10.25133/JPSSv312023.010

Government of Indonesia. (2014). *Peraturan Pemerintah Republik Indonesia Nomor 61 Tahun 2014 tentang Kesehatan Reproduksi*. Jakarta, Indonesia Retrieved from https://www.kebijakanaidsindonesia.net/id/dokumen-kebijakan/download/17-peraturan-pusat-national-regulation/968-pp-ri-no-61-tahun-2014-tentang-kesehatan-reproduksi

Harjana, N. P. A., Kowara, M., & Januraga, P. P. (2026). Knowledge, awareness, support networks, and service utilization of sexual and reproductive health and rights among Indonesian adolescents. *Journal of Education and Health Promotion*, *15*(1), 33. https://doi.org/10.1016/j.jadohealth.2021.05.017

Huang, K., Kumar, M., Cheng, S., Urcuyo, A. E., & Macharia, P. (2022). Applying technology to promote sexual and reproductive health and prevent gender-based violence for adolescents in low- and middle-income countries: Digital health strategies synthesis from an umbrella review. *BMC Health Services Research*, *22*(1). https://doi.org/10.1186/s12913-022-08673-0

Kearney, C. A., Fensken, M., & Dupont, R. (2024). The K-16 education movement: Common themes across K-12 and higher education systems to inform development and evaluation. *Frontiers in Education*, *9*. https://doi.org/10.3389/feduc.2024.1272297

Kementerian Agama Republik Indonesia. (2022). *Peraturan Menteri Agama Republik Indonesia Nomor 73 Tahun 2022 tentang Pencegahan dan Penanganan Kekerasan Seksual pada Satuan Pendidikan Kementerian Agama*. Jakarta, Indonesia: Kementerian Agama Republik Indonesia Retrieved from https://dki.kemenag.go.id/storage/files/128-221021121249-63522a517c8b8.pdf

Kementerian Kesehatan Republik Indonesia. (2025). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 2 Tahun 2025 tentang Penyelenggaraan Upaya Kesehatan Reproduksi*. Jakarta, Indonesia [Ministerial Regulation of the Republic of Indonesia Number 30 of 2021 on the prevention and response to sexual violence in higher education]. https://jdih.kemkes.go.id/documents/peraturan-menteri-kesehatan-nomor-2-tahun-2025

Kementerian Pendidikan Kebudayaan Riset dan Teknologi Republik Indonesia. (2021). *Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia Nomor 30 Tahun 2021 tentang Pencegahan dan Penanganan Kekerasan Seksual di Lingkungan Perguruan Tinggi.* Jakarta, Indonesia

Klencakova, L. E., Pentaraki, M., & McManus, C. (2023). The impact of intimate partner violence on young women's educational well-being: A systematic review of literature. *Trauma, Violence, & Abuse*, *24*(2), 1172-1187. https://doi.org/10.1177/15248380211052244

Kuguyo, O., Mancitshana, L., Mangenah, C., Tumushime, M., Ruhode, N., Matsikire, E., Kalweo, J., Terris-Prestholt, F., Cowan, F. M., & Sibanda, E. (2025). Developing and evaluating a community-driven intervention to promote uptake of HIV and contraception services among students enrolled in colleges and universities in Zimbabwe. *Journal of the International AIDS Society*, *28*(S1). https://doi.org/10.1002/jia2.26461

Lee, S. H., & Yeo, K. J. (2022). Sexual and reproductive health knowledge among primary school students in Malaysia. *Journal of Education and Health Promotion*, *11*, 89. https://doi.org/10.4103/jehp.jehp_542_21

Lynch, I., Macleod, C. I., Chiweshe, M. T., & Moore, S. A. (2025). Vulnerable youth or vulnerabilising contexts? A critical review of youth Sexual and Reproductive Health and Rights (SRHR) policies in Eastern and Southern Africa. *Sexuality Research and Social Policy*, *22*(2), 1058-1070. https://doi.org/10.1007/s13178-024-01018-y

