The Effect of Premarital and Preconception Counseling on Prospective Fathers in Preventing Pregnancy Risk Factors at the Munjuljaya Community Health Center, Purwakarta Regency, Indonesia

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Abstract.
A healthy pregnancy is influenced not only by maternal preparedness but also by the support and readiness of prospective fathers. Insufficient knowledge among prospective fathers regarding premarital and preconception health may increase the risk of pregnancy complications, maternal anemia, stunting, and inadequate support for maternal health during pregnancy. Therefore, promotive and preventive efforts through premarital and preconception counseling are essential to improve prospective fathers' knowledge and preparedness in preventing pregnancy risk factors.This study aimed to determine the effect of premarital and preconception counseling on prospective fathers in preventing pregnancy risk factors in the working area of the Munjuljaya Community Health Center, Purwakarta Regency, Indonesia.This study employed a quantitative approach using a quasi-experimental design with a one-group pretest–posttest design. The intervention was administered to 30 prospective fathers in the working area of the Munjuljaya Community Health Center. Participants received premarital and preconception counseling focusing on knowledge, attitudes, and health behaviors related to pregnancy risk prevention. Data were analyzed using the Wilcoxon Signed-Rank Test with a significance level of 0.05.The findings showed that, before the counseling intervention, most respondents (60.0%) had poor ability to prevent pregnancy risk factors. After the intervention, 56.7% of respondents achieved a good level of pregnancy risk prevention. Statistical analysis demonstrated that premarital and preconception counseling significantly improved the knowledge, attitudes, health behaviors, and pregnancy risk prevention abilities of prospective fathers ($p < 0.05$).
In conclusion, premarital and preconception counseling is an effective strategy for enhancing prospective fathers' readiness to support healthy pregnancies by improving their knowledge, attitudes, health behaviors, and ability to prevent pregnancy risk factors. Strengthening counseling services at primary healthcare facilities is recommended to optimize paternal involvement in maternal and child health programs.

Keywords: *Premarital Counseling, Preconception Counseling, Prospective Fathers, Pregnancy Risk Factors and Pregnancy Risk Prevention.*

I. INTRODUCTION

Maternal and child health is one of the primary indicators of a country's health development. Various strategies have been implemented to reduce maternal and neonatal morbidity and mortality, including improving access to healthcare services, enhancing the quality of antenatal care, promoting safe childbirth, and strengthening reproductive health services. However, these efforts have predominantly focused on women as the primary target population, while the involvement of men, particularly

prospective fathers, in pregnancy preparation remains limited. In fact, the success of reproductive health programs depends not only on maternal readiness but also on the knowledge, support, and active involvement of both partners before conception.

The preconception period is a critical stage extending from the time before fertilization until conception occurs. During this period, biological, psychological, social, and behavioral factors of both prospective parents may influence pregnancy outcomes as well as the future health of mothers and infants. The World Health Organization (WHO) emphasizes that preconception care aims to identify and reduce health risk factors before pregnancy, thereby improving pregnancy outcomes, reducing pregnancy-related complications, and promoting long-term maternal and child health. In addition to women, men also play an essential role in successful preconception care by adopting healthy lifestyles, undergoing health screening, providing psychological support, and participating in shared decision-making regarding pregnancy planning.

In recent years, increasing attention has been given to male involvement in reproductive health. Previous studies have demonstrated that prospective fathers' knowledge and participation are associated with increased utilization of maternal health services, improved adherence to antenatal care, greater preparedness for childbirth, and stronger emotional and social support for pregnant women. Conversely, limited knowledge of reproductive health among prospective fathers may contribute to delayed decision-making, inadequate support for their partners, and an increased risk of preventable pregnancy complications that could otherwise be minimized through education during the preconception period.

