

The effect of the transcultural health education model based on Arja Muani art on husbands' knowledge and attitudes in supporting the success of early initiation of breastfeeding in Buleleng regency, Bali

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Abstract

A newborn's ability to independently reach the mother's nipple and latch within the first hour after birth is an important indicator that must be ensured by every birth attendant. Early Initiation of Breastfeeding (EIB) is a vital intervention for the success of exclusive breastfeeding; however, its coverage is often hindered by insufficient support from husbands. Health education is commonly delivered through conventional methods that tend to overlook cultural dimensions. This study aims to examine the effect of the Transcultural Health Education Model Based on Arja Muani Art (MEKT-AM) on improving the knowledge and attitudes of husbands of primigravida mothers regarding support for EIB. This study used a quasi-experimental design with a pretest-posttest control group. The population consisted of husbands of primigravida mothers in Buleleng Regency, Bali Province. A total of 110 respondents were selected through multistage random sampling. Data collection was conducted from February to March 2025. Participants were assigned to an intervention group (receiving MEKT-AM) or a control group (receiving standard education). Data were collected using structured questionnaires before and after the intervention. Independent t-tests or Mann-Whitney U-tests were used to compare the mean differences in knowledge and attitude changes between the two groups. The intervention group receiving MEKT-AM showed significantly greater improvement in knowledge and attitude scores than the control group. Knowledge increased by 38% in the intervention group and 28% in the control group. Independent t-test results for changes in knowledge scores showed $p = 0.001$; mean difference = -3.09 ; $t = -3.418$; 95% CI = -4.88 to -1.30 , indicating a significant difference between groups, with the intervention group scoring higher. Similarly, attitudes improved by 42% in the intervention group and 23% in the control group. Independent t-test results for changes in attitude scores showed $p = 0.000$; mean difference = -4.00 ; $t = -4.694$; 95% CI = -5.69 to -2.31 , indicating a significant difference, with the intervention group scoring higher. MEKT-AM is effective as a culturally sensitive educational strategy for improving husbands' knowledge and attitudes, making it an important tool for supporting the success of EIB implementation. MEKT-AM efektif sebagai strategi edukasi yang sensitif budaya dalam meningkatkan pengetahuan dan sikap suami, menjadikannya modal penting dalam mendukung keberhasilan pelaksanaan IMD.

Keywords: Arja Muani, Transcultural education, Husband, Knowledge, Attitude, Early Initiation of Breastfeeding (EIB)

Introduction

Early Initiation of Breastfeeding (EIB) involves placing the newborn on the mother's chest immediately after birth to stimulate the natural suckling reflex and has been proven to reduce infant morbidity and mortality (Roesli, 2012). A newborn's ability to independently reach and latch onto the mother's nipple within the first hour after birth is a critical indicator that all birth attendants must ensure (Abdulah M, et al., 2021). Given the many benefits that infants gain from EIB, the World Health Organization (WHO) recommends that EIB be implemented as an integral part of childbirth (Ministry of Health RI, 2020). However, EIB coverage—particularly in Buleleng Regency, Bali—continues to face structural and cultural challenges.

According to the 2023 Indonesian Health Profile, 77.6% of newborns received EIB (Kemenkes RI, 2020). Based on 2023 EIB coverage data from districts/cities in Bali Province published by the Family Health Division of the Bali Provincial Health Office, most regions in Bali reported higher exclusive breastfeeding coverage compared to EIB coverage. In Buleleng Regency, EIB coverage was only 42.7%, whereas exclusive breastfeeding reached 79.6%, placing Buleleng as the district with the lowest EIB coverage in the province (Bali Provincial Health Office, 2023).

A key factor influencing the success of EIB is not only the mother and healthcare providers but also strong support from the husband. Husbands' knowledge and positive attitudes help ensure a supportive environment for the mother to perform EIB. In

Balinese society, collectivist values and local wisdom strongly influence health-related behavior. Several studies indicate that cultural factors, including the influence of community and religious leaders, can affect maternal breastfeeding practices (Yunitasari, Narendra and Pradanie, 2020; Abdul Rehman et al., 2025).

