

Original Research

Effectiveness of Couple Classes in Increasing Breastfeeding Rates and Preventing Breast Engorgement

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ABSTRACT

Background: Exclusive breastfeeding (EBF) faces significant barriers, particularly in the first 7 days postpartum, primarily due to a lack of knowledge and skills about lactation among mothers and their partners. Couple classes have been proposed as a potential solution, as they provide lactation education to both mothers and their partners from pregnancy onward. This study aimed to evaluate the effectiveness of couple classes in enhancing breastfeeding rates and preventing breast milk stagnation during the early postpartum period. **Methods:** A quasi-experimental design with a posttest control group was used, targeting third-trimester pregnant women. The sample consisted of pregnant women who met the inclusion criteria, along with their husbands, who lived together and consented to participate. Exclusion criteria included husbands who worked out of town, those who did not attend all sessions, and those who experienced emergencies during pregnancy, childbirth, or postpartum. A total of 25 participants were assigned to each group through simple random sampling. The intervention group received couple class education, which was delivered online via WhatsApp Groups, along with direct assistance within the first 7 days postpartum. This support lasted for one month. The control group received standard care according to the PMB's (Praktik Mandiri Bidan or Independent Midwife Practices) SOP (Standard operational procedure). Posttests were conducted on the seventh day postpartum. Breastfeeding rates and the occurrence of breast milk engorgement were assessed using a checklist. Statistical analysis was performed using the chi-square test to compare differences between the groups. **Results:** A significant difference in breastfeeding rates during the first 7 days was observed between the two groups ($p = 0.034$). Additionally, there was a significant difference in the prevention of breast milk engorgement ($p = 0.017$). **Conclusions:** Couple classes effectively increase breastfeeding rates and prevent breast engorgement, with online materials providing an efficient and impactful method of support.

Keywords: Couple class; breastfeeding; breast engorgement

1. INTRODUCTION

Breast milk is the most important food for infants, especially during the first six months of life. Many mothers face challenges in the early days of breastfeeding, leading to confusion and often resulting in the choice of alternative feeding methods. This can prevent infants from receiving exclusive breastfeeding (EBF). According to WHO data from 2020, only about 44% of infants aged 0-6 months worldwide were exclusively breastfed during the 2015-2020 period.

UNICEF reported that exclusive breastfeeding rates in 2020 varied globally: between 22% and 52% in Asia, 33% in the Middle East, 32% in Eastern Europe, and 26% in North America. WHO aims to increase exclusive breastfeeding rates to at least 50% by 2025 and 70% by 2030.⁽¹⁾ In Indonesia, Basic Health Research (Riskesdas) data from 2018 indicated a breastfeeding rate of 68.74%, which decreased to 61.5% in the Indonesian health profile of 2022, and 67.4% in East Java. In Magetan Regency, exclusive breastfeeding coverage was 72.22% in 2022 but dropped to 57.2% in 2023, still far below the 95% target.^(2,3)

The importance of breastfeeding is highlighted by WHO recommendations, which advocate for exclusive breastfeeding until six months of age, followed by continued breastfeeding with complementary foods until at least two years. UNICEF data shows that exclusively breastfed children are 14 times more likely to survive the first six months of life compared to non-breastfed children. Initiating breastfeeding on the first day can reduce newborn mortality risk by up to 45%. Research by Melina Mongan et al. in Kilimanjaro, Tanzania, found that exclusive breastfeeding could reduce infant mortality by 13%-15%.⁽⁴⁾ Breastfeeding provides essential nutrition, including proteins, fats, vitamins, and minerals crucial for optimal growth. It also contains antibodies that boost immunity, reducing the risk of infections such as diarrhea and pneumonia.⁽⁵⁾ Furthermore, breastfeeding supports cognitive development, which is linked to early nutrition quality.⁽⁶⁾ For mothers, breastfeeding aids postpartum recovery by stimulating oxytocin production, which promotes uterine contractions, reduces bleeding, and helps the uterus return to its original size.⁽⁷⁾ It also lowers the risk of breast and ovarian cancer. Beyond physical health, breastfeeding fosters a strong emotional bond between mother and infant, important for psychological and emotional development.⁽⁸⁾

From a public health perspective, exclusive breastfeeding reduces infant morbidity and mortality. WHO's guidelines recommend exclusive breastfeeding for the first six months and continued breastfeeding for up to two years with appropriate complementary foods. Expanding exclusive breastfeeding globally can reduce healthcare costs by lowering infant medical treatment needs and minimizing future risks of obesity and type 2 diabetes.⁽⁶⁾ Therefore, breastfeeding is not only a critical

investment in individual health but also in the overall welfare of society.

