Contribution of Emotional, and Physical Support of Fathers in Exclusive Breastfeeding

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DOI: 10.24252/al-sihah.v16i2.52931

Received: 3 December 2024 / In Reviewed: 9 December 2024 / Accepted: 27 December 2024 / Available online: 31 December 2024 ©The Authors 2024. This is an open access article under the CC BY-NC-SA 4.0 license

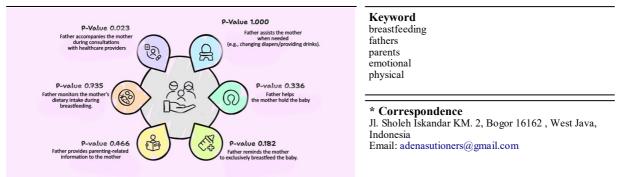
ABSTRACT

Exclusive breastfeeding coverage in Bogor Regency remains low, affecting infant growth and development during the first six months of life. Paternal support, as a key determinant, has been insufficiently explored. This study assessed the types of support fathers provide to breastfeeding mothers. Exclusive breastfeeding is a critical effort to support the optimal growth and development of infants during the first 6 months of life. Nevertheless, exclusive breastfeeding coverage continues to be insufficient in certain regions, including Bogor Regency. This study aimed to analyze the relationship between paternal support and the success of exclusive breastfeeding. The study employed a quantitative design with a cross-sectional approach, involving 221 parent pairs selected through purposive sampling. Data were collected using a structured questionnaire that assessed various forms of paternal support, including physical, emotional, and educational assistance. The data were analyzed using chi-square tests to determine the statistical associations. The results revealed that instrumental support—such as helping to change diapers and holding the baby—was not significantly associated with exclusive breastfeeding practices (p > 0.05). Conversely, paternal support in the form of accompanying mothers during consultations with health workers demonstrated a significant association with exclusive breastfeeding success (p = 0.023 < 0.05) This study confirms the critical role of educative and emotional support from fathers in promoting exclusive breastfeeding success. The findings highlight the strategic role of fathers in promoting exclusive breastfeeding success. The findings highlight the strategic role of fathers in promoting exclusive breastfeeding success. The findings highlight the strategic role of fathers in promoting exclusive breastfeeding success. The findings highlight the strategic role of fathers in promoting exclusive breastfeeding and support the development of family-based interventions to increase its cove

ABSTRAK

Cakupan ASI eksklusif di Kabupaten Bogor masih rendah, memengaruhi tumbuh kembang bayi dalam 6 bulan pertama. Dukungan ayah, sebagai salah satu faktor penentu, masih terbatas dikaji. Penelitian ini bertujuan untuk menganalisis hubungan antara dukungan ayah dengan keberhasilan pemberian ASI eksklusif. Penelitian menggunakan desain kuantitatif dengan pendekatan cross-sectional dan melibatkan 221 pasangan orang tua sebagai sampel yang dipilih secara purposive sampling. Data dikumpulkan melahui kuesioner terstruktur yang mencakup berbagai bentuk dukungan ayah, seperti bantuan fisik, emosional, edukatif, serta dianalisis menggunakan chi-square. Hasil penelitian menunjukkan bahwa sebagian besar bentuk dukungan instrumental, seperti membanti mengganti popok dan menggendong bayi, tidak berhubungan secara signifikan dengan praktik ASI eksklusif (p>0.05). sebaliknya, dukungan ayah berupa pendampingan ibu saat konsultasi dengan petugas kesehatan menunjukkan hubungan signifikan dengan keberhasilan ASI eksklusif (0.023 < 0.05). penelitian im menggankan dengan keberhasilan ASI eksklusif (0.023 < 0.05). penelitian im mengungan intervensi berbagai bartuk dukungan at konsultasi dengan petugas kesehatan menunjukkan hubungan signifikan dengan keberhasilan ASI eksklusif (0.023 < 0.05). penelitian im mengungan intervensi berbagai bartus dukungan at an mendukung promosi ASI eksklusif dan mendukung pengembangan intervensi berbasis keluarga untuk meningkatkan cakupannya.