Providing continuous and structured education is a primary strategy for improving exclusive breastfeeding outcomes beginning with EIB (Makela, H., et al., 2023; Lojander, J., et al., 2022). Using local art as an educational medium is believed to increase audience interest and appreciation of cultural values closely tied to the community's daily life, thereby enhancing the effectiveness and acceptance of the health messages conveyed. One local art form selected as the medium for transcultural health education to improve EIB success is *Arja Muani*, a traditional Balinese performance art.

Arja Muani—a form of Balinese traditional dance-drama performed entirely by male actors—offers a culturally meaningful communication platform rich in humor, ethics, and storytelling. Integrating health education into this art form, referred to as the Transcultural Health Education Model Based on *Arja Muani* Art (MEKT-AM), is believed to overcome communication barriers and increase the acceptance of health messages. The success of EIB often encounters cultural barriers and limited involvement from husbands, who play a decisive role within the household. Although global medical research highlights the importance of EIB—especially for achieving exclusive breastfeeding and providing colostrum rich in antibodies—such messages are often ineffective in reaching men through conventional educational approaches.

This study is grounded in the premise that effective health behavior change in culturally rooted communities requires interventions that align with local context. In Bali, the theatrical art of *Arja Muani*—unique because female roles are portrayed by male performers—holds strong cultural relevance and appeal among adult men. This model is based on the principles of Cultural Care, using culture as a vehicle to deliver health messages. This study tests the hypothesis that MEKT-AM, as an intervention rooted in local wisdom, is more effective than conventional education in improving husbands'

knowledge and attitudes regarding their role in supporting EIB.

Methods

Research design

This study used a quasi-experimental design with a pretest–posttest control group. The population included all husbands of primigravida mothers registered at primary healthcare facilities in Buleleng Regency during February–March 2025. A total of 110 respondents were selected through multistage random sampling and divided into intervention and control groups. Inclusion criteria included being the husband of a primigravida mother, willingness to participate, and residence within the study area.

The intervention group received health education on the importance of EIB and the husband's role, delivered through a short-adapted *Arja Muani* performance incorporating key health messages. The control group received standard education through lectures and counseling about EIB. The intervention consisted of two sessions, each lasting 60–90 minutes.

Knowledge was measured using a true–false questionnaire (20 items) assessing understanding of EIB benefits, implementation, and husbands' roles. Attitudes were measured with a 10-item Likert scale assessing perspectives, beliefs, and intentions to provide emotional and practical support during EIB. All instruments were tested for validity and reliability prior to use.

Data were analyzed using statistical software. Normality testing with the Kolmogorov–Smirnov test showed $p < 0.05$ for all variables, indicating non-normal distribution. Therefore, hypothesis testing for paired samples used the Wilcoxon signed-rank test at $\alpha = 0.05$. Homogeneity testing using one-way ANOVA showed $p > 0.05$, indicating the data were homogeneous.

Paired differences (pretest–posttest) within each group were analyzed using the Wilcoxon signed-rank test, showing $p = 0.000$, meaning there were significant differences in husbands' knowledge and attitudes before and after the MEKT-AM intervention.