In Indonesia, premarital and preconception reproductive health services have gradually become an integral component of family health promotion programs. Educational initiatives for prospective couples have been implemented through various healthcare facilities; however, these programs continue to focus primarily on women. Male participation in reproductive health education remains suboptimal due to several factors, including limited access to information, the perception that pregnancy is solely a woman's responsibility, occupational commitments, and the lack of educational models specifically designed to engage men as key participants. These conditions highlight the need to strengthen health promotion strategies that actively encourage prospective fathers' participation in premarital and preconception services.

Premarital and preconception counseling is recognized as an effective promotive and preventive intervention aimed at improving couples' knowledge, attitudes, and preparedness for healthy pregnancy planning. Through counseling, prospective fathers receive comprehensive information regarding pre-marital health examinations, nutritional status, prevention of communicable and non-communicable diseases, immunization, mental health, healthy lifestyle practices, and the important role of fathers in supporting maternal and fetal health. Systematic educational interventions are expected to enhance understanding and encourage positive behavioral changes before pregnancy.

Although numerous studies have investigated preconception care, most have focused primarily on women as the main research participants. Studies specifically evaluating the effectiveness of premarital and preconception counseling in improving prospective fathers' knowledge in Indonesia remain limited. Furthermore, research integrating prospective fathers as active participants in promotive strategies to improve healthy pregnancy outcomes is still scarce, particularly at the district level. This research gap underscores the need for scientific evidence regarding the effectiveness of premarital and preconception counseling in enhancing prospective fathers' knowledge as a foundation for developing more comprehensive reproductive health programs.

Purwakarta Regency is one of the districts committed to improving maternal and child health services through promotive and preventive approaches. However, information regarding prospective fathers' knowledge of healthy pregnancy preparation and the effectiveness of premarital and preconception counseling in this region remains limited. Therefore, this study was conducted to examine the effect of premarital and preconception counseling on prospective fathers' knowledge in preparing for a healthy pregnancy in the working area of the Munjuljaya Community Health Center, Purwakarta Regency, Indonesia.

The findings of this study are expected to contribute to the development of family-centered preconception care and provide evidence for healthcare professionals, particularly midwives, in designing more effective educational programs that actively involve prospective fathers as partners in promoting healthy pregnancies. Furthermore, the results are expected to serve as valuable evidence for policymakers in strengthening the implementation of premarital and preconception services as part of national strategies to improve maternal and child health in Indonesia.

II. METHODS

This study employed a quantitative approach using a quasi-experimental research design with a one-group pretest–posttest design. A research design is a systematic plan used to collect and analyze data to scientifically and logically test the research objectives and hypotheses. The study involved a single experimental group that received an intervention in the form of premarital and preconception counseling aimed at improving knowledge, attitudes, and health behaviors related to the prevention of pregnancy risk factors among prospective fathers.

The research framework followed the **one-group pretest–posttest design**, represented as $\mathbf{O_1 \rightarrow X \rightarrow O_2}$. $\mathbf{O_1}$ represented the pretest conducted before the intervention to assess the baseline levels of knowledge, attitudes, and health behaviors of prospective fathers regarding the prevention of pregnancy risk factors. **X** represented the intervention, consisting of premarital and preconception counseling. During the counseling sessions, participants received education on reproductive health, the role of prospective fathers in supporting healthy pregnancies, and strategies for preventing pregnancy risk factors through improved knowledge, positive attitudes, and healthy

behavioral practices. Following the intervention, **O_2** represented the posttest, during which participants' knowledge, attitudes, and health behaviors were reassessed. Comparisons between the pretest and posttest results were used to evaluate the effectiveness of the counseling intervention.

The study was conducted at the Sukamaju Apartment Complex, Ciseureuh Village, within the working area of the Munjuljaya Community Health Center, Purwakarta Regency, Indonesia. The research site was selected using a purposive sampling approach based on the availability of participants who met the study eligibility criteria. The study population consisted of prospective fathers residing in the study area. A total of **30 respondents** who fulfilled the inclusion criteria were recruited as the study sample.

