

Overview of Preconception Education Knowledge of Prospective Brides of Childbearing Age in the KUA Area of Sidoarjo District

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ABSTRACT

Preconception health is a critical component of reproductive health that influences maternal and neonatal outcomes. Adequate knowledge during the preconception period enables women to prepare physically and mentally for pregnancy, reducing the risk of adverse outcomes such as anemia, prematurity, and low birth weight. However, women's understanding of preconception care remains suboptimal due to limited access to information and health services. This study aimed to describe the level of knowledge of women of childbearing age regarding preconception care. This descriptive study employed a survey design and was conducted at the Office of Religious Affairs (KUA) in Sidoarjo District. A total of 32 prospective brides were recruited using a total sampling technique. Data were collected using a 20-item questionnaire adapted from Fyzria Qudratullah (2021). Instrument validity was tested using the Rasch Model, while reliability was assessed using Cronbach's Alpha and Composite Reliability. Data were analyzed using univariate analysis with SPSS version 27. Findings showed that almost all respondents (97.2%) had a low level of knowledge regarding preconception care, while only 2.8% demonstrated moderate knowledge. Despite the provision of reproductive health education by health workers, knowledge related to preconception health, pregnancy preparedness, and risk factors remains insufficient. The study highlights a substantial gap between the need for preconception health information and the level of knowledge among prospective brides. Strengthening structured and continuous educational interventions, including the use of digital-based approaches, is essential to improve preconception health literacy and promote preventive behaviors. Enhancing the capacity of healthcare providers to deliver effective preconception counseling also plays a strategic role in improving reproductive health outcomes.

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1. INTRODUCTION

Women's reproductive health is a crucial component in improving the quality of life within the community, especially in efforts to prepare for an optimal pregnancy. The preconception period, which refers to the time before pregnancy occurs, plays an important role in determining the health status of both the mother and the baby in the future. During this phase, appropriate

planning and education can help women prepare themselves physically and mentally before conceiving, thereby reducing the risk of various complications during pregnancy and childbirth (1).

Although the Ministry of Health Regulation No. 97 of 2014 has established guidelines for pre-pregnancy health services, its implementation in the field has not been optimal. Various pre-pregnancy health problems such as Chronic Energy Deficiency (CED), anemia, and HIV infection—are still frequently encountered. Moreover, newborn conditions such as prematurity, low birth weight (LBW), and congenital anomalies remain significant issues that require greater attention (2).

Data from the 2023 Indonesia Health Survey (SKI) show that several maternal and newborn health indicators in Indonesia are still at a concerning level. The prevalence of stunting among children under five reached 21.5%. Approximately 17% of pregnant women experienced CED, a condition that can lead to complications such as preterm birth and LBW. The rate of anemia among pregnant women was also high, at 28%, contributing to the high proportion of LBW infants, which reached 6.1%. In addition, the preterm birth rate of 11.1% further increases the risk of health problems in newborns, both at birth and thereafter. Meanwhile, detailed data on the prevalence of congenital anomalies have not yet been published (3-5).

Preconception education forms an essential part of promotive and preventive efforts in health services. The program aims to identify and reduce various risk factors that may affect pregnancy, thereby contributing to the reduction of maternal and infant mortality rates. Preconception services are particularly beneficial for prospective brides or couples of reproductive age, as they provide opportunities to evaluate and improve health conditions prior to conception. Comprehensive preconception interventions—including physical examinations, medical screening, nutritional supplementation, and immunization—can help prospective mothers enter pregnancy in a healthier and safer condition (6-9).

Several studies have revealed that women's knowledge of preconception health remains relatively low. Research conducted at a maternal health clinic in Kelantan, Malaysia, showed that participants' preconception knowledge was categorized as adequate, with a mean score of 11.7 ± 3.8 (51.9%), although understanding of ideal birth spacing and the risks of maternal anemia to the fetus remained low.¹⁰ Another study found that the knowledge of women of reproductive age regarding the benefits of folic acid supplementation reached only 47.2% (10).

Limited understanding of preconception care is largely due to inadequate information and limited access to these services. Many women have not optimally utilized health facilities to obtain education. In fact, sources of information on preconception health can be accessed from various media outside of government or healthcare services (11).

This study aims to describe the level of knowledge of women of reproductive age regarding preconception care.

2. METHOD

This study is a descriptive research with a survey design aimed at identifying the knowledge of women of reproductive age regarding preconception. The study was conducted at the Office of Religious Affairs (KUA) in Sidoarjo District. The population consisted of 35 prospective brides who had registered at the KUA Sidoarjo. The sample comprised 32 women of reproductive age, selected using a total sampling technique.