Several factors contribute to breastfeeding challenges, including maternal knowledge, infant factors, support from the husband, psychological factors, healthcare worker involvement, and socio-cultural influences. A major barrier is a lack of maternal knowledge about the benefits and techniques of breastfeeding. Insufficient education often leads mothers to opt for formula feeding. Limited access to information and healthcare support, especially in underserved areas, exacerbates this issue.⁽⁹⁻¹²⁾ Additionally, myths and misconceptions, such as the belief that breast milk production is inadequate, can discourage mothers from breastfeeding.⁽¹³⁾

Husband support plays a significant role in breastfeeding success. Mothers who receive emotional and practical support from their husbands tend to have higher self-confidence and are more committed to breastfeeding. On the other hand, a lack of support can lead to fatigue and stress, negatively impacting milk production.⁽¹⁴⁾ Inadequate support from partners is often rooted in the husband's low knowledge of the importance of breastfeeding and his role in helping mothers breastfeed. Therefore, increasing maternal knowledge and education for husbands is very important to overcome these obstacles and encourage optimal exclusive breastfeeding practices. Husband's support is support that plays a role in determining the mother's emotional state or feelings, thus affecting the smoothness of the breast milk release reflex.⁽¹⁵⁾

Several methods can be developed to empower families, one of which is empowering husbands/partners to support exclusive breastfeeding. Husbands can play an active role in supporting exclusive breastfeeding if their partners understand about exclusive breastfeeding. This understanding can be obtained, one of which is by providing education to husbands.⁽¹⁶⁾ In this study, education for husbands was in the form of couple classes.

Couple classes consist of pregnant women and their husbands, providing education on exclusive breastfeeding, common breastfeeding issues, and postpartum breast care. This study aims to analyze the effectiveness of couple classes in increasing breastfeeding rates and preventing breast engorgement. It will compare breastfeeding outcomes between the intervention group (couple classes) and the control

group, as well as assess differences in preventing breast engorgement between these groups.

2. METHODS

2.1 Study Design

This study utilized a quasi-experimental design with a posttest-only control group. The population consisted of couples with pregnant women in their third trimester and their husbands, attending the Independent Midwife Practices (Praktik Mandiri Bidan or PMB) of Santi, Widiastuti, Sri Wahyuni, and Umi Habibah from February to September 2021. The sample size was determined using a simple experimental design, with an experimental group and a control group, each comprising 25 participants.

2.2 Sampling Technique

Simple random sampling was employed to select pregnant women and their husbands who met the inclusion criteria. Participants were randomly chosen until the required sample size was reached.

2.3 Inclusion and Exclusion Criteria

The inclusion criteria for this study were: pregnant women in their third trimester and their partners, both willing to participate. The exclusion criteria included: husbands working out of town, couples who did not complete the full series of study activities, or cases where the mother or baby experienced health emergencies.

2.4 Intervention and Control Groups

The control group received standard care according to the procedures of each PMB. The intervention group participated in a couple class, an educational session for both the pregnant women and their partners. The couple class focused on exclusive breastfeeding, common breastfeeding challenges, and related care. The education was provided online via WhatsApp Groups (WAG) for one month, along with

in-person support during the first seven days postpartum. The assistance was provided by researchers and enumerators with midwife qualifications. The class was conducted online due to the ongoing COVID-19 pandemic.

2.5 Data Collection and Instrumentation

Following the intervention, a post-test was conducted to assess breastfeeding practices in the first 7 days postpartum and the occurrence of breast milk engorgement. A checklist was used to evaluate breastfeeding behavior and prevent breast milk engorgement.

2.6 Statistical Analysis

Data were analyzed using the chi-square test to compare breastfeeding behaviors and the occurrence of breast milk engorgement between the intervention and control groups.

3. RESULTS

3.1 Respondent Characteristics

The study was conducted at several Independent Midwife Practices (Praktik Mandiri Bidan or PMB) in the Magetan area, specifically PMB Widiastuti, PMB Sri Wahyuni, PMB Santi, and PMB Umi Habibah. These PMBs have similar initial characteristics regarding breastfeeding practices, with no special classes focusing on lactation. Education was provided during antenatal care (ANC) visits and postpartum visits. A total of 50 mothers participated in the study, with 25 in the intervention group and 25 in the control group. All respondents completed the entire study protocol.

The respondents' characteristics include parity, age, and education level, which are presented in the Table 1 below.

The majority of respondents were aged 26-30 years (32%), with most having completed high school (74%). Parity 1 and 2 were the most common (38% each). Both groups were homogeneous (p -value > 0.05).

