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AN EXPLORATION OF REPRODUCTIVE HEALTH LITERACY AND PREVENTIVE BEHAVIOR AMONG YOUNG ADULTS: A QUALITATIVE CASE STUDY

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ABSTRACT

This study explored how reproductive health literacy is developed, evaluated, and translated into preventive behaviour in a young adult, with particular attention to the transition from information seeking to health-service utilisation. This exploratory qualitative case study included one 21-year-old female undergraduate student who participated in a 42-minute semi-structured interview. Data were analysed using reflexive thematic analysis, with accessing, understanding, assessing, and using health information serving as sensitising concepts. Six interrelated themes were developed. The case showed that reproductive health literacy operated through a process in which digital media provided rapid access to information, professional expertise and source verification shaped credibility judgments, and inexpensive, personally controllable information was more readily translated into self-care. However, knowledge did not necessarily lead to utilisation of professional services. Anticipated costs, embarrassment, privacy concerns, and stigma created a boundary between self-directed preventive practices and formal care. Peer networks also functioned as safer communication spaces than family for discussing sensitive reproductive health concerns. The findings suggest that reproductive health literacy should be understood not as a linear progression from knowledge to behaviour, but as a negotiated process shaped by digital environments, social relationships, personal resources, and perceptions of health services. Given the single-case design, the findings are exploratory and intended to inform further research rather than represent young adults generally.

Keywords: health literacy, preventive behavior, public health, reproductive health, single-case study, young adults.

INTRODUCTION

Reproductive health is an integral component of public health because it encompasses the physical, mental, and social well-being associated with the reproductive system, its functions, and related processes. Its scope extends beyond the absence of reproductive disorders to include sexual health, family planning, prevention of sexually transmitted infections, fertility services, protection from sexual violence, and the capacity to make safe and responsible reproductive decisions.

Consequently, reproductive health is closely connected to the right to health and to quality of life across the life course (World Health Organization [WHO], n.d.). Understanding reproductive health, therefore, requires attention not only to the availability of health information and services but also to how individuals interpret information and translate it into decisions and everyday practices.

The availability of health information and health facilities, however, does not automatically result in appropriate health behaviors. Individuals require the capacity to access, understand, assess, and use health information and services effectively, which constitutes the core of health literacy (WHO, 2025). Within the context of reproductive health, these competencies involve recognizing information needs, understanding health messages, evaluating the credibility of information sources, distinguishing reliable information from misleading claims, considering potential risks, communicating with health professionals, and selecting appropriate preventive or care-seeking actions. Thus, reproductive health literacy extends beyond the possession of factual knowledge; it involves the processes through which individuals interpret information, evaluate its relevance and credibility, and determine how it should guide their behavior.

Preventive reproductive health behaviors may include maintaining appropriate hygiene, avoiding risky sexual behaviors, seeking information from trusted sources, receiving vaccination, consulting health professionals, and undergoing examinations when symptoms require professional assessment. In Indonesia, the Ministry of Health (2022) identifies limitations in accurate reproductive health knowledge and access to information and services as important reproductive health concerns. Nevertheless, knowledge alone does not necessarily lead to preventive action or service utilization. Decisions may be shaped by perceived costs, risk perceptions, embarrassment, family norms, peer support, confidence in service confidentiality, and previous experiences or expectations concerning the health system. This indicates that the relationship between reproductive health literacy and preventive behavior is potentially dynamic, involving not only what individuals know but also how they negotiate personal, social, and service-related conditions when deciding what to do.

Digital technology has further transformed the ways in which young people obtain reproductive health information. Social media, search engines, health websites, and online communities provide rapid and convenient access to information, often becoming the first point of contact when individuals experience uncertainty or have questions about their reproductive health. Karima et al. (2023) demonstrated the importance of online media in adolescents' reproductive health information-seeking behavior in Jakarta, while Fatimah et al. (2021) showed that young people's media choices are influenced by their social context. However, greater accessibility also creates challenges. The abundance of digital content exposes users to misinformation, commercial promotions presented as educational content, and situations in which popularity or virality may be interpreted as an indicator of credibility. A systematic review by Freeman et al. (2023) showed that adolescents' trust in health information on social media is shaped by the interaction of platform characteristics, other users,

content exposure, source expertise, and verification. Wang and Togher (2024) similarly emphasized the importance of adolescents' capacity to navigate health misinformation in social media environments. Digital access, therefore, may facilitate information seeking while simultaneously increasing the need for critical evaluation of information credibility.

