



## The Effectiveness Preconception Care To Improve Knowledge On Pregnancy A Systematic Review

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### Abstract

**Introduction:** Preconception services for prospective brides and grooms are an important thing that must be provided as an effort to increase the knowledge of prospective brides, including insight into preparations before marriage. It is hoped that with the insights and knowledge gained, prospective brides and grooms can build a healthy and safe married life, with the aim that readers can get an overview of the knowledge of prospective male and female couples by knowing the effectiveness of providing education regarding contraceptive services. **Materials and Methods:** The method used was a literature review where data was obtained from an electronic database, namely Google Scholar, Pubmet, Scopus between 2018-2023 have 68 after check the articles were found, 7 articles were selected that were in accordance with the objectives of this research. **Results:** The results obtained from the study of the article on readiness to face a first pregnancy come from the preparations made by the prospective bride and groom before marriage and pregnancy, communication of information and education regarding reproductive health and readiness to face their first pregnancy is very effective and is very necessary for the prospective bride and groom to have good preparedness. During preconception services, during the first pregnancy, many women are not ready to face pregnancy because they do not have good knowledge and previous experience. **Conclusion:** The local Religious Affairs Office makes reproductive health material mandatory material that must be conveyed to prospective brides and grooms and can revitalize cooperation with related parties regarding health material education.

**Keywords :** Bride and groom, information education, preconception services, pregnancy preparation





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## 1. Introduction

The Maternal Mortality Rate reflects the risks faced by mothers during pregnancy and childbirth, which are influenced by the mother's nutritional status, socio-economic conditions, unfavorable conditions leading up to pregnancy, the incidence of various complications during pregnancy and birth, the availability and use of health care facilities including health services, perinatal and obstetrics. The most common causes of maternal death in Indonesia are pre-eclampsia, bleeding during pregnancy, childbirth and postpartum accompanied by complications of comorbidities. Maternal deaths usually occur due to the high number of cases of high-risk pregnant women. The maternal mortality rate in Indonesia in 2022 is 67.84 per 100,000 live births, this is an increase compared to 2017 which was 54/100,000 live births. (Kementerian Kesehatan Republik Indonesia, 2022).

Most of these causes of maternal death can be prevented with good health and mental preparation, so that maternal death can be avoided. However, 4 out of 10 women experience an unplanned pregnancy, so that medical intervention that can be given to the mother or partner is hampered. Therefore, we need to prepare everything well, especially in terms of the health and mental health of the expectant mother. Prospective mothers need to prepare for a healthy pregnancy or what is known as the preconception period. (Kementerian Kesehatan Republik Indonesia, 2022)

The preconception period can be linked to the premarital period because after marriage a woman will immediately enter conception. The preconception period is the period from three months to one year before conception and includes the time when the ovum and sperm have matured, namely around 100 days before conception. (BKKBN, 2018) Premarital couples are couples who want to get married. All premarital couples have the right to receive preconception services. Preconception services are carried out to





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identify and modify biomedical, mechanical and social risks to the health of women or couples of reproductive age who are planning to become pregnant. The preconception services provided include physical examination services, provision of Tetanus Toxoid, immunization, nutritional status checks by overcoming the problem of Chronic Energy Deficiency, and anemia status, Health Education Information Communication, and other health services. (WHO, 2018)

This premarital preconception service on future bride and groom is an important thing that must be provided as an effort to improve knowledge, including insight into preparation before marriage. It is hoped that with the insight and knowledge gained, future bride and groom can foster a healthy and safe married life. Future bride and groom must be given sufficient insight into premarital health and various premarital rights so that future bride and groom is ready when carrying out her role as parent and husband and wife. This Health Education Information Communication contains a number of materials about reproductive health, premarital sex, readiness for early pregnancy after marriage, as well as several matters regarding premarital psychology. (Nash et al., 2019)

Readiness for marriage is one of them being physically ready to face the pregnancy process. The family planning program is one way to delay pregnancy, one of its functions is to prepare for healthy reproduction. Married couples under reproductive age are advised to postpone pregnancy until their physical and mental health is ready to accept the pregnancy. Marriages and pregnancies that occur at less than 20 years of age are risky, the risks that can occur are anemia in pregnancy, babies born prematurely or low birth weight, childbirth with a risk of bleeding. (Kementerian Kesehatan Republik Indonesia, 2022)

Providing information about pregnancy can be done in future bride and groom classes regarding reproductive health, one of which is about the use of contraception as a delay in pregnancy to reduce morbidity and mortality rates for mothers and babies. The aim of this research is to get an overview of the knowledge of prospective male and female bride and groom couples before and after providing communication, information and education, as well as to determine the effectiveness of providing education.