The research instrument was a questionnaire on reproductive health knowledge and pregnancy readiness adapted from Fyzria Qudratullah (2021), consisting of 20 items. Prior to use, the questionnaire underwent validity testing using the Rasch Model and reliability testing through Cronbach's Alpha and Composite Reliability (CR). Rasch analysis was also used to assess item and respondent reliability, including the separation index, with the aid of Ministep software.

The validity test results showed that all items had Infit and Outfit MNSQ values within the acceptable range of 0.5-1.5 and PTMea Corr ≥ 0.30 , indicating good construct validity. In the reliability test, Person Reliability values were 0.59 (Real) and 0.61 (Model), with a Cronbach's Alpha of 0.49, suggesting that the instrument's ability to differentiate respondent knowledge levels

remained limited. However, item reliability was very good, as demonstrated by an Item Reliability value of 0.95 and an Item Separation index of 4.41.

The unexplained variance in the first contrast was 3.13, which is still acceptable, indicating the instrument's unidimensionality. Overall, the questionnaire exhibited good construct validity and high item reliability, making it suitable for use despite the moderate respondent reliability.

Data processing and analysis were conducted through editing, coding, and data entry into SPSS version 27. The data were analyzed using univariate analysis.

3. RESULTS AND DISCUSSION

This study was conducted at the Office of Religious Affairs (KUA) of Sidoarjo District, located within the administrative area of Sidoarjo Regency, East Java Province. The office is situated at JL. Monginsidi 3, Sidoklumpuk Village, RT.03/RW.01, Sidoarjo District, Sidoarjo Regency, East Java, 61218.

KUA Sidoarjo District functions as a technical implementing agency under the Ministry of Religious Affairs, playing a significant role in providing services and guidance to prospective brides and grooms, including the implementation of premarital education and counseling for couples of reproductive age.

3.1 Respondent Characteristics

Of the 32 respondents, the majority were aged 21-30 years (84.4%), while only 1 respondent (3.1%) was under 20 years of age, and 4 respondents (12.5%) were over 30 years old. Most respondents had higher education (62.5%), whereas 37.5% had secondary education. Almost all respondents were employed, with 30 individuals (93.8%) reporting employment, and only 2 respondents (6.3%) being unemployed.

Table 1. Respondent Characteristics

Characteristics	Frequency (n)	Percentage (%)
Age		
<20 years	1	3.1
21-30 years	27	84.4
>30 years	4	4
Jumlah	32	100
Education		
Secondary Education (Junior/Senior High School)	12	37.5
Higher Education (University)	20	62.5
Jumlah	32	100
Job		
Employed	30	93.8
Unemployed	2	6.3
Jumlah	32	100

3.2 Knowledge Overview

The results of this study examined the knowledge of prospective brides of reproductive age. Almost all respondents (97.2%) had a low level of knowledge, while a small proportion (2.8%) demonstrated a moderate level of knowledge.

Table 2. Knowledge of Women of Reproductive Age (WRA)

Knowledge Level	Frequency (n)	Percentage (%)
Good	35	97.2
Fair	1	2.8
Poor	0	0
Total	36	100

Prospective brides represent a group in transition toward marriage and pregnancy, making this a strategic moment for educational intervention. Premarital knowledge plays an important role in shaping preventive behaviors and in preparing individuals physically and mentally for family life. According to a study by Abajobir et al. (2024), improving health literacy through digital interventions can positively influence long-term healthy lifestyle decisions. Providing preconception education from an early stage is therefore essential to ensure that prospective brides understand how to prepare for a healthy pregnancy and avoid risks during the gestational period (11,12).

Based on the findings from 36 respondents, the knowledge of women of reproductive age regarding preconception reproductive health was found to be low. Premarital reproductive health education delivered by health professionals includes information on reproductive health, pregnancy, and diseases of concern such as sexually transmitted infections, HIV/AIDS, and diabetes mellitus. In addition, the mental health of the bride-to-be is recognized as an important aspect that must be addressed to support the birth of healthy offspring (13,14).

Previous research has shown that the knowledge level of women of reproductive age regarding preconception care is generally at a moderate level, with 41.5% of respondents having adequate knowledge and only 25.6% classified as having good knowledge. These findings indicate that understanding of the goals, benefits, and essential components of preconception care remains suboptimal among women of reproductive age. This is consistent with other studies reporting low levels of knowledge due to limited access to information and preconception services, particularly in low- and middle-income countries (14).

The researcher views prospective brides as a strategic target population for educational intervention because they are in a transitional phase toward marriage and pregnancy. During this period, individuals tend to have high motivation to prepare themselves physically, mentally, and socially, suggesting that the delivery of reproductive health information has the potential to generate long-term impacts on preventive behavior and readiness for family life. Premarital education interventions also align with the demands of the digital era, in which improved health literacy through various media, including digital platforms, has been shown to influence long-term healthy lifestyle decision-making.