GRAPHICAL ABSTRACT



INTRODUCTION

Exclusive breastfeeding for the first six months of an infant's life has been proven to provide numerous health benefits, including enhanced immunity, reduced risk of infections, and support for cognitive and emotional development (Wallenborn et al., 2021). Breast milk contains essential nutrients and natural antibodies necessary for optimal infant growth (Sharma et al., 2023). However, international health organizations have set ambitious targets for exclusive breastfeeding rates in several countries, including low- and middle-income nations such as Indonesia. It is hypothesized that paternal support is a critical component in the success of exclusive breastfeeding (Krikitrat et al., 2023). To encourage mothers to remain consistent in exclusive breastfeeding, emotional, physical, and informational support from fathers is considered essential (Pakilaran et al., 2022). However, understanding of the types and impacts of paternal support remains limited, necessitating further research.

UNICEF (2023) reports that approximately 44% of infants worldwide receive exclusive breastfeeding during the first six months of life. While this represents an improvement over previous years, it remains significantly below the 70% target set by the World Health Organization (WHO) for 2030. In Indonesia, the 2022 Demographic and Health Survey (SDKI) reported that only 68% of infants received exclusive breastfeeding, highlighting the gap that needs to be addressed to meet both national and international targets. These findings underscore the need for a deeper understanding of the factors that promote exclusive breastfeeding, with a particular emphasis on the pivotal role of paternal support (World Health Organization, 2024). According to Ogbo et al. (2020), paternal support can help mothers overcome challenges associated with exclusive breastfeeding, such as social pressure and stress related to infant care.

Previous research conducted by Riaz et al. (2022) in Pakistan revealed that family support, a lack of awareness about breastfeeding techniques, and maternal dietary patterns are linked to exclusive breastfeeding practices. Similarly, Panahi et al. (2022) found that paternal involvement in exclusive breastfeeding correlates with higher maternal satisfaction and contributes to longer breastfeeding durations. Fletcher et al. (2023) demonstrated that paternal emotional support can help breastfeeding mothers manage depression and anxiety through supportive actions such as assisting with household chores, caring for the baby, listening to the mother, and managing family relationships. Studies in Finland and the United Kingdom indicate that social support directly influences parenting practices and breastfeeding outcomes (Swanson & Hannula, 2022). Prior research highlights that family support, particularly from fathers, enhances maternal motivation for exclusive breastfeeding (Sinaga et al., 2023). Moreover, research by Yanti & Damayanti (2021) revealed that effective paternal support includes assisting with household tasks and providing emotional support to reduce maternal stress. This study investigates the role of paternal support in exclusive breastfeeding, particularly within the socio-cultural context of Indonesia. However, disparities exist in research regarding the most effective forms of paternal support and how fathers' interactions with mothers and infants influence the success of exclusive breastfeeding.

Several studies have identified the crucial role of fathers in exclusive breastfeeding success (Demotigny et al., 2018; Krikitrat et al., 2022; Ng et al., 2019; Pereira et al., 2024), but most current research primarily focuses on mothers as the main subjects. Research on the role of fathers and effective strategies to support them remains limited (Panahi et al., 2022). More targeted studies are needed to identify methods for enhancing fathers' participation and understanding of exclusive breastfeeding support, especially across diverse cultural contexts. This research aims to identify the role of paternal support in exclusive breastfeeding in Indonesia, determine the most effective forms of paternal support in encouraging exclusive breastfeeding, and examine its impact on maternal adherence to exclusive breastfeeding during the first six months of an infant's life. This study is expected to provide a deeper understanding of the critical role fathers play in fostering optimal infant development.

METHODS

This study utilized a quantitative research design with a cross-sectional approach to examine the relationship between paternal support and the success of exclusive breastfeeding. This method enabled the researchers to measure relevant variables at a single point in time, providing an accurate snapshot of the relationship between paternal support and exclusive breastfeeding behaviors within a specific timeframe. The research was conducted in Bogor Regency, an area with a diverse population and varying socio-economic conditions, making it a relevant setting for exploring variations in paternal support for exclusive breastfeeding. The study was carried out in July 2023 with the aim of gathering data that reflects the current situation in the region regarding paternal support for exclusive breastfeeding.