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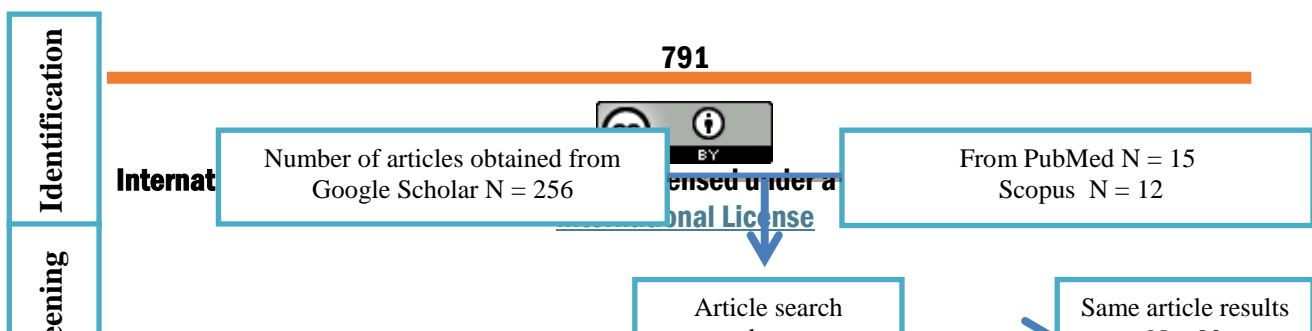


## 2. Research Method

Data was obtained from electronic databases, namely Google Scholar, Pubmet, Scopus between 2018-2023 using the Prisma Method. Inclusion criteria: articles that have titles and content that are relevant to the purpose, in Indonesian, English and full text, respondents are prospective brides and grooms, research articles published in 2018-2023. Exclusion criteria: articles that do not have a complete structure, review articles, articles that do not discuss prospective brides and grooms.

From the keywords: information and education pre-conception, future bride and groom readiness, first pregnancy written in different databases, the articles were found, the researcher chose the articles themselves according to the title and abstract, and differentiated the purpose of the documents and articles which were different from the initial question. Articles that were not related to the effectiveness of education pre-conception for prospective brides and grooms on readiness for their first pregnancy were excluded. Of the 68 articles found, 7 articles were selected that were in line with the objectives of this research.

Each of the 7 articles selected to be read carefully from the abstract, objectives, analysis data from the researcher's initial questions to collect information about the effectiveness of education pre-conception in prospective brides and grooms on readiness for first pregnancy.





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### 3. Results And Discussions

#### a. Result

Of the 7 articles selected for this review, all correspond to quantitative and qualitative studies between 2018-2023. Studies were conducted in Indonesia and abroad in various regions. Each of the 68 articles selected was read carefully from the abstract, objectives, analysis data from the researcher's initial questions to collect information about the effectiveness of IEC in prospective brides and grooms on readiness for their first pregnancy. This literature study found 7 articles that met the inclusion and exclusion criteria. From the review of the article, it is known that IEC is effective for prospective brides and grooms in their readiness for their first pregnancy. It is explained in Table 1 as follows. (Rahmanda et al., 2023), (Yuliani et al., 2020), (Wozniak et al., 2012), (Irawati et al., 2019), (Nur Azizah, 2021), (Fooladi et al., 2018), (Ramlan et al., 2021).





Number	Country, Years	Design	Sample	Prosedure	Result
1	Indonesia, 2023	This research method uses a pre-experiment method with one group pretest-posttest design	The number of samples from this research was 42 people calon pengantin	This research was carried out in 3 stages. In the first stage, respondents will be asked to fill out a pretest questionnaire. In the next stage, respondents will be given premarital health counseling which discusses preparing for a healthy pregnancy assisted with the help of the Procatin application belonging to the Tanjung Priok District Health Center. After 1 week post-intervention, respondents will be asked to complete a posttest questionnaire to determine changes in attitudes of the prospective bride.	Women's Catin Knowledge Before and After Being Given Premarital Health Counseling was given was 7.86 and after it was 9.17 with a difference in the average knowledge value of 1.31. the level of knowledge before being given good counseling was 57.1% and after being given counseling, the dominant knowledge was in the good category with a total of 61.9%. Analysis of the data above used bivariate analysis with a paired t-test which showed a p-value of 0.0001 (P
2	Indonesia, 2020	This research uses quantitative descriptive. Using a cross sectional research design and the Wilxocon signed rank test	The sample in this study was prospective bride and groomcouples in the KUA Cileunyi accidental sampling with a total sample of 43	With the primary data collection stage through pre-test and post-test using a questionnaire	shows that there is an increase in the level of knowledge about reproductive health in prospective bridal couples after providing communication, information and education (KIE). The