Univariate analysis was performed to describe respondents' characteristics and the distribution of knowledge, attitudes, health behaviors, and pregnancy risk prevention before and after the intervention. The results were presented as frequencies and percentages. Bivariate analysis was conducted to evaluate the effect of premarital and preconception counseling on prospective fathers' knowledge, attitudes, health behaviors, and pregnancy risk prevention. The selection of the statistical test was based on the results of the normality test. If the data were normally distributed, the **Paired Samples t-test** was applied. Otherwise, the **Wilcoxon Signed-Rank Test** was used. Statistical significance was determined at **$p < 0.05$**.

This study was conducted following approval from the Health Research Ethics Committee in accordance with applicable ethical guidelines. Before participation, all respondents received detailed information regarding the study objectives, procedures, potential benefits, and their right to withdraw from the study at any time without any consequences. Written informed consent was obtained from all participants, and the confidentiality and privacy of all respondent information were strictly maintained throughout the research process.

III. RESULT AND DISCUSSION

This study involved **30 prospective fathers** who participated in premarital and preconception counseling in the working area of the Munjuljaya Community Health Center, Purwakarta Regency, Indonesia. The majority of respondents were **20–35 years old** (22 respondents; **73.3%**), while **8 respondents (26.7%)** were classified as being in the high-risk age group (<20 years or >35 years). Regarding educational attainment, most respondents had completed **senior high school or vocational high school** (24 respondents; **80.0%**), followed by **junior high school** (4 respondents; **13.3%**). Only one respondent (3.3%) had completed elementary school, and one respondent (3.3%) had attained higher education.

The normality of the data was assessed using the **Shapiro–Wilk test**, as the study included **30 respondents ($n \leq 50$)**. According to Dahlan (2020), data are considered normally distributed when the significance value is **$p > 0.05$**. Since all study variables

were measured using ordinal scales derived from categorical data, the normality test was performed on numerical scores converted from the response categories (**1 = Poor, 2 = Fair, and 3 = Good**).

Tabel 5.9 presents the results of the Shapiro–Wilk normality test for all study variables among prospective fathers in the working area of the Munjuljaya Community Health Center, Purwakarta Regency, Indonesia, in 2026.

Variabel	Shapiro-Wilk			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
	Sebelum Konseling			Sesudah Konseling		
Pengetahuan	0,492	30	0,000	0,347	30	0,000
Sikap	0,637	30	0,000	0,781	30	0,000
Perilaku Kesehatan	0,637	30	0,000	0,637	30	0,000
Pencegahan Risiko Kehamilan	0,624	30	0,000	0,632	30	0,000

Sumber: Data Primer, 2026

Keterangan: Sig. > 0,05 = distrCalon Ayah si normal; Sig. ≤ 0,05 = distrCalon Ayah si tidak normal

Based on **Table 5.9**, all study variables, both before and after the premarital and preconception counseling intervention, had a significance value of **p = 0.000 (p < 0.05)**. These findings indicate that the data were **not normally distributed**. Therefore, **non-parametric statistical analysis** was performed using the **Wilcoxon Signed-Rank Test** instead of the **Paired Samples t-test**.

Bivariate analysis was conducted using the **Wilcoxon Signed-Rank Test** to determine whether there were significant differences between the pre-intervention and post-intervention scores following premarital and preconception counseling. This statistical test was selected because the normality test indicated that the data were not normally distributed (**p < 0.05**). Statistical significance was established at a significance level of **α = 0.05**

Tabel 5.10 Wilcoxon Signed-Rank Test Results for Prospective Fathers' Knowledge Before and After Premarital and Preconception Counseling in the Working Area of the Munjuljaya Community Health Center, Purwakarta Regency, Indonesia

Pengetahuan	N	Mean Rank	Sum of Ranks	p-value	Ket.
Negative Ranks	0	0.00	0.00	**0,000***	**Sig.**

Positive Ranks	28	14,50	406,00
Ties	2	–	–

Sumber: Data Primer, 2026

**Uji Wilcoxon Signed Rank Test, signifikan pada α = 0,05*

Based on **Table 5.10**, among the 30 respondents, **28 showed positive ranks (improved knowledge scores), no respondents showed negative ranks, and 2 respondents had tied ranks (no change)**. The **Wilcoxon Signed-Rank Test** yielded a **p-value of 0.000 (p < 0.05)**, indicating that the null hypothesis (**H_0**) was rejected. These findings demonstrate that **premarital and preconception counseling had a statistically significant effect on improving the knowledge of prospective fathers**.