The transition from digital information seeking to professional reproductive health services introduces another layer of complexity, particularly concerning privacy and confidentiality. Rea et al. (2022) demonstrated that technology can expand young people's access to sexual and reproductive health information and services, while privacy concerns continue to influence their acceptance and use of technology-based services. Corley et al. (2022) further identified inadequate privacy and confidentiality practices, together with provider bias, as potential barriers to reproductive health services among young people. Qualitative evidence across different contexts also demonstrates that cost, family communication, community stigma, provider attitudes, and confidentiality can shape access to and utilization of sexual and reproductive health services (Sidamo et al., 2023). These findings suggest that individuals may possess adequate knowledge and still postpone or avoid professional care because the decision to seek services involves economic, psychological, interpersonal, and institutional considerations. The distance between knowing what should be done and feeling able or willing to seek professional care therefore warrants closer qualitative examination.

Evidence from Indonesia reinforces the importance of examining this process. Health literacy has been associated with the utilization of reproductive health counseling among students (Arifah et al., 2022), while reproductive health service utilization among high school students in Makassar has been reported to remain relatively low (Violita & Hadi, 2019). Communication between parents and adolescents also does not consistently provide an open space for discussing sexual and reproductive health issues (Nurachmah et al., 2019). Other studies have quantitatively examined reproductive health knowledge, literacy, behavior, and service utilization (Adjie et al., 2022; Wardiati et al., 2023). Although such evidence is important for describing the magnitude and distribution of reproductive health issues, quantitative measures provide limited insight into the processes through which individuals seek information, encounter and evaluate competing claims, negotiate myths and credibility, translate information into everyday preventive practices, and decide whether professional services are accessible, acceptable, or worth using. A closer examination of these processes is particularly relevant when information is readily available through digital environments but formal services may remain perceived as difficult to access.

Against this background, this study conceptualizes reproductive health literacy as a **process rather than simply a level of knowledge**. Specifically, the study connects four functions—accessing, understanding, assessing, and using information—with the subsequent translation of information into preventive decisions and experiences related to professional care. The analytical focus is therefore placed on the transition

from information to action and, importantly, on points at which that transition becomes interrupted. Rather than establishing population-level patterns, the study uses one young adult's experience as an exploratory case through which these processes can be examined in depth. The contribution of the study lies in identifying how information access, credibility assessment, personal control, social communication, and perceived service barriers interact within an individual case. This perspective may provide an initial basis for developing propositions and guiding future research involving more diverse young-adult populations and settings.

Accordingly, this study aims to explore reproductive health literacy and preventive behavior through an exploratory single-case study of a young adult. Specifically, the study examines how the participant understands reproductive health, accesses and evaluates reproductive health information, translates information into preventive practices, and negotiates barriers to professional service utilisation. The single-case approach was selected to obtain an in-depth and context-sensitive understanding of these processes rather than to estimate prevalence or generalize findings to young adults as a population. By examining the connection and potential disconnection between information, personal preventive action, and professional care, the study seeks to provide a more nuanced understanding of how reproductive health literacy operates in everyday life.

METHODS

Research Design

This study employed a qualitative approach with an exploratory single-case study design. The unit of analysis was IU01's experience of navigating reproductive health information and translating it into preventive behaviours and service-related decisions. The design was selected to develop an in-depth understanding of processes within a specific case rather than to describe prevalence or represent a broader population. The study did not identify a specific health facility, community, district, city, or other geographic research setting. Residential context was considered only insofar as it contributed to understanding the participant's experiences.

Participant Selection and Case Description

The participant was selected purposively based on suitability for the research objectives (Campbell et al., 2020). Eligibility criteria included being 18–24 years of age, able to communicate in Indonesian, having previously sought or received reproductive health information, and willing to participate in an interview. The available dataset comprised one participant, coded IU01, a 21-year-old woman pursuing a bachelor's degree and living in an urban environment. She obtained reproductive health information through social media, health websites, and friends and had not previously used reproductive health services.

