

## ENCOURAGING PATERNAL INVOLVEMENT DURING THE PERINATAL PERIOD WITH EDUCATIONAL HEALTH PROGRAM 'PRIME'

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### Abstract

Indonesia is a developing country with less support for fathers; therefore, their involvement in the perinatal period is neither easy nor common. Numerous studies show that increased father involvement in the prenatal period improves maternal and neonatal health outcomes. Primary care typically faces issues when scheduling father classes. Even when conducted, father classes are considered dull by fathers because they only provide theoretical knowledge with no practical application. Thus, we created the "Perinatal Mindful Education Program/PRIME," which includes two parts: a holistic class (preparing the body, mind, and spirit for childbirth; couple prenatal yoga, deep relaxation, and hypnobirthing; perineal massage; and baby massage); and a postpartum supportive class (breastfeeding with happiness, maternal and infant care, and babywearing technique). In June 2025, 15 pairs of fathers and expectant mothers participated in the 'PRIME.' An equivalent time series design was done, with two holistic and two postpartum classes. The findings revealed a statistically significant change in fathers' competence ( $p=0.001$ ) between the first and second days. The skills of fathers improved by 68,96% in the holistic program but only 45,39% in the postpartum supportive class. This indicates how PRIME might increase paternal involvement during the perinatal period, as indicated by fathers' skills in maternal and neonatal care.

*Keywords:* *paternal involvement, perinatal, PRIME.*

### Abstrak

Indonesia adalah negara berkembang dengan dukungan yang lebih sedikit untuk ayah; Oleh karena itu, keterlibatan mereka dalam periode perinatal tidaklah mudah dan umum. Sejumlah penelitian menunjukkan bahwa peningkatan keterlibatan ayah dalam periode prenatal meningkatkan kesehatan ibu dan bayi baru lahir. Pelayanan kesehatan primer biasanya menghadapi masalah saat menjadwalkan kelas ayah. Bahkan ketika diselenggarakan, kelas ayah dianggap membosankan oleh para ayah karena hanya memberikan pengetahuan teoretis tanpa aplikasi praktis. Oleh karena itu, kami menciptakan "Perinatal Mindful Education Program/PRIME", yang mencakup dua bagian: kelas holistik dan kelas postaprtum support. Pada bulan Juni 2025, 15 pasang ayah dan ibu hamil berpartisipasi dalam 'PRIME'. Studi ini menggunakan equivalent time series design, dengan dua kali kelas holistik dan dua kali kelas postpartum support. Temuan ini menunjukkan perubahan yang signifikan secara statistik dalam kompetensi ayah ( $p=0,001$ ) antara hari pertama dan kedua. Keterampilan ayah meningkat sebesar 68,96% dalam program holistik, tetapi hanya 45,39% dalam kelas postpartum support. Hal ini menunjukkan bagaimana PRIME dapat meningkatkan keterlibatan ayah selama periode perinatal, sebagaimana ditunjukkan oleh keterampilan ayah dalam perawatan maternal dan neonatal.

*Keywords:* *keterlibatan paternal, perinatal, PRIME.*

## INTRODUCTION

Maternal and neonatal health are the Indonesian government's top priorities for improving the country's health. The prevalence of maternal mortality rates (MMR) and infant mortality rates (IMR) continues to be a major concern (Cameron et al., 2019; Nove et al., 2021). These are just a few of the numerous critical indicators of a country's health status, particularly in developing countries. Perinatal monitoring can help address maternal and child health issues from the third trimester of pregnancy to one year after delivery (Eastwood J et al., 2017; Mehran et al., 2020; Okinarum, 2025; Ondeck, 2019).

During the perinatal period, resource allocation to improve maternal and neonatal outcomes entails maximizing family participation, one aspect of which is the role of fathers (Okinarum, 2025). Perinatal care has traditionally prioritized maternal and neonatal health on a global scale. However, the World Health Organization (WHO) advocates for paternal involvement during the perinatal period to help women receive health care and to foster advantageous paternal involvement as partners and fathers (WHO, 2015). However, many healthcare institutions do not fully integrate father inclusion into their frameworks and services (Hodgson et al., 2021; Høgmo et al., 2021).