Based on the findings in this study, the low level of preconception reproductive health knowledge indicates a gap between the information needs and the educational exposure received by prospective brides. Although health professionals have provided information related to reproductive health, pregnancy, sexually transmitted infections, and mental health, this information does not seem to be fully understood or implemented by the target population. Such low knowledge may have future implications for maternal and fetal health, particularly if prospective brides do not understand basic concepts related to preparing for a healthy pregnancy.

These findings are consistent with previous studies reporting that women of reproductive age often have only moderate knowledge of preconception care, with a small proportion having good understanding. This condition suggests that comprehension of the goals, benefits, and essential elements of preconception care remains inadequate. Possible contributing factors include limited access to preconception services, lack of comprehensive educational resources, and the absence of integrated educational systems in public health programs.

Reflecting on these findings, the researcher argues that prospective brides require a more systematic, continuous, and contextual model of premarital education, so that their understanding becomes not only informative but also behaviorally impactful. Evidence-based health education interventions, including the use of digital technology, may serve as innovative approaches to enhance knowledge and skills in preparing for a healthy pregnancy. Moreover,

incorporating mental health aspects into preconception education is crucial, as psychological readiness is a key factor in ensuring healthy offspring and high-quality family life.

Overall, the researcher contends that low premarital knowledge is not merely an individual issue, but also a reflection of insufficient systemic attention to preconception reproductive health. Therefore, promotive and preventive efforts need to be strengthened through policy development, structured health education programs, and improved capacity of health professionals to provide preconception counseling effectively and inclusively.

4. CONCLUSION

This study indicates that the level of knowledge among prospective brides regarding preconception reproductive health remains relatively low. Nearly all respondents demonstrated insufficient understanding of fundamental aspects of reproductive health, pregnancy preparation, and risk factors that may affect the health of both mother and child in the future. This condition suggests a gap between the need for health information and the educational exposure received by prospective brides, despite the delivery of relevant materials through premarital services.

These findings reinforce previous studies that have shown suboptimal understanding of preconception care among women of reproductive age, primarily due to limited access, availability of services, and the absence of systematic preconception education programs within healthcare facilities. Low knowledge levels during the premarital phase may contribute to a higher risk of pregnancy complications, fetal abnormalities, and inadequate physical and psychological readiness for reproductive life.

Therefore, more structured, comprehensive, and sustainable educational interventions are needed to improve reproductive health literacy among prospective brides. Educational models that integrate evidence-based approaches and digital technologies are considered promising for expanding access to information and promoting healthy behavioral change. Additionally, strengthening the capacity of healthcare providers to deliver effective preconception counseling, along with integrating premarital programs into primary healthcare services, represents a strategic step toward enhancing reproductive readiness.

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REFERENCES

1. Stevenson A, Jenkins J, Wallace J, Hill K, Bennett K. Impact of preconception health on maternal and neonatal outcomes: A review. 2020.
2. Putri S, Rahmadani H WW. Maternal and newborn health in Indonesia: Challenges in preconception care. *Indonesian J Health Policy*. 2021;14(2):201-9.
3. Badan Kebijakan Pembangunan Kesehatan. Survei Kesehatan Indonesia (SKI) 2023 dalam angka. Jakarta; 2023. [Health Development Policy Agency. 2023 Indonesian Health Survey (SKI) in figures. Jakarta; 2023.]
4. Asniar A, Kamil H, Mayasari P. Pendidikan dan Promosi Kesehatan. Syiah Kuala University Press; 2020. [Asniar A, Kamil H, Mayasari P. Education and Health Promotion. Syiah Kuala University Press; 2020.]
5. Wahyul Anis SKeb ,Bd. ,M. Kes, Dr. Kasiati SPd ,STr. KMKes. Preceptionship-dan-Mentorship-dalam-Pendidikan-Kebidanan_Proof-1. Surabaya: Airlangga Press; 2021.
6. Yulivantina E, Syamsyaih R. Comprehensive preconception health services to prevent maternal and neonatal complications. *J Reprod Health*. 2021;8(1):45-50.