Results

Table 1. Comparison of respondents' basic characteristics

Characteristics	Intervention Group		Control Group	
	F	(%)	F	(%)
Age				
< 20 years	2	3.64	3	5.45
20–24 years	6	10.91	7	12.73
25–29 years	15	27.27	12	21.82
30–34 years	22	40	25	45.45
35–39 years	9	16.36	8	14.55
> 39 years	1	1.82	0	0
Education				
Elementary School (SD)	0	0	0	0
Junior High School (SMP)	15	27.27	12	21.82
Senior High School (SMA)	35	63.64	39	70.91
Diploma/University	5	9.09	4	7.27
Occupation				
Civil Servant (PNS)	12	21.82	10	18.18
Private Employee	22	40	19	34.55
Entrepreneur	14	25.45	18	32.73
Freelance	7	12.73	8	14.55

Table 1 presents the basic characteristics of respondents in both the intervention and control groups. The distribution of age, education level, and occupation appears relatively comparable between the groups. Most respondents in both groups were aged 30–34 years, accounting for 40.0% in the intervention group and 45.45% in the control group. The majority had a senior high school education, with

63.64% in the intervention group and 70.91% in the control group. Regarding occupation, private employees constituted the largest subgroup in both groups, representing 40.0% of participants in the intervention group and 34.55% in the control group. These similarities indicate that the two groups were generally homogeneous in their baseline characteristics.

Table 2. Comparison of mean knowledge and attitude scores (Pretest–Posttest)

Variable	Group	Pretest (Mean ± SD)	Posttest (Mean ± SD)	Increase (Mean)	p-value (Paired)
Knowledge	Intervention (MEKT-AM)	2.07 ± 0.716	2.73 ± 0.449	0.66	0
Knowledge	Control (Standard Education)	1.89 ± 0.599	2.42 ± 0.498	0.53	0
Attitude	Intervention (MEKT-AM)	1.98 ± 0.623	2.82 ± 0.389	0.84	0
Attitude	Control (Standard Education)	1.96 ± 0.576	2.42 ± 0.498	0.46	0

Table 2 describes the comparison of mean knowledge and attitude scores between the pretest and posttest in both groups. The intervention group, which received the MEKT-AM educational model, demonstrated a greater improvement in knowledge,

increasing from a mean score of 2.07 ± 0.716 at pretest to 2.73 ± 0.449 at posttest, with a mean increase of 0.66 (p = 0.000). The control group also experienced an increase in knowledge, although to a lesser degree, rising from 1.89 ± 0.599 to 2.42 ± 0.498

with a mean increase of 0.53 ($p = 0.000$). Similarly, attitudes improved more substantially in the intervention group, increasing from 1.98 ± 0.623 to 2.82 ± 0.389 with a mean increase of 0.84 ($p = 0.000$), compared to the control group, which increased from

1.96 ± 0.576 to 2.42 ± 0.498 with a mean increase of 0.46 ($p = 0.000$). These findings indicate that MEKT-AM produced a more pronounced improvement in both knowledge and attitudes compared to standard education.

Table 3. Test of between-group differences (Posttest/Change Scores)

Variable	Statistical Test	Z-value	p-value (Independent)	Conclusion
Change in Knowledge	1.045	-3,262	0.001	Significant
Change in Attitude	907.5	-4,298	0	Significant

Table 3 summarizes the results of the independent statistical tests used to assess differences in change scores between the two groups. The analysis shows a statistically significant difference in knowledge improvement, with a Z-value of -3.262 and a p-value of 0.001, indicating that the intervention group experienced greater knowledge enhancement than the control group. A significant difference was also found in attitude improvement, with a Z-value of -4.298 and a p-value of 0.000. These results confirm that the MEKT-AM intervention had a significant positive effect on both knowledge and attitudes compared to standard educational methods.

Discussion

Transcultural health education model based on Arja Muani art

Transcultural education is an instructional approach that respects, accommodates, and utilizes local cultural values and practices in delivering health messages. Its goal is to ensure that health information is relevant, easily accepted, and does not conflict with local beliefs or cultural practices. One local cultural practice that serves both as entertainment and as a medium for conveying social or moral messages is *arja*. *Arja*, often referred to as the Balinese opera, is a dance-drama characterized by poetic dialogue (*tembang macepat*). The accompanying gamelan ensemble, known as *Gaguntangan*, produces soft and melodious tones that enhance the beauty of the songs performed by the dancers. This dance-drama is one of the most popular and widely appreciated traditional art forms in Bali (Bandem, 2014).