The Indonesian Ministry of Health has designed a Healthy Indonesia program policy based on a family approach. Its purpose is to reduce maternal mortality by engaging the community, particularly husbands, in pregnancy, birthing, postpartum, and breastfeeding care, including the

perinatal period (Permenkes No.39 Tahun 2016 Tentang Pedoman Penyelenggaraan Indonesia Sehat Dengan Pendekatan Keluarga, 2016). Several studies have found that midwives can help educate families, particularly fathers (Adnani, Okinarum, Muchlis, et al., 2025; Adnani, Okinarum, Sari, et al., 2025). This is designed to enhance father involvement throughout the perinatal period, as this support is an important component of improving maternal and neonatal health, both physically and mentally (Okinarum, 2025; Okinarum & Murdhiono, 2022).

Many factors can influence fathers' involvement in health services (Macdonald et al., 2022). Individual and family characteristics that may improve father involvement include fathers' positive ideas and expectations about parenting and seeking assistance (Venning et al., 2021), maternal encouragement (Gervais et al., 2016), and fathers' awareness of available support (Baldwin et al., 2018). Organizational policies, operating hours, and inadequate information or services for fathers are all barriers to accessing health care (Gervais et al., 2016; Rominov et al., 2017; Wynter et al., 2021), as is a lack of experience and training in father-inclusive practices (Wynter et al., 2021). Embedded societal systems and traditional "masculine" ideals can perpetuate unconscious bias against male caregivers and marginalize them in services (Darwin et al., 2021; Pedersen et al., 2021). Increasing father involvement is a complicated task, and having a thorough knowledge of the barriers and enablers of father-inclusive policies necessitates knowing all stakeholders' viewpoints. According to

one study, increasing father engagement needs reforms in health care, the workplace, and society as a whole. This includes identifying the barriers and enablers to father engagement (Okinarum et al., 2024).

Previously, Posyandu Lestari Mulyo, our collaborator in community health services, exhibited insufficient paternal engagement in the pregnancy process, as indicated by their absence from Posyandu Lestari Mulyo activities or prenatal examinations at the Piyungan Bantul Community Health Center. Neither the Community Health Center nor the Posyandu has ever conducted a father class. As a result, we created PRIME (Perinatal Mindful Education Program), a social innovation that includes fathers in maternal and neonatal healthcare management during the perinatal period. Fathers and pregnant mothers attended this class from Puskesmas Gamping 1 (Public Health Center). We provided services through two tiered classes that focus on practical learning: 1) a holistic class, which includes preparing the body, mind, and spirit for childbirth; couple prenatal yoga; deep relaxation; hypnobirthing; perineal massage; and baby massage; and 2) a postpartum supportive class, covering breastfeeding with happiness, maternal and infant care, and babywearing. This community service activity aims to enhance fathers' knowledge and skills in maternal and neonatal healthcare over the course of four meetings spread out over a month

## METHOD

### *Study design*

This study employed a community-based educational program with an equivalent time-series design. This design sought to measure skill increases following several

interventions (Creswell, 2018). Starting in mid September – mid October 2025, 15 fathers and expectant mothers participated in the 'PRIME' program, which ran four times a month. The program was presented every weekend, on Saturday afternoons, to allow fathers to attend while continuing to work.

### *Study setting*

We chose Posyandu Lestari Mulyo as our collaborator due to the participants' ongoing need for limited paternal involvement in antenatal care, which underscores the importance of interventions in maternal and neonatal health education during the perinatal phase. Classes occur at the Posyandu Lestari Mulyo site. This place is in Bantul Regency, Yogyakarta Special Region Province, roughly 12 kilometers from Yogyakarta City. Consequently, its attributes are not markedly distinct from urban settings.