The research subjects were mothers with infants aged 7-12 months residing in Bogor Regency. Since health guidelines recommend exclusive breastfeeding for the first six months of an infant's life, this group was identified as the most relevant target population for the study. Recognizing that the variable of paternal support requires a nuanced understanding of sensitive family dynamics, the study setting was designed to allow mothers to provide candid responses about paternal support. The study involved all eligible mothers residing in Bogor Regency during the research period and meeting the inclusion criteria of having infants aged 7–12 months. To ensure the participation of respondents aligned with the study objectives, purposive sampling was employed to select 221 respondents. This technique enabled researchers to choose subjects based on predetermined criteria.

The study was informed by a comprehensive review of health textbooks, academic journals, and previous research findings on factors influencing exclusive breastfeeding success, particularly the role of fathers within the family. In addition, trusted and recognized online sources in the field of public health were used as supplementary references.

The research instrument consisted of a structured questionnaire adapted from internationally published articles and modified to measure paternal support for exclusive breastfeeding. The questionnaire also included items assessing the success of exclusive breastfeeding among infants aged 7-12 months. The validity and reliability of the instrument were tested prior to use to ensure it accurately measured the intended variables. Data collected were processed using statistical software, and a chi-square test was conducted to analyze the data. This test examined the relationship bevariables: tween two paternal support (independent variable) and exclusive breastfeeding success (dependent variable).

To provide a clear depiction of the findings, the study presented the analysis results in both narrative and tabular formats. To ensure that all research procedures adhered to ethical standards and safeguarded the rights and well-being of participants, ethical approval was obtained from the Health Research Ethics Committee of STRADA Indonesia Institute of Health Sciences under approval number 3846/KEPK/VI/2023.

RESULTS

Table 1 presents the majority of fathers had higher education levels, comprising 80.5%, compared to those with lower education levels, which accounted for 19.5%. Similarly, most mothers also had higher education levels (66.1%) compared to those with lower education levels (33.9%). Furthermore, the majority of fathers were not employed as formal employees (52.9%) compared to those working as

Characteristics	Frequency	Percentage		
Father's Education				
Low Education	43	19.5		
High Education	178	80.5		
Mother's Education				
Low Education	75	33.9		
High Education	146	66.1		
Father's Occupation				
Employee	104	47.1		
Non-Employee	117	52.9		
Mother's Occupation				
Homemaker	24	10.9		
Employed	197	89.1		

Table 1

employees (47.1%). In contrast, most mothers were employed (89.1%), while a smaller proportion were unemployed or homemakers (10.9%).

Table 2 illustrates infants who were not exclusively breastfed were associated with fathers who exhibited low levels of behavior in assisting their wives when needed (30.3%), which was slightly lower compared to fathers with high levels of supportive behavior (30.4%). Analysis results yielded a p-value of 1.000, indicating no significant relationship between fathers' low levels of assistance and exclusive breastfeeding practices.

Infants who did not receive exclusive breastfeeding were more likely to have fathers with low levels of behavior in helping to hold the baby (35.4%) compared to those with fathers demonstrating high levels of behavior in this regard (28.2%). The analysis showed a pvalue of 0.336, indicating no significant relationship between fathers' low levels of assistance in holding the baby and exclusive breastfeeding practices.

For infants who did not receive exclusive breastfeeding, fathers with low levels of behavior in informing mothers to breastfeed exclusively for infants aged 0-6 months accounted for 32.9%, which was higher than fathers with high levels of such behavior (22.8%). The analysis showed a p-value of 0.182, indicating no significant relationship between fathers'

behavior in encouraging exclusive breastfeeding and exclusive breastfeeding practices.

Infants who did not receive exclusive breastfeeding were associated with fathers exhibiting low levels of behavior in informing mothers about parenting approaches (31.6%), compared to fathers with high levels of behavior in this area (25.0%). The analysis revealed a pvalue of 0.466, indicating no significant relationship between fathers' behavior in informing mothers about parenting approaches and exclusive breastfeeding practices.

