

ORIGINAL

The Influence of Fathers' Knowledge and Readiness on the Success of Early Breastfeeding Initiation Implementation Through Arja Muani-Based Health Education in Buleleng Regency, Bali

Factores de Conocimiento y Preparación del Padre en el Éxito de la Implementación de la Iniciación Temprana de la Lactancia Materna a Través de la Educación Sanitaria Basada en el Arte Arja Muani en el Distrito de Buleleng, Bali

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ABSTRACT

Introduction: early breastfeeding initiation (EBI) is the process of allowing a newborn to nurse immediately after birth, during which the baby is placed on the mother's chest to find and latch onto the nipple within the first hour of life without external assistance. The success of EBI is greatly influenced by the father's level of knowledge and readiness to support EBI, particularly with the backing of close family members. This study aims to determine the success rate of EBI implementation based on the father's knowledge and readiness through health education using the traditional Arja Muani performing arts in Buleleng Regency, Bali.

Method: this was a quantitative study using a quasi-experimental design with a post-test-only approach. A total of 60 respondents were selected using multistage random sampling based on sample size calculations. Data collection was conducted between February and March 2025 using structured questionnaires and observation sheets. Data were analyzed using SPSS software. Due to non-normal data distribution, Spearman's Rank Bivariate Correlation Test was used, followed by multiple linear regression analysis at $p < 0,05$ to assess the relationship between knowledge, readiness, and EBI success.

Results: there was a significant correlation between fathers' knowledge and readiness regarding EBI after receiving Arja Muani-based health education. Linear regression results ($r=0,600$; $R^2=0,360$; $p=0,000$) were all statistically significant.

Conclusion: there is a combined multiple correlation between the father's knowledge and readiness in supporting EBI and the successful implementation of EBI through Arja Muani-based health education.

Keywords: Fathers; Health Education; Infant; Mothers.

RESUMEN

Introducción: la iniciación temprana de la lactancia materna (ITLM) es el proceso mediante el cual se permite que un recién nacido comience a amamantar inmediatamente después del nacimiento. Durante este proceso, el bebé es colocado sobre el pecho de la madre para que, sin asistencia externa, encuentre y se prenda del pezón en la primera hora de vida. El éxito de la ITLM está fuertemente influenciado por el nivel de conocimiento y preparación de la madre para realizarla, especialmente cuando cuenta con el apoyo de familiares cercanos. Este estudio tiene como objetivo determinar el nivel de éxito en la implementación de la ITLM en función del conocimiento y la preparación de la madre, a través de una educación en salud basada en la expresión artística tradicional Arja Muani en el distrito de Buleleng, Bali.

Método: este fue un estudio cuantitativo con un diseño cuasi-experimental utilizando un enfoque de solo post-test. Se seleccionó un total de 60 participantes utilizando muestreo aleatorio por etapas múltiples, con base en cálculos del tamaño de muestra. La recolección de datos se realizó entre febrero y marzo de 2025 mediante cuestionarios estructurados y hojas de observación. Los datos fueron analizados utilizando el software SPSS. Debido a que la distribución de los datos no era normal, se aplicó la prueba de correlación bivariada de Spearman, seguida de un análisis de regresión lineal múltiple con un valor de $p < 0,05$ para evaluar la relación entre el conocimiento, la preparación y el éxito de la ITLM.

Resultados: se encontró una correlación significativa entre el conocimiento y la preparación de las madres en relación con la ITLM después de recibir la educación en salud basada en el arte Arja Muani. Resultados de la regresión lineal ($r=0,600$; $R^2=0,360$; $p=0,000$), todos estadísticamente significativos.

Conclusión: existe una correlación múltiple combinada entre el conocimiento y la preparación de la madre para realizar la ITLM y el éxito de su implementación mediante la educación sanitaria basada en el arte Arja Muani.

Palabras clave: Padres; Educación para la Salud; Recién Nacida; Madres.

INTRODUCTION

Early Breastfeeding Initiation (EBI) is a crucial step in ensuring the continuation of exclusive breastfeeding for the first six months of a newborn's life. A newborn's ability to reach and latch onto the mother's nipple independently and begin suckling within the first hour after birth is an essential indicator that every birth attendant must observe.⁽¹⁾ The policy of promoting EBI has been socialized in Indonesia since August 2007. The World Health Organization (WHO) recommends that all newborns receive colostrum—the mother's milk produced in the first and second days—to help fight infections, and to receive exclusive breastfeeding for the first six months.⁽²⁾

In Buleleng Regency, Bali, many mothers are still not prepared to initiate EBI for various reasons. One of the primary barriers is cultural beliefs and traditional practices that conflict with the principles of EBI. Culture and tradition are among the key factors that influence breastfeeding practices in Indonesia.^(3,4)