Because the study involved one participant, the number of participants was not used to claim data saturation. The adequacy of the case was considered in a limited sense based on the fit between the focused research purpose, the specificity of the participant's experience, the quality of the interview dialogue, and the depth of the

analysis. This consideration is consistent with the concept of information power, which suggests that the number of participants required in qualitative research depends on factors such as the study purpose, sample specificity, theoretical support, quality of dialogue, and analysis strategy rather than on a fixed number alone (Malterud et al., 2016). Nevertheless, because the dataset consisted of only one interview, the findings are presented as exploratory.

Data Collection

Data were collected through a 42-minute face-to-face, semi-structured, in-depth interview. The interview guide addressed the meaning of reproductive health, access to and understanding of reproductive health information, assessment of information credibility, use of information, preventive behaviors, social and environmental influences, and perceptions of reproductive health services. The interview was audio-recorded after the participant had received an explanation of the study and provided consent, with the consent process also documented in the field notes. The interview was subsequently transcribed verbatim and anonymized using the code IU01. Selected direct quotations were used to support the interpretation of themes rather than to reproduce the interview in full. Field notes were retained to provide contextual information about the interview and to support the researcher's reflections during analysis.

Data Analysis

The data were analyzed using reflexive thematic analysis, which recognizes the researcher as an active participant in the construction and interpretation of meaning (Braun & Clarke, 2021; Byrne, 2022). The analytical process involved repeated reading of the transcript and field notes; identifying units of meaning; initial coding; grouping related codes; developing tentative themes; examining relationships among themes and across the dataset; defining and naming themes; and developing the final interpretation. The analysis was primarily inductive while being theoretically informed by four functions of health literacy—accessing, understanding, assessing, and using information. These functions were used as sensitizing concepts to inform interpretation rather than as predetermined coding categories. This approach allowed the analysis to remain responsive to the participant's account while maintaining a connection to the study's conceptual focus.

Reflexivity and Trustworthiness

Reflexivity was addressed by reviewing interpretive decisions against the transcript and field notes and by distinguishing, where possible, between the participant's reported experiences, the participant's own assessments, and the researcher's interpretations. Detailed information concerning the interviewer's characteristics and the initial relationship between the interviewer and participant was not available in the research documentation and therefore was not used to make claims about researcher neutrality or familiarity with the participant. Trustworthiness was supported by maintaining traceable links between quotations, codes, and themes; comparing the transcript with the field notes; using contextual quotations to support interpretations; and explicitly presenting the boundaries of interpretation (Nowell et

al., 2017). Because the study involved only one participant, inter-participant triangulation and claims of data saturation were not undertaken.

Ethical Considerations

Participant confidentiality was maintained by excluding names and direct identifiers and by using the code IU01 in quotations. The participant was informed about the study, expressed willingness to participate, and provided consent for the interview to be recorded. Participant protection was considered with reference to the ethical principles outlined by the Council for International Organizations of Medical Sciences (CIOMS, 2016) and the World Medical Association (2024). The research documentation available for preparation of this manuscript did not contain verifiable information regarding the name of the ethics committee or the institutional ethical approval or exemption number. Therefore, these details should be completed from the relevant official documentation before manuscript submission.

RESULTS AND DISCUSSIONS

Analysis of IU01's transcript yielded six interrelated themes. These six themes form a pathway from understanding reproductive health, seeking and evaluating information, applying knowledge, and ultimately, barriers to accessing services. Because all findings come from a single case, the term "findings" refers to IU01's experience and is not intended to represent a generalized pattern among young adults.

1. Reproductive health as an investment in the body and the future

IU01 defines reproductive health as broader than intimate hygiene. This definition encompasses menstruation, preventing sexually transmitted infections, body rights, fertility, and the risk of serious illness. A future orientation is evident when the informant connects reproductive health to the possibility of infertility and cervical cancer. In this case, the meaning of reproductive health extends beyond the introduction of medical terms, but also to personal responsibility and autonomy over one's body.

> *"It's very important. If there's a problem with our reproductive organs, it can have long-term consequences, including fertility issues or even life-threatening conditions like cervical cancer. It also makes us more responsible for our bodies." (IU01)*

This interpretation aligns with the WHO (n.d.) perspective, which positions reproductive health as both well-being and the right to make safe and responsible decisions. However, broad understanding does not equate to readiness to use services. This is crucial because good literacy at the conceptual level can still stop before reaching service-based action.