### *Data collection and analysis*

We collected posttest data twice, without assessing the pretest results. Pretest scores would have made it impossible to adequately measure the skills required for maternal and neonatal treatment because the workshop/class was their first practical training. We held Holistic Class 1 in the first week of June, followed by Holistic Class 2 the next week. In the middle of the month, during the third and fourth weeks, we hosted Postpartum Support Classes 1 and 2. At the conclusion of each holistic and postpartum support class session, enumerators evaluated each participant. Puskesmas Gamping 1 (Public Health Center) midwives served as the enumerators. The skills assessment was conducted using an observational sheet and a Likert scale, with the following criteria: 1 (very poor), 2 (poor), 3 (sufficient), 4 (good), and 5 (very

good). The assessment included two components: 1. fathers' skills in holistic classes (preparing the body, mind, and spirit for childbirth; couple prenatal yoga; deep relaxation; hypnobirthing; perineal massage; and baby massage); and 2. fathers' skills in postpartum supportive classes. The data were normally distributed, so a paired t-test was applied with SPSS software. The Respati Indonesia University Health Research Ethics Committee conducted an ethical review of this work.

## RESULT AND DISCUSSION

A total of 15 fathers were involved as participants in this 'PRIME' community service, with detailed characteristics as follows:

**Table 1** Participant Characteristics

Characteristics	n(%)
<b>Age</b>	
20 – 25 y.o.	1(6,6)
26 – 30 y.o.	3(20)
31 – 35 y.o.	8(53,4)
>35 y.o.	3(20)
<b>Education</b>	
Primary	0(0)
Secondary (high school)	5(33,3)
Higher	10(66,7)
<b>Occupation</b>	
Civil servant	5(33,3)
Private employee	6(40)
Self-employed	4(26,7)
<b>Maternal parity</b>	
Primigravida	10(66,7)
Multigravida	5(33,3)
<b>Experience as a father-to-be</b>	
First time	10(66,7)
More than 1 child	5(33,3)
<b>Household income</b>	
Less than minimum wage	0(0)
Same as minimum wage	5(33,3)
Above minimum wage	10(66,7)

This community service activity is a social innovation that includes a practical learning curriculum, as outlined in the following table:

**Table 3.2** Description of skills assessment components in 'PRIME'

No.	Class type	Skills assessment components	Learning hours
1.	Holistic class	a. Preparing body, mind, and spirit for birth b. Couple prenatal yoga c. Deep relaxation and hypnobirthing d. Perineal massage e. Baby massage	5 hours x 2 meetings (first week and second week)
2.	Postpartum supportive class	a. Breastfeeding with happiness (Ayah ASI) b. Maternal and neonatal care c. Baby wearing technique	2 hours x 2 meetings (third week and fourth week)

Based on the 'PRIME' intervention,

which was carried out twice on each skill in two different types of classes (holistic class and postpartum support), a significant difference was observed, with increases of 68.96% and 45.39% following the two interventions, as detailed in **Table 2**.

**Table 2** 'PRIME' Intervention on Increasing Fathers' Skills

No.	Variable	Posttest 1		Posttest 2		p-value	Increasing percentage
		Mean±SD	Min- max	Mean±SD	Min- max		
1.	Skills in holistic class	2,61±0,176	2,4 – 2,8	4,41±0,159	4,2 – 4,6	0,000*	68,96%
2.	Skills in postpartum supportive class	2,93±0,136	2,67 – 3,0	4,26±0,338	3,67 – 4,67	0,000*	45,39%

\*) significant based on paired T-test

Based on the characteristics of the participants in this community service, the majority were over 30 years old and highly educated, and their spouses were expecting their first child. Several earlier studies have demonstrated that by this age, fathers had begun to prepare for fatherhood. The move to parenthood is one of the most significant transitions in a man's life, presenting numerous problems. Fatherhood is a long-term, dynamic process in which a father's identity is

established and solidified via various circumstances and experiences. Throughout this process, a father's identity is shaped by repeated comparisons and definitions of the mother's role. Fatherhood encompasses development, identity, personality, partnership, and family (Škvařil & Presslerová, 2024).