According to Indonesia's 2023 Health Profile, 77,6 % of newborns received EBI.⁽⁵⁾ However, based on 2023 EBI coverage data across regencies and municipalities in Bali Province published by the Family Health Division of the Bali Provincial Health Office, almost all areas in Bali reported higher exclusive breastfeeding rates than EBI coverage. In Buleleng Regency, EBI coverage was only 42,7 %, while exclusive breastfeeding coverage reached 79,6 %, placing Buleleng as the region with the lowest EBI coverage in the province.⁽²⁾

EBI offers numerous significant benefits for newborns. It helps mothers build confidence in breastfeeding, as babies feel comforted and secure in their mothers' arms immediately after birth. The success of EBI strongly impacts the continuation of exclusive breastfeeding—and vice versa. Therefore, minimizing the factors that hinder EBI implementation is a priority to support exclusive breastfeeding. Among these factors are culture, traditions, and beliefs.⁽⁶⁾ Several studies have found that cultural influences through community and religious leaders can shape maternal behavior in breastfeeding.^(7,8,9)

First-time mothers may have varying breastfeeding experiences depending on their readiness to breastfeed and the support they receive from spouses and families.^(10,11,12,13) Most primiparous mothers experience difficulties and discomfort when breastfeeding. Therefore, full support from husbands and families, adequate nutritional intake, and proper rest are essential for successful breastfeeding.

Adequate knowledge acquired during pregnancy—whether from healthcare workers or other sources—can serve as an important foundation to help mothers feel more prepared to initiate EBI.^(13,14,15,16,17) Maternal age, education level, occupation, pregnancy status, and consistency in attending antenatal checkups are also factors that influence a primigravida mother's readiness to perform EBI. These factors can be mitigated through appropriate education. An educational model using a structured breastfeeding module can be a solution for designing an effective learning framework (Legitimation Code Theory), to help healthcare workers educate mothers and prepare them to implement EBI during delivery.⁽¹⁸⁾

Providing consistent and continuous education is a key strategy in improving exclusive breastfeeding rates, starting from EBI.⁽¹⁹⁾ Utilizing local art forms as a medium for health education can generate greater interest and foster appreciation for local culture, which is deeply embedded in community life. This approach enhances the accessibility and acceptability of the information being delivered. The local performing art selected as the medium for transcultural health education aimed at increasing EBI success is Arja Muani, a traditional Balinese folk performance.

The Arja performance art combines drama, dance, and music in an inseparable and cohesive form of entertainment. Arja serves various functions: as a vow offering, a means of education and moral teaching for the

community, a communication tool, and a cultural exchange instrument used in art missions abroad. The values embedded in Arja include service and devotion (*ngayah*), balance, spirituality, local pride, and the concept of duality (*rwa bhineda*)—or diversity.⁽²⁰⁾ As a medium for public service announcements and information delivery, Arja performances often integrate messages and education in each scene. Through storytelling and humor, these performances convey messages in subtle and engaging ways, making them more easily accepted by the audience.⁽²¹⁾

Given the limited previous research on health education through local art forms in Buleleng Regency, this study was conducted to analyze the correlation between Arja Muani-based health education and the success of mothers in implementing Early Breastfeeding Initiation.

METHOD

Research Design, Location, and Timeline

This study is a quantitative research project utilizing a quasi-experimental design with a post-test-only structure. The research was conducted at independent midwifery practices (PMB) and public health centers (Puskesmas) serving as primary healthcare facilities within the working area of Buleleng Regency. Sampling was carried out in four selected Puskesmas regions: Banjar 2, Sawan 2, Buleleng 1, and Sukasada 1. Data collection was conducted between February and March 2025.

Population, Sample Size, and Sampling Technique

The study population consisted of all third-trimester primigravida mothers who visited primary healthcare facilities in Buleleng Regency. A total of 60 participants who met the inclusion criteria were selected using a multistage random sampling method (figure 1).