Mcharo, R., Kisinda, A., Njovu, L., Mcharo, M., Mbwilo, F., Mihale, G., Komba, B., Andrew, E., Mayaud, P., Kroidl, A., Ivanova, O., & Msuya, S. E. (2022). Prevalence of and risk factors associated with HIV, herpes simplex virus-type 2, *Chlamydia trachomatis*, and *Neisseria gonorrhoeae* infections among 18–24-year-old students attending higher learning institutions in Mbeya-Tanzania. *PLOS ONE*, *17*(5), e0266596. https://doi.org/10.1371/journal.pone.0266596

Mcharo, R., Mayaud, P., & Msuya, S. E. (2021). Where and how do young people like to get their sexual and reproductive health (SRH) information? Experiences from students in higher learning institutions in Mbeya, Tanzania: A cross-sectional study. *BMC Public Health*, *21*(1). https://doi.org/10.1186/s12889-021-11728-2

Meherali, S., Rahim, K. A., Campbell, S., & Lassi, Z. S. (2021). Does digital literacy empower adolescent girls in low- and middle-income countries? A systematic review. *Frontiers in Public Health*, *9*. https://doi.org/10.3389/fpubh.2021.761394

Mejia, A., Nyhus, K., Burley, T., Myhre, A., Montes, M., Osiecki, K., & Randolph, A. C. (2024). "Ripping off the band-aid": Uncovering future health care professionals' "fractured knowledge" about sexual and reproductive health. *Frontiers in Reproductive Health*, *6*. https://doi.org/10.3389/frph.2024.1242885

Muraleedharan, M., Figueiredo, D., Shrisunder, R., & Jadhav, S.

(2025). Approaches to health promotion in higher education: A scoping review (2014–2024). *Health Promotion Perspectives*, *15*(3), 236-244. https://doi.org/https://doi.org/10.34172/hpp.025.44629

Muthmainnah, M., Ira, N., Pulung, S., & Riris Diana, R. (2021). Implementation of adolescent health programs at public schools and religion-based schools in Indonesia. *Journal of Public Health Research*. http://dx.doi.org/10.4081/jphr.2021.1954

Mutinta, G. (2022). Unplanned pregnancy among female students at universities in the Eastern Cape Province, South Africa. *African Journal of Reproductive Health*, *26*(7).

Mwamba, B., Mayers, P., & Shea, J. (2022). Sexual and reproductive health knowledge of postgraduate students at the University of Cape Town, in South Africa. *Reproductive Health*, *19*(1), 225. https://doi.org/10.1186/s12978-022-01507-6

National Population and Family Planning Board (BKKBN), Statistics Indonesia (BPS), Ministry of Health Indonesia (Kemenkes), & ICF. (2018). *Indonesia Demographic and Health Survey 2017*.

Naudé, L., & Esau, M. (2024). The quest for a "soft life" and the transition into adulthood: Views from South African emerging adult students. *Emerging Adulthood*, *12*(6), 1176-1190. https://doi.org/10.1177/21676968241273135

Okanagan Charter. (2015). *An International Charter for Health Promoting Universities and Colleges*.

Paul, S., Sharma, A., Dayal, R., Mehta, M., Maitra, S., Seth, K., & Saggurti, N. (2024). Vulnerability to Sexually Transmitted Infections (STI)/Human Immunodeficiency Virus (HIV) among adolescent girls and young women in India: A rapid review. *Plos one*, *19*(2), e0298038. https://doi.org/10.1371/journal.pone.0298038

Pinandari, A. W., Kågesten, A. E., Li, M., Moreau, C., van Reeuwijk, M., & Wilopo, S. A. (2023). Short-Term Effects of a School-Based Comprehensive Sexuality Education Intervention Among Very Young Adolescents in Three Urban Indonesian Settings: A Quasi-Experimental Study. *Journal of Adolescent Health*, *73*(1), S21-S32. https://doi.org/10.1016/j.jadohealth.2023.01.030

Prémusz, V., Mesfin, M. D., Atmaca, L., Chauhan, S., Tándor, Z., Bodor, L. A., Várnagy, Á., & Galgalo, D. A. (2025). Exploring the impact of health literacy on fertility awareness and reproductive health in university students—A systematic review. *Healthcare*, *13*(18), 2342. https://doi.org/10.3390/healthcare13182342