			prospective bride and groom couples		results of calculations using the Wilcoxon signet rank test formula, before and after show a significant difference with the average before 1.1512 and after showing an average value of 1.0000, the statistical test results obtained a p-value of $0.000 < \alpha$ value (0.05).
3	Indonesia, 2023 (no 5)	This quantitative research uses a pre-experimental design with a one group pre-test and post-test design	the number of samples of couples of childbearing age was 100 samples.	The instruments in this research use questionnaires and informed consent which will be given to respondents during the pre-test and post-test, as well as a pocketbook which will be used as a health education medium. statistical test using the Wilcoxon test.	There was a difference in EFA knowledge before and after health education using the preconception pocket book anticipating risky pregnancies ( $p < 0.000$ ).
4	Indonesia, 2019	The type of research is quasi-experimental with a nonequivalent control group design	The research population was prospective brides who took catin courses at	The instruments used were questionnaires and booklets. Data analysis was carried out by comparing the	The research results show that there is differences in reproduction differences in reproductive health





			KUA Pemalang Regency. The sample was 50 people for the intervention group and 50 people for the control group	treatment group and the control group after the intervention. Statistical tests use the Mann Whitney test	attitudes after intervention between groups treatment with the control group ( $p=0.008<0.05$ ). Average catin knowledge increased 4.28 points and the average attitude increased 1.84 points after intervention.
5	Indonesia, 2021	Qualitative research method with a phenomenological approach. The sampling technique purposive sampling,	The number of informants was 4 prospective brides and grooms who received preconception services in the era of adapting to new habits	Data collection techniques were carried out using in-depth interviews and document studies. Data analysis used thematic content analysis.	Preconception services during the adaptation period to new habits in the Purwojati Community Health Center work area include physical examinations, supporting examinations, provision of Tetanus Toxoid (TT) immunization, examination and supplementation of nutritional status, and Communication, Information and Education.
6	Iran, 2018	A randomized, three-armed, controlled trial.	181 women were randomly allocated to the intervention group (IG, n = 61), control group 1 (CG1, n	The intervention group received oral and written information about fertility based on the RLP tool. Participants were	At baseline, there was no difference between the groups regarding the mean knowledge of fertility score. At 2 months, after adjustment for age,





			<p>= 60) or control group 2 (CG2, n = 60 Women of reproductive age who were able to conceive</p>	<p>contacted 2 months after the intervention. The primary outcome measure was the change in women’s knowledge of fertility, particularly folic acid intake prior to pregnancy, over a 2 month period. The change in women’s family planning intentions were also assessed. The participants in the IG shared their experiences at follow-up.</p>	<p>history of pregnancy and baseline values, the between group difference in change from baseline was 5.8 (p &lt; 0.001). While there was no significant difference between the IG and CG1 for folic acid intake prior to pregnancy at baseline, the group difference for folic acid intake prior to pregnancy post intervention was statistically significant (85% vs 25%, p &lt; 0.001). At follow-up, women’s desire to have more children, preferred age to conceive the last child and the desired age gap between children in the IG and CG1 did not significantly change over time. Women reported the RLP counseling tool used by midwives as useful</p>
7	Indonesia, 2021 (no2)	The method used in this research is an analytical method with a Cross Sectional Survey approach	The sample in this study was 71 people.	The researcher identified this through observation using a questionnaire on the sample. Data were analyzed univariately and	The results showed that age (0.013), education (0.526), were related to maternal readiness and employment (0.300), level of knowledge (1.000)





				bivariately using the Chi Square statistical test via SPSS Version 20.	were not related to readiness to become mothers in KUA Parepare City. Based on the research results obtained, it is hoped that prospective brides and grooms will always follow suscatin and carry out health checks before getting married
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**b. Discussion**