Table 1. Respondent characteristics

No.	Respondent characteristics	Intervention group		Control group		Total		Homogeneity (p-value)
		F	%	F	%	F	%	
1	Age (years)							0.185
	20-25	5	20	10	40	15	30	
	26-30	12	48	4	16	16	32	

(continued on next page)

Table 1. (continued)

No.	Respondent characteristics	Intervention group		Control group		Total		Homogeneity (p-value)
		F	%	F	%	F	%	
	31-35	7	28	8	32	15	30	
	36-40	0	0	2	8	2	4	
	40-45	1	4	1	4	2	4	
2	Education							0.874
	Junior High School	1	4	2	8	3	6	
	Senior High School	19	76	18	72	37	74	
	Higher Education	5	20	5	20	10	20	
3	Parity							0.405
	P1	8	32	2	8	19	38	
	P2	11	44	18	72	19	38	
	P3	5	20	5	20	10	20	
	P4	1	4	0	0	2	4	

3.2 Effectiveness of Couple Class on Exclusive Breastfeeding

The effectiveness of the Couple Class on exclusive breastfeeding can be seen in the Table 2.

The results show a significant difference in exclusive breastfeeding (EBF) between the intervention and control groups (p-value = 0.034, < 0.05). Thus, it can be concluded that the Couple Class had a positive effect on increasing the rate of exclusive breastfeeding.

Table 2. Exclusive breastfeeding in the intervention and control groups at PMBs in Magetan

Group	Exclusive Breastfeeding (EBF)	EBF + Formula	Total (%)	p-value
Intervention	23 (92%)	2 (8%)	25 (100%)	0.034*
Control	17 (68%)	8 (32%)	25 (100%)	
Total	40 (80%)	10 (20%)	50 (100%)	

*Chi-square test

3.3 Effectiveness of Couple Class in Preventing Breast Engorgement

The effectiveness of the Couple Class in preventing breast engorgement was tested using the Chi-square test. The results are presented in the Table 3.

The results show a significant difference in the occurrence of breast engorgement between the intervention and control groups (p-value = 0.017, < 0.05). This indicates that the Couple Class was effective in preventing breast engorgement.

4. DISCUSSION

Effectiveness of Couple Class in Increasing Breastfeeding

Based on this study, it can be concluded that the Couple Class is effective in increasing breastfeeding rates. In this study, breastfeeding includes knowledge about lactation and exclusive breastfeeding (without formula) during the first seven days postpartum. One of the factors that influence successful breastfeeding is the

Table 3. Breast engorgement in the intervention and control groups at PMBs in Magetan.

Group	No Breast engorgement (%)	Breast engorgement (%)	Total	p-value
Intervention	23 (92%)	2 (8%)	25 (100%)	0.017
Control	16 (64%)	9 (36%)	25 (100%)	
Total	39 (78%)	11 (22%)	50 (100%)	

knowledge and attitude toward breastfeeding, not only of the mothers but also of their husbands. Adequate knowledge among husbands can foster a positive attitude toward breastfeeding and ultimately increase their support. Husband support is a crucial factor in the success of breastfeeding.⁽¹⁰⁾

The Couple Class employs a health promotion method using WhatsApp Group (WAG) as the core educational intervention. The WAG application is familiar to many in the community,⁽¹⁷⁾ making it a convenient medium for health education. WhatsApp allows the transmission of educational images and text. This breakthrough in social media is often used to enhance cognitive aspects of learning.⁽¹⁸⁾ Learning materials in text and image formats are easier for respondents to understand. Research by Wisnu (2020) found that the use of WAG significantly improved knowledge, attitudes, and behaviors related to exclusive breastfeeding among mothers. Pregnant women and their husbands can more easily understand the material provided, leading to an increase in their knowledge, attitudes, and behaviors regarding exclusive breastfeeding.⁽¹⁹⁾

Educational programs delivered via WhatsApp can be optimized by sending educational text messages and picture messages. Active learning is also a feature of the Couple Class. Active learning, defined as receiving, participating, and doing, is associated with higher retention rates, according to Edgar Dale's Cone of Experience.⁽²⁰⁾ This study invited participants to play an active role in learning. Several empirical studies have shown the positive impact of sending educational picture and text messages on social media to increase knowledge. The discussion feature of WhatsApp provides significant opportunities to increase learner engagement.⁽¹⁷⁾

In the Couple Class, respondents can discuss the material, which increases their knowledge and influences their attitudes. These discussions help change the husband's behavior, making him more supportive of breastfeeding. Participants can share their challenges, receiving input and alternative solutions from both the facilitator and other group members. This creates a mutually supportive environment that also positively impacts the husband's support for breastfeeding. In this study, only a few mothers did not provide exclusive breastfeeding to their babies. The main reasons for this were low breast milk production and anxiety about the baby not receiving enough milk,

leading mothers to supplement with formula milk. Failure to exclusively breastfeed can be influenced by several factors, including knowledge levels. Some people still perceive breastfeeding as the sole responsibility of the mother and her baby. In reality, breastfeeding requires interaction between the mother and the husband. This interaction often takes the form of support from the husband, which has a significant impact on the success of exclusive breastfeeding. Therefore, the support of the husband is crucial in ensuring the success of exclusive breastfeeding.