2. Digital media as an entry point when the need for information arises

When faced with changes in vaginal discharge, IU01 first searched for information on Google and TikTok, then read content from doctors and health websites. Digital media was chosen because it was easy, free, fast, and readily available in her daily

routine. Friends with health education served as a source of clarification when medical terms or explanations were difficult to understand. This pattern demonstrates a hybrid information ecosystem: technology provides initial access, while medical figures and peers help legitimize or re-explain the information.

> *"Last month, I was looking for information about vaginal discharge that was a bit different than usual. I panicked, so I Googled it and then opened TikTok to find content from obstetricians." (IU01)*

The use of digital media as a first response supports Karima et al.'s (2023) findings regarding the importance of online media in seeking reproductive information. Freeman et al. (2023) also demonstrated that social media is an easily accessible and familiar space for young people, although trust in its content must be negotiated through assessment of the source, other users, and the message's presentation. In the case of IU01, digital media served as an initial access point and a means of reducing uncertainty, but it should not be treated as a substitute for clinical diagnosis when symptoms persist, worsen, or require professional evaluation.

3. Credibility is negotiated between the authority of expertise and the logic of virality.

IU01 doesn't passively accept all digital information. She checks the identities and credentials of content creators, prioritizes medical specialists, considers whether sites originate from official institutions or are doctor-reviewed, and rejects sensational headlines and promotions for products with unclear distribution permits. The informant also compares family information about the prohibition of drinking ice during menstruation with medical explanations about the digestive tract and reproductive organs. This process demonstrates a critical evaluation of myths and the authority of sources.

> *"On social media, I check their profile to see if they're a real doctor. On the web, I check to see if it's an official website, like the Ministry of Health or a health portal that's been reviewed by doctors." (IU01)*

However, credibility assessments are not entirely independent of popularity. The high number of likes and validation in the comments section increases informants' trust, even though they recognize that viral content may not be accurate. This tension is consistent with Freeman et al. (2023), who found that expertise and verification interact with popularity, social networks, tone, and content presentation in shaping trust. This risk becomes even more relevant amidst the proliferation of health misinformation on social media (Wang & Togher, 2024).

The presentation format also determines understandability. IU01 favors animations, visualizations, and everyday language that doesn't patronize or intimidate. Therefore, digital health promotion needs to combine accuracy with easy-to-understand communication: expert identities must be clear, references must be verifiable, commercial interests must be distinguished from educational ones, and popularity must not be positioned as scientific evidence.

4. Knowledge most easily becomes action when it is inexpensive and within personal control.

Information deemed relevant and easy to implement has changed some of IU01's behavior. After reading about moisture and daily pantyliner use, the informant stopped the habit and chose to change underwear when sweating. She also mentioned maintaining intimate area hygiene, avoiding scented cleansers, wearing appropriate underwear, avoiding risky sexual behavior, and the HPV vaccination as preventative measures.

> *"After reading about the dangers of using pantyliners every day, I finally stopped using them. Now I prefer to change my underwear when I'm sweaty." (IU01)*

These data suggest that information is more easily converted into action when the action is low-cost, self-administered, and within the individual's direct control. At this point, the function of "using information" appears to be a shift in everyday practice. However, statements about the benefits or risks of a product and reproductive complaints must still be distinguished between informant experience and clinical conclusions. This study does not clinically validate claims informants encountered in digital media.

The distinction between self-directed action and action requiring a service system becomes crucial. When prevention involves costs, consultations, interactions with staff, or the potential disclosure of personal information, the decision-making process becomes much more complex.

5. 'Knowing but not yet coming': anticipated costs, shame, privacy, and stigma

IU01 understands the benefits of HPV vaccination and the importance of screening for abnormal symptoms, but has never used reproductive health services. Barriers she expressed included the cost of the vaccine, the estimated cost of consultations, waiting times, embarrassment, concerns about privacy, and the possibility of being judged negatively when a young, unmarried woman visits a gynecological service. Because the informant lacked direct experience using services, her narrative about the staff's attitudes should be interpreted as anticipated stigma, not evidence of actual discrimination.