7. Mayasari AT, Hakimi M, Hani EN U, Setyonugroho W. Efektivitas Pendidikan Kesehatan Reproduksi Berbasis Seluler pada Calon Pengantin terhadap Peningkatan Pengetahuan Kesehatan. *Jurnal Kesehatan Reproduksi*. 2020 May 14;7(1):1. [Mayasari AT, Hakimi M, Hani EN U, Setyonugroho W. The Effectiveness of Mobile-Based Reproductive Health Education for Prospective Brides and Grooms on Improving Health Knowledge. *Journal of Reproductive Health*. 2020 May 14;7(1):1.]
 8. Kodir K, Yoga A, Saputri P. Pengaruh Pendidikan Kesehatan Dengan Media Audio Visual Terhadap Motivasi Berhenti Merokok Pada Mahasiswa. *JURNAL PENGABDIAN KEPADA MASYARAKAT SISTHANA*. 2022 Feb 12;3(2):6-10. [Kodir K, Yoga A, Saputri P. The Effect of Health Education with Audio Visual Media on Motivation to Quit Smoking in College Students. *SISTHANA COMMUNITY SERVICE JOURNAL*. 2022 Feb 12;3(2):6-10.]
 9. Gantina LP, Maryati I, Solehati T. Efektifitas media audio-visual dalam proses pendidikan kesehatan reproduksi pada wanita usia subur. *Holistik Jurnal Kesehatan*. 2024 Mar 19;18(1):114-23. [Gantina LP, Maryati I, Solehati T. The effectiveness of audio-visual media in the process of reproductive health education for women of childbearing age. *Holistic Health Journal*. 2024 Mar 19;18(1):114-23.]
 10. Widayani W, Ulfah K. Pengetahuan, Sikap, Dan Efikasi Diri Wanita Usia Subur Terkait Kesehatan Prakonsepsi. *Jurnal Riset Kesehatan Poltekkes Depkes Bandung*. 2021 May 30;13(1):270-82. [Widayani W, Ulfah K. Knowledge, Attitudes, and Self-Efficacy of Women of Childbearing Age Regarding Preconception Health. *Journal of Health Research, Poltekkes Depkes Bandung*. 2021 May 30;13(1):270-82.]
 11. Lestari M, Galuh P, et al. Faktor Kejadian Anemia Pada Ibu Hamil [Internet]. *HIGEIA 1 (3) (2017) HIGEIA JOURNAL OF PUBLIC HEALTH RESEARCH AND DEVELOPMENT 2017*. Available from: <http://journal.unnes.ac.id/sju/index.php/higeia>
 12. Qurniasih Nila, Halimah Siti, Damayanti Elisa, Mahmudah. Optimalisasi Pengetahuan Kesehatan Reproduksi Catin Dalam Rangka Meningkatkan Kesehatan Prakonsepsi Ibu dan Anak. *Journal of Human And Education Volume 4, No 1, Tahun 2024, pp 359-367 E-ISSN 2776-5857, P-ISSN 2776-7876*. 2024; [Lestari M, Galuh P, et al. Factors of Anemia Incidence in Pregnant Women [Internet]. *HIGEIA 1 (3) (2017) HIGEIA JOURNAL OF PUBLIC HEALTH RESEARCH AND DEVELOPMENT 2017*. Available from: <http://journal.unnes.ac.id/sju/index.php/higeia>]
 13. Abajobir A, de Groot R, Wainaina C, Pradhan M, Janssens W, Sidze EM. The impact of digital interventions on health insurance coverage for reproductive, maternal, newborn and child health services utilization in Kakamega, Kenya: a cluster randomized controlled trial. *Health Policy Plan*. 2024 Nov 14;39(10):1007-21.
 14. Khoeriyatun Estri Marsahati, Reni Purwo Aniarti. Pengaruh Media Booklet “Bingkisan Cinta” Terhadap Kesadaran Diri Kesehatan Prakonsepsi Pada Calon Pengantin. *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal*. 2024;Volume 14 Nomor 2(4e-ISSN 2549-8134; p-ISSN2089-0834<http://journal.stikeskendal.ac.id/index.php/PSKM>). [Khoeriyatun Estri Marsahati, Reni Purwo Aniarti. The Influence of the “Bingkisan Cinta” Booklet Media on Preconception Health Self-Awareness in Prospective Brides and Grooms. *Permas Scientific Journal: Kendal Health College Scientific Journal*. 2024; Volume 14 Number 2 (4e-ISSN 2549-8134; p-ISSN2089-0834 <http://journal.stikeskendal.ac.id/index.php/PSKM>).]
 15. Sibarani DW, Kurniawati W, Ungsianik T, Nur Rachmawati I. Hubungan Antara Asupan Nutrisi dengan Proses Prakonsepsi pada Pasien Infertilitas Kedekatan: A Systematic Review. *Jurnal Impresi Indonesia*. 2025 Jul 26;4(7). [Sibarani DW, Kurniawati W, Ungsianik T, Nur Rachmawati I. The Relationship Between Nutritional Intake and Preconception Process in Infertility Patients: A Systematic Review. *Indonesian Journal of Impressions*. 2025 Jul 26;4(7).]
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