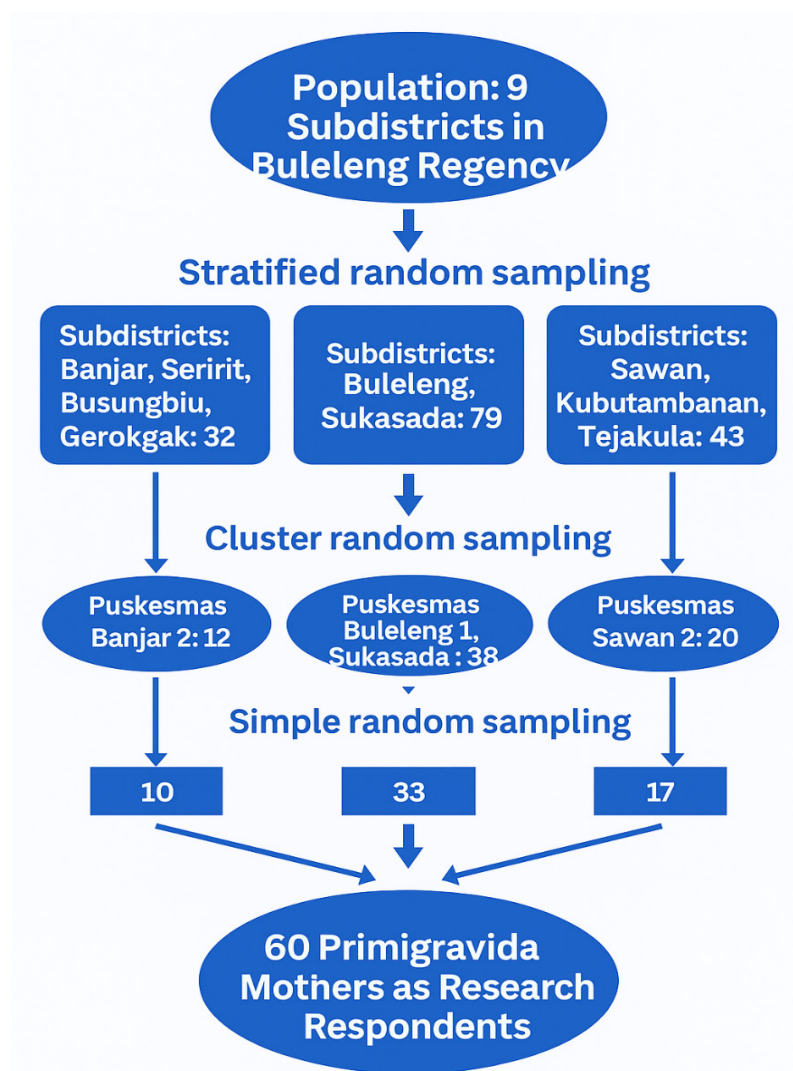


Figure 1. Sampling Procedure and Technique for Selecting Study Respondents

Data Collection Procedure

Data were collected using a structured questionnaire that had previously been tested for validity and reliability, along with an observation sheet to assess the success of Early Breastfeeding Initiation (EBI). The data collection process was assisted by enumerators who were trained by the researchers to ensure a consistent understanding of the instruments used.

Data collection took place between February and March 2025, following the acquisition of official research permits. The total number of respondents who participated in the study was 60 third-trimester primigravida mothers, based on pregnancy visit records from the four Puskesmas in Buleleng Regency: Banjar 2 (10 respondents), Buleleng 1 and Sukasada 1 (33 respondents combined), and Sawan 2 (17 respondents).

The intervention involved health education delivered through a traditional Balinese performing art known as Arja Muani, presented in video format. Respondents who agreed to participate in the study were added to a WhatsApp group and had previously been briefed on the research objectives. The first session was conducted in person, during which respondents received educational materials on EBI, followed by a discussion and Q&A session.

For the following two weeks, educational Arja Muani videos were shared via the WhatsApp group every Tuesday and Friday at 7:00 PM local time (WITA). During the second in-person meeting, held in the fourth week, a reinforcement session was conducted to further explain the EBI material. Observations on the success of EBI implementation were conducted by the enumerators using the provided observation sheet.

Data Analysis

Hypothesis testing in this study was conducted using bivariate correlation analysis through Spearman's Rank Test, as the data were not normally distributed. The null hypothesis (H_0) was rejected if the p-value was less than 0,05. The correlation strength was interpreted based on Spearman's rank guidelines ranging from 0,00 to 1,00.

Further analysis to test the multiple correlation between the two independent variables and the dependent variable was conducted using ANOVA-based linear regression analysis with a significance level of $p < 0,05$.

Ethical Considerations

Ethical approval was obtained from the Health Research Ethics Commission, under approval number 3754-KEPK. The study adhered to ethical principles, ensuring voluntary participation, informed consent, confidentiality of data, and the right to withdraw from the study during data collection.

RESULTS

Respondent Distribution Based on Maternal Factors

As shown in Table 1, a total of 60 third-trimester primigravida mothers participated in the study. Most respondents were between 20-35 years of age (68,3 %). Regarding education, most had completed senior high school (63,3 %). The most common occupation was housewife (41,7 %). Most respondents had made at least three antenatal care visits during pregnancy (71,7 %).