Tabel 5.11 Hasil Uji Wilcoxon Signed Rank Test Sikap Calon Ayah Sebelum dan Sesudah Konseling Pranikah dan Prakonsepsi di Wilayah Kerja Puskesmas Munjuljaya Tahun 2026

Sikap	N	Mean Rank	Sum of Ranks	p-value	Ket.
Negative Ranks	0	0.00	0.00		
Positive Ranks	23	12,00	276,00	**0,000***	**Sig.**
Ties	7	–	–		

Sumber: Data Primer, 2026

**Uji Wilcoxon Signed Rank Test, signifikan pada α = 0,05*

on Table 5.11, 23 respondents showed positive ranks, no respondents showed negative ranks, and 7 respondents had tied ranks (no change). The Wilcoxon Signed-Rank Test yielded a p-value of 0.000 ($p < 0.05$), indicating that the null hypothesis (H_0) was rejected. These findings demonstrate that premarital and preconception counseling had a statistically significant effect on improving the attitudes of prospective fathers toward a more positive direction.

Tabel 5.12 Wilcoxon Signed-Rank Test Results for Health Behaviors Before and After Premarital and Preconception Counseling

Perilaku Kesehatan	N	Mean Rank	Sum of Ranks	p-value	Ket.
Negative Ranks	0	0.00	0.00		
Positive Ranks	29	15,00	435,00	**0,000***	**Sig.**
Ties	1	–	–		

Sumber: Data Primer, 2026

**Uji Wilcoxon Signed Rank Test, signifikan pada α = 0,05*

Based on Table 5.12, 29 respondents showed positive ranks, no respondents showed negative ranks, and 1 respondent had a tied rank (no change). The Wilcoxon Signed-Rank Test yielded a p-value of 0.000 ($p < 0.05$), indicating a statistically significant difference between the pre-intervention and post-intervention scores. These findings demonstrate that premarital and preconception counseling significantly improved the health behaviors of prospective fathers.

Tabel 5.13 Wilcoxon Signed-Rank Test Results for Pregnancy Risk Factor Prevention Before and After Premarital and Preconception Counseling in the Working Area of the Munjuljaya Community Health Center, Purwakarta Regency, Indonesia

Pencegahan Risiko Kehamilan	N	Mean Rank	Sum of Ranks	p-value	Ket.
Negative Ranks	0	0.00	0.00		
Positive Ranks	30	15,50	465,00	**0,000***	**Sig.**
Ties	0	–	–		

Sumber: Data Primer, 2026

**Uji Wilcoxon Signed Rank Test, signifikan pada α = 0,05*

Based on Table 5.13, all 30 respondents demonstrated positive ranks, with no negative ranks or tied ranks observed. The Wilcoxon Signed-Rank Test yielded a p-value of 0.000 ($p < 0.05$), indicating that the null hypothesis (H_0) was rejected. These findings demonstrate that premarital and preconception counseling had a statistically significant effect on improving prospective fathers' ability to prevent pregnancy risk factors.

Overall, the findings indicate that premarital and preconception counseling significantly improved prospective fathers' knowledge, attitudes, health behaviors, and ability to prevent pregnancy risk factors. Nearly all respondents demonstrated higher post-intervention scores, and all statistical analyses yielded p-values below 0.05, confirming the effectiveness of the counseling intervention in enhancing prospective fathers' preparedness for supporting a healthy pregnancy.

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