Increasing husband support through the Couple Class method can enhance the success of breastfeeding. This Couple Class is a modification of the traditional prenatal class by involving couples in each session. The goal is to change beliefs, attitudes, and motivation regarding exclusive breastfeeding, and to provide both direct and indirect experiences about breastfeeding through interactions with other members.^(11,12) Husband involvement and support can improve the mother's perceptions, motivation, emotions, and attitudes toward breastfeeding. Traditionally, husbands have considered themselves passive observers in the exclusive breastfeeding process. However, their support plays an important role in shaping the mother's attitude and behavior. The greater the support a mother receives from her husband, the higher her ability and willingness to breastfeed her baby.

The Couple Class method helps establish clear roles for both mothers and husbands to support the success of exclusive breastfeeding. By receiving information from midwives and counselors, both partners are aligned in their support for the breastfeeding process. The interaction during the Couple Class promotes positive reactions in both partners, which can be beneficial after the baby is born. The husband's role during breastfeeding helps the mother care for the baby. Breastfeeding is physically demanding for mothers, so the husband's role in looking after and caring for the child while the mother rests is essential.

Couple classes can improve the relationship between mothers and husbands, fostering mutual respect and love. During the couple class, both partners are encouraged to appreciate each other's perspectives. Differences in knowledge about exclusive breastfeeding can be addressed, leading to a unified understanding and joint decision to provide exclusive breastfeeding to their baby. This mutual respect strengthens the

relationship between the mother and father. Midwives or counselors facilitate these discussions with an open, respectful, and loving attitude, without pressuring either party.

The Effectiveness of Couple Classes in Preventing Breast Milk Engorgement

This study found that Couple Classes are effective in preventing breast milk engorgement. The incidence of breast milk engorgement was lower in the intervention group compared to the control group. In addition to ensuring adequate breast milk, this study also demonstrated that Couple Classes help prevent breast milk engorgement, a common issue for postpartum mothers. When participating in the online Couple Class, mothers and their husbands received education on preventing breast milk engorgement. Both were educated on the necessary steps to avoid this condition. During offline follow-up, mothers received assistance in performing breast care, which helped increase their confidence in managing it independently. Husbands were also trained in performing breast massages to facilitate milk flow. Education plays a crucial role in shaping maternal behavior during the postpartum period, particularly in the area of breast care. Effective education enhances mothers' understanding of the importance of breast care, which supports smooth milk production and prevents complications such as mastitis and swelling. Proper knowledge enables mothers to apply appropriate care techniques, such as breast massage, maintaining nipple hygiene, and ensuring proper breastfeeding positions, all of which support optimal lactation.⁽²¹⁾

Couple Classes can increase the role and support of husbands, motivating and boosting mothers' confidence in breastfeeding their babies regularly, preventing milk blockage. Husbands play a vital role in the success of exclusive breastfeeding, offering support to mothers and ensuring the breastfeeding process runs smoothly. The use of WAG in Couple Classes provides a key advantage: it is an effective and low-cost method compared to in-person counseling. Materials can be delivered to a wide audience at once, and the use of visual aids makes it easier for individuals with low literacy levels to comprehend the messages. Educational images increase interest and engagement in learning. Online Couple Classes are budget-friendly as they utilize familiar technology. This is in contrast to conventional counseling, where pregnant women and

their partners must gather at a location, which can be less time-efficient and more costly, particularly during the Covid-19 pandemic. The online format also minimizes the risk of Covid-19 transmission by reducing the need for in-person meetings. However, online Couple Classes are not suitable for areas with poor internet access.

5. CONCLUSION

The Couple Class is effective in increasing exclusive breastfeeding rates and preventing breast milk engorgement. It can serve as an alternative health promotion method during the COVID-19 pandemic. The activities were conducted online through WhatsApp Groups (WAG) for material delivery and discussions, with one offline counseling session for additional support. This method is both effective and efficient, as it allows mothers and their husbands to participate without needing to meet in person, thereby minimizing costs and effort. However, this method may not be suitable for areas with poor internet connectivity.

Ethics Approval

The study received ethical clearance from Health Research Ethics Committee, Poltekkes Kemenkes Surabaya with reference no. EA/493/KEPK-Poltekkes_Sby/V/2021.

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Competing Interests

All the authors declare that there are no conflicts of interest.

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Underlying Data

Derived data supporting the findings of this study are available from the corresponding author on request.

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