Characteristic	f	(%)
Mother's Age		
< 20 years	11	18,3
20-35 years	41	68,3
> 35 years	8	13,3
Education Level		
Elementary School	0	0,0
Junior High School	15	25,0
Senior High School	38	63,3
College/University	7	11,7
Occupation		
Civil Servant	4	6,7
Private Employee	17	28,3
Entrepreneur	14	23,3
Housewife	25	41,7
Antenatal Visits		
< 3 visits	17	28,3
≥ 3 visits	43	71,7

Respondent Distribution Based on Husband Factors

As shown in table 2, 60 husbands of primigravida mothers participated in the study. Most were aged 26-35 years (73,3 %), and the majority had completed senior high school (76,7 %). The most common occupation was entrepreneur (51,7 %).

Table 2. Frequency Distribution of Respondents Based on Husbands' Characteristics

Characteristic	f	(%)
Husband's Age		
17-25 years	3	5,0
26-35 years	44	73,3
36-45 years	13	21,7
46-65 years	0	0,0
Education Level		
Elementary School	0	0,0
Junior High School	0	0,0
Senior High School	46	76,7
College/University	14	23,3
Occupation		
Civil Servant	4	6,7
Private Employee	21	35,0
Entrepreneur	31	51,7
Casual Laborer	4	6,7

Respondents' Knowledge and Readiness of EBI Before and After Intervention

Table 3 shows an increase in respondents' knowledge of Early Breastfeeding Initiation (EBI) after receiving health education through the *Arja Muani* performing art. After the intervention, 80 % of respondents demonstrated good knowledge. In addition, a total of 73,3 % of respondents were categorized as ready to perform EBI after receiving health education through *Arja Muani*.

Table 3. Respondents' Knowledge and Readiness of EBI Before and After the Intervention

Knowledge Level	Before		After	
	n	%	n	%
Poor	16	26,7	0	0,0
Fair	38	63,3	12	20,0
Good	6	10,0	48	80,0
Total	60	100	60	100
Readiness Level				
Poor	32	53,3	0	0,0
Fair	28	46,7	16	26,7
Ready	0	0,0	44	73,3
Total	60	100	60	100

Multiple Correlation Analysis

The ANOVA-based multiple correlation analysis using SPSS produced a p-value of 0,000, with $r=0,600$ and $R^2=0,360$. This indicates a strong combined correlation between maternal knowledge and readiness with successful EBI implementation. It also shows that 36 % of the success in EBI can be attributed to these two factors.

Table 4. Multiple Correlation Analysis of Maternal Knowledge and Readiness with EBI Success After *Arja Muani* Health Education

Model	R	R ²	Adj. R ²	Std. Error	R ² Change	F Change	df1	df2	Sig. F Change
1	0,600	0,360	0,338	0,227	0,360	16,053	2	57	0,000

DISCUSSION

This study underscores the critical influence of maternal knowledge and readiness on the success of Early

Breastfeeding Initiation (EBI), especially when health education is delivered through culturally tailored methods such as the Arja Muani performing arts. These findings are consistent with earlier research affirming the predictive role of maternal knowledge and psychological readiness in early breastfeeding initiation.⁽²²⁾ The integration of local culture into health promotion not only respects community values but also increases message retention and behavioral acceptance.^(23,24)

After receiving Arja Muani-based health education, there was a significant improvement in both maternal knowledge and readiness. Before the intervention, many participants demonstrated only fair knowledge and limited readiness. However, post-intervention data showed that 80 % of mothers reached a good knowledge level, and 73,3 % were fully ready to perform EBI. This change aligns with previous studies that link culturally grounded health education with improved maternal engagement and breastfeeding outcomes.⁽¹⁷⁾

The use of Arja Muani—a traditional Balinese performance that combines drama, music, and dance—provided an emotionally resonant and accessible way to communicate health messages. Health education through entertainment, often termed “edutainment,” has been shown to increase knowledge retention and positively influence behavior.⁽²⁵⁾ The participatory nature and local context of Arja Muani likely contributed to higher motivation and confidence among mothers to initiate breastfeeding.

This study adds to the growing body of literature that supports the use of culturally embedded educational tools in public health. Local arts such as Arja Muani do more than entertain; they serve as powerful mediums for informal education and social change. When integrated into maternal health promotion, they not only enhance engagement but also improve outcomes by aligning health behavior with cultural identity.

CONCLUSIONS

This study demonstrates that culturally adapted health education using the traditional Balinese performing art *Arja Muani* can effectively improve maternal knowledge and readiness for Early Breastfeeding Initiation (EBI). The intervention led to enhanced understanding and preparedness among mothers, with clear positive associations between knowledge, readiness, and successful EBI. While the study was limited by its focus on a specific population, use of a quasi-experimental design, potential response bias, and a short intervention period, it highlights the potential of integrating cultural elements into health education. These findings suggest that traditional performance arts can be powerful tools to promote maternal and neonatal health, and future research should explore their broader application and long-term impact across diverse cultural settings.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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