For infants who did not receive exclusive breastfeeding, fathers with low levels of behavior in paying attention to mothers' dietary intake during breastfeeding accounted for 32.7%, compared to fathers with high levels of behavior (29.5%). The analysis showed a pvalue of 0.735, indicating no significant relationship between fathers' behavior in monitoring mothers' dietary intake and exclusive breastfeeding practices.

In contrast, infants who were not exclusively breastfed were significantly associated with fathers who exhibited low levels of behavior in accompanying mothers to consultations with healthcare workers (39.8%) compared to fathers demonstrating high levels of such behavior (24.6%). The analysis yielded a p-value of 0.023, indicating a significant relationship between fathers' behavior in accompanying mothers to consultations and exclusive breast-

Table 2

Father's support for exclusive breastfeeding

Variables	Exclusive Breastfeeding		Not Exclusive Breastfeeding		Total	P-Value	OR
	n	%	n	%			
Father Assists Mother When Needed (e.g., Changing Diapers/Providing Drinks)							
Low	33	30.3	76	69.7	109	1.000	0.996
High	34	30.4	78	69.9	112		(0.561-1.768)
Father Assists Mother in Holding the Baby							
Low	23	35.4	42	64.6	65	0.336	1.398 (0.752-2.582)
High	44	28.2	112	71.8	156		
Father Provides Parenting Information to Mother to Infant Aged 0-6 months							
Low	54	32.9	110	67.1	164	0.182	1.662
High	13	22.8	44	77.2	57		(0.826-3.343)
Father Provides Parenting Information to Mother							
Low	56	31.6	121	68.4	177	0.466	1.388
High	11	25	33	75	44		(0.654-2.946)
Father Monitors Mother's Dietary Intake During Breastfeeding							
Low	18	32.7	37	67.3	55	0.735	1.162
High	49	29.5	117	70.5	166		(0.604-2.235)
Father Accompanies Mother During Consultations with Healthcare Providers							
Low	33	39.8	50	60.2	83	0.023	2.019
High	34	24.6	104	75.4	138		(1.124-3.627)

Note: : n = respondent; % = percentage; OR (CI) = odd ratio (confidence interval 95%)

feeding practices. The odds ratio (OR) of 2.019 suggests that fathers with low levels of behavior in accompanying mothers to healthcare consultations were 2.019 times more likely to contribute to the failure of exclusive breastfeeding.

DISCUSSION

The results of this study indicate that several forms of paternal support for breastfeeding mothers do not show a significant relationship with the success of exclusive breastfeeding, except for fathers accompanying mothers during consultations with healthcare providers. These findings enhance understanding of the specific roles fathers play in supporting exclusive breastfeeding. The results also align with previous studies highlighting the importance of paternal support in improving breastfeeding success (Baldwin et al., 2021; Gebremariam et al., 2024).

Fathers Assisting Mothers When Needed

This form of instrumental support is intended to reduce the physical burden on mothers during the breastfeeding period by helping with practical tasks such as changing diapers or providing drinks. However, this study found that such practical assistance is not significantly associated with exclusive breastfeeding success. This finding aligns with a study by Gianni et al. (2020), which observed that emotional and educational support is more critical for mothers in achieving exclusive breastfeeding than instrumental support. While practical assistance can ease the mother's workload, decisions about exclusive breastfeeding are not directly influenced by such support (Abekah-Nkrumah et al., 2020). More personal and emotional support has a greater impact on enhancing mothers' self-efficacy in providing exclusive breastfeeding, as proposed

in the theory of social support (Mercan & Selcuk, 2021).

Fathers Assisting Mothers in Holding the Baby

Helping mothers hold the baby is another form of instrumental support that is not directly related to exclusive breastfeeding success. Although assisting in holding the baby may reduce mothers' physical burden, emotional support and communication about the benefits of exclusive breastfeeding have a stronger influence on mothers' commitment to breastfeeding (Ogbo et al., 2020; Vulpen et al., 2021). One of the primary physical challenges faced by mothers during the postpartum period is providing continuous care and attention to the baby, particularly during the early months. Fathers can alleviate this burden by helping with tasks like holding the baby, allowing mothers to rest, feel comfortable, and focus on breastfeeding. Reducing physical strain enables mothers to engage in exclusive breastfeeding more freely (Islami et al., 2021; Dogan et al., 2023; Tobback et al., 2017).