Punjani, N. S., Papathanassoglou, E., Hegadoren, K., Hirani, S., Mumtaz, Z., & Jackson, M. (2022). Associations between developing sexuality and mental health in heterosexual adolescents: Evidence from lower- and middle-income countries—A scoping review. *Adolescents*, *2*(2), 164–183. https://doi.org/10.3390/adolescents2020015

Reynolds, C. A., Beccia, A., & Charlton, B. M. (2021). Multiple marginalisation and unintended pregnancy among racial/ethnic and sexual minority college women [Article]. *Paediatric and Perinatal Epidemiology*, *35*(4), 493-500. https://doi.org/10.1111/ppe.12744

Suratana, S., Yodkard, P., Udplong, A., Mulikabut, T., & Tamornpark, R. (2026). Health literacy and prevention behavior for preventing premature pregnancy among ethnic students in Northern Thailand. *Frontiers in Public Health*, *13*, 1718974. https://doi.org/10.3389/fpubh.2025.1718974

Suveren, Y. (2025). Contraception, stigma and misinformation: Insights from university students in Türkiye. *BMC Public Health*, *25*(1). https://doi.org/10.1186/s12889-025-25487-x

Titisari, A. S., Mesman, J., & Dewi, K. H. (2025). Cultural Norms and Adolescents' Sexual and Reproductive Health in Bali, Indonesia: A Narrative Review. *Journal of Applied Youth Studies*, *8*(1), 37-62. https://doi.org/10.1007/s43151-024-00145-y

Tobiaw, D., Muhie, O., & Reta, M. (2021). Prevalence and Associated Factors of Self-Reported Sexually Transmitted Diseases among College Students in Motta Town, Northwest Ethiopia. *Journal of Midwifery & Reproductive Health*, *9*(4), 2943-2951. https://doi.org/10.22038/jmrh.2021.53153.1654

Tshivule, M. Z., Rasweswe, M. M., Mothiba, T. M., & Bopape, M. A. (2025). Factors influencing menstrual hygiene knowledge, attitudes, and practices among adolescent girls in African rural schools: Scoping review. *Frontiers in Reproductive Health*, *7*. https://doi.org/10.3389/frph.2025.1553101

Umana, J. E., Fawole, O. I., & Adeoye, I. A. (2014). Prevalence and correlates of intimate partner violence towards female students of the University of Ibadan, Nigeria. *BMC Womens Health*, *14*, 1-8. https://doi.org/10.1186/1472-6874-14-131

Usonwu, I., Ahmad, R., & Curtis, K. (2021). Parent–adolescent communication on adolescent sexual and reproductive health in sub-Saharan Africa: A qualitative review and thematic synthesis. *Reproductive Health*, *18*(1). https://doi.org/10.1186/s12978-021-01246-0

Wardiati, W., Septiani, R., Agustina, A., Ariscasari, P., Arlianti, N., & Mairani, T. (2023). Reproductive Health Literacy of Adolescents at Public Islamic School: A Cross-Sectional Study in Indonesia. *Al-Sihah: The Public Health Science Journal*, 12-22. https://doi.org/10.24252/al-sihah.v15i1.33133

WHO. (1986). *Health Promotion Ottawa Charter*. https://iris.who.int/server/api/core/bitstreams/b75fea63-bc0f-4c6b-8f22-5668cec74c37/content

Williams, N., Griffin, G., Wall, M., & Bradfield, Z. (2024). The sexual and reproductive health knowledge of women in Australia: A scoping review. *Health Promotion Journal of Australia*, *36*(1). https://doi.org/10.1002/hpja.908

Wilkins, N. J., Rasberry, C., Liddon, N., Szucs, L. E., Johns, M., Leonard, S., & Oglesby, H. (2022). Addressing HIV/sexually transmitted diseases and pregnancy prevention through schools: an approach for strengthening education, health services, and school environments that promote adolescent sexual health and well-being. *Journal of adolescent health*, *70*(4), 540-549. https://doi.org/10.1016/j.jadohealth.2021.05.017