As of today, most initiatives in maternal and neonatal healthcare have been limited to women (Handayani et al., 2023; Rezaeizadeh et al., 2024). In this community program, fathers participate as indirect beneficiaries of perinatal healthcare. The purpose is to provide social support to fathers during the prenatal period while also increasing positive mother and newborn outcomes. This social support has had a significant impact, with all fathers attending each event. This study gives new evidence that offering support programs for new fathers is critical to their participation during the perinatal period. Such involvement has significant ramifications for fathers' well-being since they feel comfortable seeking emotional support from their partners, which can contribute to tension and even mental discomfort for fathers (Ghaleiha et al., 2022). Longitudinal data from a study revealed a link between more father participation and lower levels of maternal depression. These findings offer additional evidence for the link between father participation, child development, and maternal mental health (Maselko et al., 2019).

Father attendance was 100% consistent throughout the month, and fathers displayed better skills in holistic and postpartum support programs. The 'PRIME' lessons were held face-to-face, and all learning was practical rather than conceptual. This explains why fathers' skills increased dramatically during each of the two intervention

classes. A comprehensive analysis found that midwives regarded face-to-face antenatal education for paternal as an essential component of perinatal care preparation because it leads to positive outcomes (Palioura et al., 2023).

Integrative education programs designed specifically for fathers are critical to their effectiveness (Eggermont et al., 2017; Palioura et al., 2023). It has also been demonstrated that community-based and hands-on learning strategies may be more effective in engaging fathers than clinically based and conceptual approaches (Turan et al., 2001). Furthermore, one study found that fathers preferred midwife-led instruction in health centers. Early intervention may also improve fathers' long-term mental health (Pilkington & Rominov, 2017).

The improvement in fathers' skills observed throughout the 'PRIME' session adds to earlier research demonstrating that fathers' education has a positive impact on mother and newborn health (Gibore & Bali, 2020; Hildingsson et al., 2014; Pilkington et al., 2016). Fathers' education has a tremendous impact on their transition to fatherhood. Many modern nations, like Scandinavia, provide antenatal education programs for parents, to which 95% of fathers attend (Fletcher et al., 2006). This is not the case in underdeveloped countries like Indonesia, where involving fathers is challenging due to the related stigma (Ejie et al., 2021; Firouzan et al., 2018; Okinarum, 2025; Škvařil & Presslerová, 2024). Educating and involving men in obtaining care for themselves and their children's reproductive health issues can encourage them to engage and enhance their maternity care abilities (Palioura et al., 2023).

In addition to practical learning,

the 'PRIME' we created has several benefits, including involving healthcare professionals to provide respectful, safe, and comfortable learning and having their partners, specifically pregnant women, attend and accompany the fathers to receive comprehensive practical learning. The health workers involved offer the fathers the necessary support, ensuring that the participants do not feel misunderstood or excluded. According to the stated study, behavioral encouragement from health experts is critical for fathers' sense of security (Persson et al., 2012). The course helps fathers feel less excluded in their parenting roles. In addition, gender-aligned activities can improve pair interactions (Palioura et al., 2023).

## CONCLUSION

'PRIME' is a social initiative that educates fathers and pregnant mothers about perinatal care practices. The curriculum prioritizes the needs of fathers as participants, with learning taking place alongside healthcare professionals and a focus on concepts of respect, safety, and comfort. During four monthly workshops, all fathers participated and increased their skills in holistic and postpartum support. This study offers new promise for social support for fathers interested in maternal and neonatal healthcare by reducing traditional masculinity, which is frequently excluded from perinatal care due to cultural stigma. The future of 'PRIME' is projected to be applied in primary care, particularly in Posyandu and community health centers (Puskesmas). All levels of society require the government to provide the best social and health-care services.

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