Fathers Encouraging Mothers to Exclusively Breastfeed Infants Aged 0–6 Months

The findings reveal that fathers reminding mothers to exclusively breastfeed is a form of support; however, this action does not correlate significantly with exclusive breastfeeding success. A study by Ouyang & Nasrin (2021) found that fathers are more effective in encouraging exclusive breastfeeding when they engage emotionally and provide verbal encouragement rather than simply offering recommendations. This indicates that merely giving advice without substantive support and understanding may hinder exclusive breastfeeding success (Mukembo, 2021). Fathers' involvement is critical from psychological, social, and educational perspectives in ensuring infants aged 0-6 months receive exclusive breastfeeding. Fathers can assist by encouraging, offering practical help, and supporting mothers' decisions to breastfeed exclusively (Yanti & Damayanti, 2021). According to the Theory of Planned Behavior (TPB), attitudes, subjective norms, and perceived behavioral control influence mothers' intentions to breastfeed. In this context, subjective norms reflect the role of fathers, who often influence mothers' decisions regarding exclusive breastfeeding (Ouyang & Nasrin, 2021).

Fathers Providing Parenting-Related Information to Mothers

Fathers who provide parenting-related information to mothers appear not to influence exclusive breastfeeding success significantly. However, fathers' roles in sharing parenting knowledge are vital in supporting mothers in exclusive breastfeeding. Fathers can enhance mothers' knowledge about the benefits of exclusive breastfeeding by sharing information, providing motivation, and creating a conducive environment (Ouyang & Nasrin, 2021). Paternal knowledge about exclusive breastfeeding acts as a significant supporting factor in mothers' decisions to breastfeed exclusively for the first six months of the infant's life. Increasingly, paternal involvement in childcare is recognized as critical to child development and maternal wellbeing (Yanti & Damayanti, 2021; Agrawal et al., 2022). Fathers' active participation, such as advising mothers, fostering co-parenting dynamics, and assisting mothers in making childcare decisions, contributes to the success of exclusive breastfeeding (Sinaga et al., 2023). Theoretical models, such as the Parenting Process Model, emphasize the relationship between parental characteristics, child needs, and family dynamics. These models highlight the importance of both parents actively sharing responsibilities, including parenting knowledge (Marchetti et al., 2020; Fang et al., 2024).

Fathers Monitoring Mothers' Dietary Intake During Breastfeeding

Monitoring mothers' dietary intake is a form of instrumental support linked to maternal health; however, this study found that it does not significantly affect exclusive breastfeeding success. Other findings indicate that paternal involvement in supporting breastfeeding mothers enhances breastfeeding self-efficacy and prolongs the duration of exclusive breastfeeding. While ensuring adequate maternal nutrition is essential, its primary impact is on mothers' physical health rather than their decisions to breastfeed exclusively (Putri et al., 2023). Fathers can help ensure that mothers receive adequate nutrition to support the production of high-quality breast milk. A breastfeeding mother's diet should include additional calories, protein, healthy fats, vitamins, and minerals. Consuming a balanced diet enables mothers to produce breast milk that meets their baby's needs. Besides ensuring nutritious meals, fathers can encourage mothers to stay hydrated, rest adequately, and avoid foods that may affect milk quality, such as processed foods or those high in trans fats. Psychological factors, such as stress, can influence milk production; meeting mothers' daily needs, including planning meals, can alleviate their burdens (Mukembo, 2021).

Fathers Accompanying Mothers During Consultations with Healthcare Providers

The findings of this study demonstrate a significant relationship between exclusive breastfeeding success and fathers accompanying mothers during consultations with healthcare providers. This aligns with research by Eksadela et al. (2021), which indicated that mothers receiving family support, including from fathers, are more likely to practice exclusive breastfeeding compared to those with limited support. Paternal involvement enhances breastfeeding success by providing encouragement, sharing responsibilities, and accompanying mothers to health consultations. Thus, the role of fathers in supporting mothers during healthcare consultations is critical to the success of exclusive breastfeeding.