Counseling is the process of providing objective and complete information, carried out systematically with a combination of interpersonal communication skills, guidance techniques and mastery of clinical knowledge aimed at helping someone recognize their current condition, the problems they are facing and determine solutions/efforts to overcome these problems. Education and information to encourage the process of changing behavior in a positive direction, increasing knowledge and attitudes in order to have healthy and responsible behavior. Education and information is important to prepare to become a parent because becoming a parent is not easy, but it is not as difficult as imagined and one of the keys to success in being a good parent is preparing oneself from both parties. (Nababan et al., 2019)

Healthy pregnancy planning counseling must be given to couples who want to get married or plan a pregnancy with the aim of preparing for a healthy pregnancy so as to minimize the risk of complications during pregnancy or childbirth. (Nababan et al., 2019)

Reproductive and sexual health education is needed to support future resources in health sexual relations that are not just safe sex and contraception. However, as providers of improving reproductive health, every couple who is getting married must have good





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knowledge about the reproductive system, including the benefits of contraceptive methods, the use of suitable contraceptives in the early stages of marriage if they do not want to get pregnant, and other reproductive health issues. WHO states that sexual education is needed for people who are of a sexually active age and who engage in sexual activity. (Frederick et al., 2018)

The mother's health status before pregnancy is a determining factor for the process and outcome of pregnancy as well as the risk for complications for the mother and baby. In Western society preconception care is widely known as a way to optimize women's health through biomedical and behavioral changes before conception with the aim of improving pregnancy outcomes. (Lusambili et al., 2021) Health education carried out in this marriage guidance program can serve as a center for reproductive health information for prospective bride and groom. (Januarti et al., 2020) The provision of reproductive health education that was carried out showed effective results in increasing respondents' knowledge about reproductive health, in preparation for pregnancy so that they could better maintain and prepare for their health during pregnancy. Research conducted in India shows that youth health information centers can reduce the rate of early marriage and can increase the school graduation rate among teenagers. This shows that providing knowledge can provide and improve reproductive health.

This research shows that all prospective male and female respondents have good knowledge. Providing this education provides additional knowledge, especially for prospective grooms, who usually find it difficult to be involved in matters of reproductive health. This is what was found in a study, that the involvement of men in matters of reproductive health is difficult, so it is necessary to provide education by involving young men as well as preparation for life in reproductive health. (Bylund et al., 2020)

Findings from a study conducted in the Somali settlement of Kobe, inform future programming in Kobe and with a focus on the health needs and health development of adolescents. Future programs must consider the determinants of adolescent health and development, including access to education, gender justice, and security. In other words,





education is necessary for the development of adolescent health, whether in the form of providing education, or other formal education. (Ortiz-Echevarria et al., 2017) Reproductive and sexual health education is needed to support future resources in sexual health that are not just about safe sex and contraception. But as a provider to improve reproductive health.(Frederick et al., 2018)

The health education carried out in this marriage guidance program can serve as a center for reproductive health information for prospective brides and grooms.(Januarti et al., 2020) Providing reproductive health education carried out has shown effective results in increasing respondents' knowledge about reproductive health, in preparation for pregnancy to be better able to maintain and prepare for health in the future. while pregnant. Research conducted in India shows that youth health information centers can reduce the rate of early marriage and can increase the school graduation rate among teenagers. This shows that providing knowledge can provide and improve reproductive health. (Arghavanian et al., 2020) This reproductive health education takes the form of counseling, providing information and education about postponing a healthy pregnancy, gender conditions in preparation for marriage and other reproductive health material that can support the reproductive health needs of prospective brides and grooms. Comprehensive education about abstinence and contraception delays the onset of sexual behavior, reduces the number of sexual partners.

#### 4. Conclusion

Respondents' knowledge before and after providing communication, information and education to both prospective brides and grooms increased, with the result that all respondents had good knowledge. and from the results of the difference test, there is a mean difference between before and after giving IEC, and it can be concluded that before and after giving information and education regarding reproductive health, it is effective in efforts to increase reproductive health knowledge in preparing for marriage and pregnancy. It is hoped that the local Religious Affairs office will make reproductive health material mandatory material that must be conveyed to prospective brides and





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grooms and can revitalize cooperation with related parties regarding health material education.

### 5. Compliance with ethical standards

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#### Disclosure of conflict of interest

There is no potential for any stakeholder to have a conflict of interest in this research.

#### Statement of informed consent

In our capacity as writers, every action we perform constitutes a joint agreement or consent.

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