Since the 20th century, innovations in *arja* have emerged, including a version in which all performers

are male, known as *Arja Muani*. This form emphasizes humor (*banyolan*) in its storytelling, making the performances highly favored by audiences (Seriati, 2024). The transformation of *arja* performances occurs through aesthetic modifications, altering traditional structures and incorporating elements from other art forms. These social and cultural changes in Balinese society have given rise to *Arja Muani* as part of ongoing efforts to preserve *arja* and maintain its cultural relevance. The increased incorporation of humor also helps attract more public interest.

Receiving information through a performance adds educational value to the artistic experience. In the era of the Industrial Revolution 4.0, embedding educational content within performing arts is considered an effective way to convey positive messages to communities. As a traditional folk art in Bali, *arja* frequently includes implicit messages and educational content within its storylines, allowing audiences to absorb information almost effortlessly. Research by Ariani et al. (2021) noted that, in addition to serving as a medium for cultural preservation and entertainment, *Arja Muani* also functions as a medium for information dissemination. The Arja Muani Art Community at RRI Denpasar has used its performances to communicate various messages, including updates about Bali and other relevant information requested by event organizers, enabling audiences to easily understand the intended messages.

The art of *arja* is a unified form combining drama, dance, and music, each reinforcing the others to create a cohesive performance. *Arja* serves multiple functions: as a form of devotional offering (*ngayah*), as a tool for education and moral instruction, as a

medium for information, and as a cultural exchange resource in international artistic missions. The meanings embedded in *arja* performances include dedication (*ngayah*), balance, spirituality, prestige or local pride, and *rwa bhineda* (duality/diversity) (Sumadi et al., 2019). As a medium of public information, *arja* integrates educational messages into its storylines and comedic acts, allowing intended messages to be communicated subtly and effectively.

The effect of the transcultural health education model based on *Arja Muani* on husbands' knowledge in enhancing the success of early initiation of breastfeeding

The findings of this study reinforce the notion that culturally relevant educational media—specifically *Arja Muani*—can create stronger cognitive and emotional resonance among audiences, particularly husbands. The significant improvement in knowledge among the intervention group may be attributed to the narrative, humor, and familiar characters used in *Arja Muani*, which make health messages easier to understand and remember. Humor reduces the perceived threat associated with health information, making husbands more receptive to learning.

The model integrates key messages about Early Initiation of Breastfeeding (EIB), the importance of colostrum, the benefits of breast milk, and the husband's role in supporting breastfeeding into the *Arja Muani* storyline. This engaging, culturally grounded presentation increases openness to receiving information, particularly among men. Health information—often perceived as heavy or authoritative—is delivered through a beloved art form, reducing resistance. *Arja*, especially *Arja Muani*, holds strong appeal among adult men in Bali. Using an art form that aligns with the target audience's cultural preferences is essential for engaging husbands in maternal and infant health issues.

This health education model is inherently transcultural. It honors local cultural values, recognizing that *Arja* is an integral part of Balinese cultural identity. By positioning traditional culture as supportive of modern health practices, the model bridges potential tensions between tradition and contemporary health recommendations. Cultural dialogues within the *arja* storyline can highlight

common cultural barriers to EIB (e.g., beliefs about colostrum or pre-lacteal feeding) and present culturally respectful solutions. Through narrative and dialogue, audiences learn about the steps of EIB, the function of colostrum, and the benefits of breast milk. Thus, *Arja Muani* serves as an effective transcultural health education model that enhances husbands' knowledge and strengthens their role in supporting successful EIB.