> *"It seems like the HPV vaccine is important, but it's really expensive for students. Then there's the shame factor, for example, you know you have abnormal vaginal discharge but you're too embarrassed to go see a doctor." (IU01)*

This case illustrates the disconnect between knowledge and service delivery. Information can raise awareness without removing economic and psychological barriers. Arifah et al. (2022) demonstrated a relationship between health literacy and counseling utilization, while Violita and Hadi (2019) reported low utilization of reproductive services among students in Makassar. More broadly, Corley et al. (2022) demonstrated that privacy, confidentiality, and provider bias impact the quality and acceptability of services for young people, while Sidamo et al. (2023) identified cost,

stigma, family communication, provider attitudes, and confidentiality as recurring barriers across contexts.

Thus, IU01's decision not to access services cannot be explained simply by a lack of knowledge. Barriers existed before contact with the facility, including perceptions of cost, the service process, potential social judgment, and the security of personal information. These findings support the need for a public health approach that links increased literacy with improved service environments.

6. Safe spaces move from family to peers and the need for young adult friendly services

Within the family, reproductive health conversations are limited to practical advice about sanitary napkins and do not expand into discussions about symptoms, body rights, prevention, or services. In contrast, peers are perceived as a safer place to talk without judgment. This difference in communication space leads IU01 to rely on friends and digital sources to meet information needs not available from family.

> *"In my family, being honest is taboo. At most, I'm only taught how to wash sanitary napkins. So, I feel freer to talk and discuss things with friends my own age. I feel more open and less judged." (IU01)*

This pattern is consistent with the findings of Nurachmah et al. (2019) regarding limited communication between parents and adolescents about sexual and reproductive health. Peers can serve as a safe space and a source of health information, but their quality depends on their ability to refer to credible sources. Freeman et al. (2023) showed that peer networks and social support also influence trust in health information on social media.

Informants proposed services specifically for adolescents or young adults that maintain privacy, are staffed with friendly and open-minded staff, and are supported by regular education from experts at schools or universities. This expectation aligns with the literature that places confidentiality as a crucial component of reproductive services for young people (Corley et al., 2022; Rea et al., 2022). Youth-friendly services, therefore, are not simply available administratively; they also need to feel safe during the information-seeking, registration, consultation, and follow-up stages.

Synthesis of Findings and Public Health Implications

The six themes can be summarized in one exploratory proposition: information feels close, but services feel distant. Awareness about one's body and future drives information seeking; digital media provides quick access; expert credentials, official websites, and friends with health backgrounds facilitate verification; simple and inexpensive information is more easily translated into self-care; yet cost, embarrassment, privacy concerns, and anticipated stigma hinder the transition to professional care. These findings suggest that reproductive health literacy is not a linear path from knowledge to action, but rather a process negotiated with economic resources, social norms, and perceptions of the health system.

Public health implications need to be interpreted proportionally as the results of a single case study. First, at the information level, reproductive health promotion should provide concise, visual, non-judgmental content, include credentials and references, and teach the distinction between popularity and scientific validity. Second, at the social level, parents, educators, and peers need support to foster safe conversations that do not reinforce taboos. Third, at the service level, guaranteed privacy, friendly staff communication, clear consultation processes, and affordable costs can bridge the gap between digital knowledge and service-based preventive measures. These findings do not prove the effectiveness of any particular intervention and cannot be used to estimate population behavior. Their primary value is that they indicate process points that can be tested in future research with a wider range of informants, including men, non-student groups, non-urban areas, service users, and individuals with varying levels of digital literacy.

CONCLUSION

In the case of IU01, reproductive health literacy developed through interactions between digital media, the authority of medical professionals, personal experiences, and peer support. The informant was able to interpret reproductive health as a responsibility towards one's body and future, assess some indicators of credibility, reject myths, and apply information to affordable and easy-to-do self-care practices. However, these skills did not translate into service utilization due to cost, embarrassment, privacy concerns, and anticipated stigma.

These exploratory findings indicate that promoting reproductive health requires more than simply expanding the distribution of information. Credible digital education needs to be linked to a safe communication environment and affordable, confidential, and non-judgmental reproductive health services. The conclusions are limited to a single case and are intended as a conceptual basis for further research, not as a representation of all young adults or as direct evidence of improved public health

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