According to social cognitive theory, paternal involvement in educational processes

alongside mothers increases both parents' knowledge and understanding. This shared learning strengthens mothers' commitment to exclusive breastfeeding. Furthermore, the presence of fathers during these interactions enhances awareness of their crucial role in supporting exclusive breastfeeding, underscoring the effectiveness of emotional and educational support over instrumental support (Panahi et al., 2020; Sinaga et al., 2023). Fathers' presence provides emotional reinforcement and boosts mothers' confidence in overcoming breastfeeding challenges. This support includes accompanying mothers to consultations, discussing infant care needs with healthcare providers, and helping mothers comprehend the information provided (Ogbo et al., 2020; Mukembo, 2021).

These findings advance public health knowledge by emphasizing the importance of fathers offering emotional and educational support in achieving exclusive breastfeeding. Therefore, this study highlights the need for deeper paternal involvement, both in practical terms and in health-related interactions and decision-making processes. This suggests that public health programs supporting exclusive breastfeeding should explicitly include fathers as targets for intervention, particularly through education about the benefits of exclusive breastfeeding and optimal breastfeeding practices.

According to social support theory, emotional support significantly influences maternal health behaviors, which in turn enhance maternal resilience against breastfeeding challenges (Qin et al., 2024; Ahmadinezhad et al., 2024). Consequently, this study provides a new perspective for developing broader public health approaches that engage fathers as active supporters in the breastfeeding process.

A major strength of this study lies in its specific focus on evaluating the various types of support fathers provide to breastfeeding mothers, offering a nuanced understanding of the most effective forms of support for exclusive breastfeeding. Within the literature on family support in maternal and child health, this approach stands out, as much previous research has concentrated primarily on the mother's role without considering the contributions of fathers (Ayton et al., 2024). Compared to longitudinal methods, the cross-sectional design enabled the collection of a wide range of data within a shorter timeframe and at a lower cost.

However, the study has some limitations. First, the cross-sectional design captures relationships between variables at a single point in time, preventing conclusions about causality between exclusive breastfeeding success and types of paternal support. Additionally, the study was conducted solely in Bogor Regency, which may have socio-cultural characteristics distinct from other regions, limiting the generalizability of the findings. For future research, a longitudinal approach could be adopted to investigate the long-term effects of paternal support on exclusive breastfeeding success. Employing an intervention design to enhance fathers' knowledge and involvement in maternal health education may also prove effective, as previous studies have shown that fathers' participation in educational programs increases their engagement in breastfeeding practices.

CONCLUSIONS

This study found that instrumental support, such as helping mothers change diapers, hold babies, or provide instructions on parenting, is not significantly associated with exclusive breastfeeding success. Conversely, fathers' involvement in educational aspects, particularly when accompanying mothers during consultations with healthcare providers, is significantly associated with exclusive breastfeeding success. These findings indicate that fathers can better support exclusive breastfeeding by offering emotional and educational support, which provides mothers with confidence and motivation during the breastfeeding process. Future studies should consider additional variables, such as socio-cultural factors and extended family support, as these factors also influence exclusive breastfeeding success across different communities. By doing so, research outcomes can become more comprehensive and contribute to public health programs specifically designed to support families in practicing exclusive breastfeeding.

ACKNOWLEDGEMENT

The authors would like to thank the community and local authorities who have been willing to conduct this research and provide permission.

FUNDING

The authors received no specific funding for this study.

AUTHORS' CONTRIBUTIONS

Ade S. Nasution designed the study, formulated the concept, collected data, and revised the manuscript. Devia L. Putri designed the study, formulated the concept, and analyzed the data. Ida Nuraida designed the study and formulated the concept. All authors, including Yayuk S. Rahayu, Ida F. Handayani, Galuh P. Yanuaringsih wrote, reviewed, and approved the final manuscript

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COMPETING INTERESTS

The authors confirm that all of the text, figures, and tables in the submitted manuscript work are original work created by the authors and that there are no competing professional, financial, or personal interests from other parties.

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