In this study, the increase in knowledge scores among the *Arja Muani* group was significantly higher than in the control group receiving conventional education. The entertaining format, cultural language, and relatable storytelling helped male audiences better understand and retain information. The success is closely tied to the delivery of health messages through familiar and humorous dialogues, traditional songs, and casual Balinese language (often *base madya* or everyday Balinese). Complex concepts—such as skin-to-skin contact—became easier to grasp due to this approach. *Arja Muani* acts as a cognitive “decompressor,” eliminating the formal or intimidating atmosphere of conventional instruction, allowing scientific messages to be accepted without cognitive resistance.

The effect of the transcultural health education model based on *Arja Muani* on husbands' attitudes in enhancing the success of early initiation of breastfeeding

Improvements in attitudes demonstrate that MEKT-AM not only transfers knowledge but also reshapes husbands' internal values regarding their roles. Traditional performing arts can function as tools for social learning by modeling supportive behaviors within a familiar cultural context. The dramatization of supportive, caring, and proactive husbands challenges traditional stereotypes and provides behavioral examples audiences can emulate. The emotional and musical elements of the drama evoke empathy, helping husbands better understand the significance of their role and the positive impact of their support on the success of EIB. As a result, husbands shift from passive observers to supportive and proactive partners during breastfeeding.

Increased husband support is strongly correlated with higher EIB success rates in healthcare facilities. The transcultural education model using *Arja Muani*

exemplifies the effectiveness of Cultural Care strategies in health education. By utilizing *Arja Muani*, health education becomes not only a transfer of information but also a transformative cultural experience. It successfully engages husbands and significantly enhances their knowledge and attitudes in support of EIB.

This study found a significant improvement in supportive attitudes among husbands in the intervention group. The *Arja Muani* drama illustrated supportive behaviors—informational, emotional, and instrumental support—that husbands could imitate and internalize as new norms. The art form touches the affective domain (emotions and attitudes), motivating husbands to feel morally and culturally responsible for supporting their wives, beyond merely understanding the information.

The results also show that *Arja Muani* effectively bridges the gap between modern health practices (EIB) and traditional cultural beliefs. It minimizes rejection because the messages are delivered through a respected and beloved cultural medium rather than through authoritative external sources. *Arja Muani* resonates strongly with adult men in Bali—the primary target for behavior changes in EIB support. This is the core strength of the model: *Arja Muani* does not merely tell husbands what to do; it demonstrates how to embody supportive behavior. Through character modeling, conflicts (such as husbands who initially dismiss EIB or believe in outdated myths) are resolved through successful EIB practices, reinforcing new normative values.

Emotionally conveyed messages are far more effective in shaping affective commitment (attitudes) than simple data transfer. Overall, this study confirms that the *Arja Muani* model successfully addresses cultural barriers. Traditional art is used as a bridge to challenge myths—such as misconceptions about colostrum or pre-lacteal feeding—within a safe and entertaining cultural context. *Arja Muani*, performed exclusively by men, normalizes and elevates the husband's role in maternal and child health.

Conclusion

The Transcultural Health Education Model Based on *Arja Muani* Art (MEKT-AM) is significantly more effective than standard education in improving the

knowledge and attitudes of husbands of primigravida mothers regarding support for Early Initiation of Breastfeeding (EIB).

Healthcare facilities are encouraged to integrate MEKT-AM into pregnancy classes or husband-support programs, especially in culturally driven communities. Future research should evaluate the direct clinical outcomes of MEKT-AM, such as EIB implementation rates and the duration of exclusive breastfeeding in this population.

Limitations

Study limitations include design constraints and resource limitations. This study was conducted only among husbands of third-trimester primigravida mothers, limiting generalizability to the broader population. Limited resources—such as time, budget, and the number of participants—may have influenced the overall research outcomes.

Conflict of interest

The authors declare that this study was conducted without any commercial or financial relationships that could be interpreted as potential conflicts of interest.

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Author contributions

All authors contributed to the research process. The first author was actively involved in all stages of the study. The second, third, and fourth authors served as supervisors and advisors, providing input and support throughout the research process.

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