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ORIGINAL RESEARCH

Father Support, Postpartum Depression, and Breastfeeding Weaning Time: A Structural Equational Model

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Abstract

Background: Fathers are crucial to family well-being and beyond during pregnancy and childbirth. However, research on the long-term effects of father involvement during prenatal and its postpartum outcome, particularly in Indonesia, is limited.
Purpose: This study aimed to measure the direct and indirect effects of father support throughout pregnancy on postpartum depression and breastfeeding weaning time, by considering potential mediating pathways and controlling for relevant sociodemographic variables.
Methods: Prospective observational techniques were employed from January to July 2021, involving 648 consecutively selected mothers attending antenatal care in seven health clinics in Makassar. Data collection included sociodemographic factors, father support, and breastfeeding weaning time. Father support was assessed using the Father Support During Pregnancy questionnaire, administered three times at a 72-hour interval. Postpartum depression was measured using the Edinburgh Postnatal Depression Scale while breastfeeding weaning time was quantified in weeks. The analysis included Spearman's correlation and SEM using SPSS and SPSS Amos.
Result: The study identified negative correlations between maternal breastfeeding weaning time and postpartum depression ($r=-0.183$, $p<0.01$) and positive correlations with father support ($r=0.148$, $p<0.01$), parity ($r=-0.269$, $p<0.01$), and marital age ($r=0.187$, $p<0.01$). The standardized model showed a marginal rise in the overall influence of father support, parity, and marital age on breastfeeding weaning time (0.256, 0.016, and 0.123, respectively). Father support emerged as the primary contributor to postpartum depression, inversely impacting breastfeeding duration. Higher father support correlated with lower maternal depression scores and longer.
Conclusion: This study highlights the role of father support in reducing impact of postpartum depression on breastfeeding duration. Future research should incorporate objective measures of father support and comprehensive assessments of confounding variables. Intervention studies are needed to evaluate promoting father involvement in prenatal, delivery, and postpartum care. Nurses can contribute by participating in interdisciplinary research and advocating for comprehensive assessment approaches.

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1. Introduction

The significance of fathers within familial dynamics transcends mere financial provision, encapsulating a profound influence on the holistic health and development of both mothers and infants. Fathers, assuming multifaceted roles as leaders and guardians, exert a pivotal impact on the character and functioning of the family unit (Henry et al., 2020). This pivotal role is underscored by empirical investigations conducted by Wilson and Prior (2011) and Boyce et al. (2006), illuminating a spectrum of positive outcomes associated with father engagement in childcare. These outcomes span from tangible enhancements in children's cognitive faculties, such as intelligence levels, to intangible facets encompassing mental well-being, interpersonal adeptness, logistical acumen, and self-efficacy. Fathers who actively participate in prenatal care,

childbirth education classes, and discussions about birth plans contribute to a more positive birth experience for mothers (Lima et al., 2021).

Emotional support from fathers during pregnancy is associated with lower levels of maternal stress and anxiety, which may have a beneficial impact on maternal mental health during pregnancy (Chauhan & Potdar, 2022). A reported cohort study among 7,047 low-income African-American births showed that lack of perceived involvement during pregnancy from fathers was a significant predictor for preterm birth (Surkan et al., 2019). Fathers' presence during childbirth benefits the father, mother, and newborn and enhances their bond (Greenhill & Vollmer, 2019; Henry et al., 2020). Only a few fathers expressed confusion about their role in the delivery room. They generally feel pleasure rather than helplessness or trauma when witnessing their partner giving birth (Vischer et al., 2020). Although fathers do not undergo physiological transformations like mothers during the perinatal period (Martínez-García et al., 2021), their journey toward parenthood is marked by profound psychological metamorphosis, especially in the context of first-time fatherhood (Onyeze-Joe & Godin, 2020; Vismara et al., 2016).

During postpartum, primiparous mothers commonly encounter notable pressures, starting with physical recovery, sleep deprivation from breastfeeding, and demanding adaptation to motherhood (Asadi et al., 2020). In this period, fathers play an important role in supporting the mother's recovery, caring for the newborn, and household responsibilities (Negron et al., 2013; Qi et al., 2022; Xue et al., 2018). Their involvement in tasks such as changing diapers and soothing the baby can reduce maternal stress and fatigue, thereby improving the mother's mental well-being (Battle et al., 2021; Poh et al., 2014). Mothers commonly anticipate and value emotional, instrumental, and evaluative support during their breastfeeding journey, viewing these forms of support as essential components for their overall well-being and breastfeeding success (Negron et al., 2013; Syam & Musni, 2022).

Breastfeeding on the other hand, plays a crucial role not only in infant nutrition but also in maternal mental health throughout the postpartum period, including the weaning phase. While both mental health and breastfeeding physiology can influence each other (Scarborough et al., 2022), it is generally understood that poor maternal mental health can negatively impact the breastfeeding process more than the other way around (Figueiredo & Conde, 2011; Syam, Iskandar, et al., 2021). When a mother experiences mental health challenges such as anxiety, depression, or stress, it can interfere with her ability to breastfeed effectively, including shortening the breastfeeding duration (Bascom & Napolitano, 2016; Ystrom, 2012). Breastfeeding cessation or weaning may also be initiated by personal choice or external factors such as return to work or medical reasons (Gianni et al., 2019). The weaning process can be physically uncomfortable for both mother and baby, as breasts may become engorged and tender when milk production decreases. These physical discomforts can exacerbate emotional distress and may contribute to feelings of frustration or guilt if the weaning process does not progress as anticipated (Ayton et al., 2019). Additionally, the shift away from breastfeeding may coincide with changes in sleep patterns and routines, further impacting maternal stress levels (Dennis & Ross, 2005; Perrella et al., 2022). A supportive partner can help alleviate maternal stress and anxiety, promote a positive breastfeeding environment, and enhance maternal confidence and well-being.

Despite increasing recognition of the important role of father involvement in the perinatal course, empirical investigations of the long-term impact of father involvement, particularly in the Indonesian context, are still rare. Therefore, this study aimed to measure the direct and indirect effects of father support throughout pregnancy on postpartum depression and breastfeeding weaning time, by considering potential mediating pathways and controlling for relevant sociodemographic variables. By elucidating the relationship between father support, postpartum depression, and breastfeeding weaning time, this study aims to provide a nuanced understanding of the catalytic role fathers play in shaping maternal and infant health outcomes.

2. Methods

2.1. Research design

The present study was carried out utilizing prospective cohort observational techniques during the recruitment period spanning from January to July 2021. The subsequent investigation sought to elucidate the impact of father support throughout the stages from pregnancy to breastfeeding on the incidence of postpartum depression and the duration of breastfeeding cessation.

2.2. Setting and samples

The present study focuses on a cohort of mothers recruited from seven Public Health Centers in Makassar, South Sulawesi, Indonesia. Initial data indicate that the average monthly attendance for antenatal care appointments at one primary health care clinic is 128. Utilizing a 5% margin of error and a 95% confidence interval with a 50% response distribution, the sample size estimation necessitated approximately 97 participants from each location, totaling 679 minimum targeted pregnant women (Bujang, 2021). A total of 727 people met the criteria for a healthy singleton pregnancy, and were willing to follow up until the weaning period. Mothers were selected using a consecutive sampling method at antenatal visits during the late trimester period. However, during the follow-up period, there were several sample drop-outs; until the end of the study, there were 648 remaining respondents. This number was 4.5% lower than the anticipated target. Nonetheless, it is deemed that this modest shortfall in the target sample size did not exert a significant impact on the subsequent analysis. Further elucidation of the sampling enrollment is provided in Figure 1.

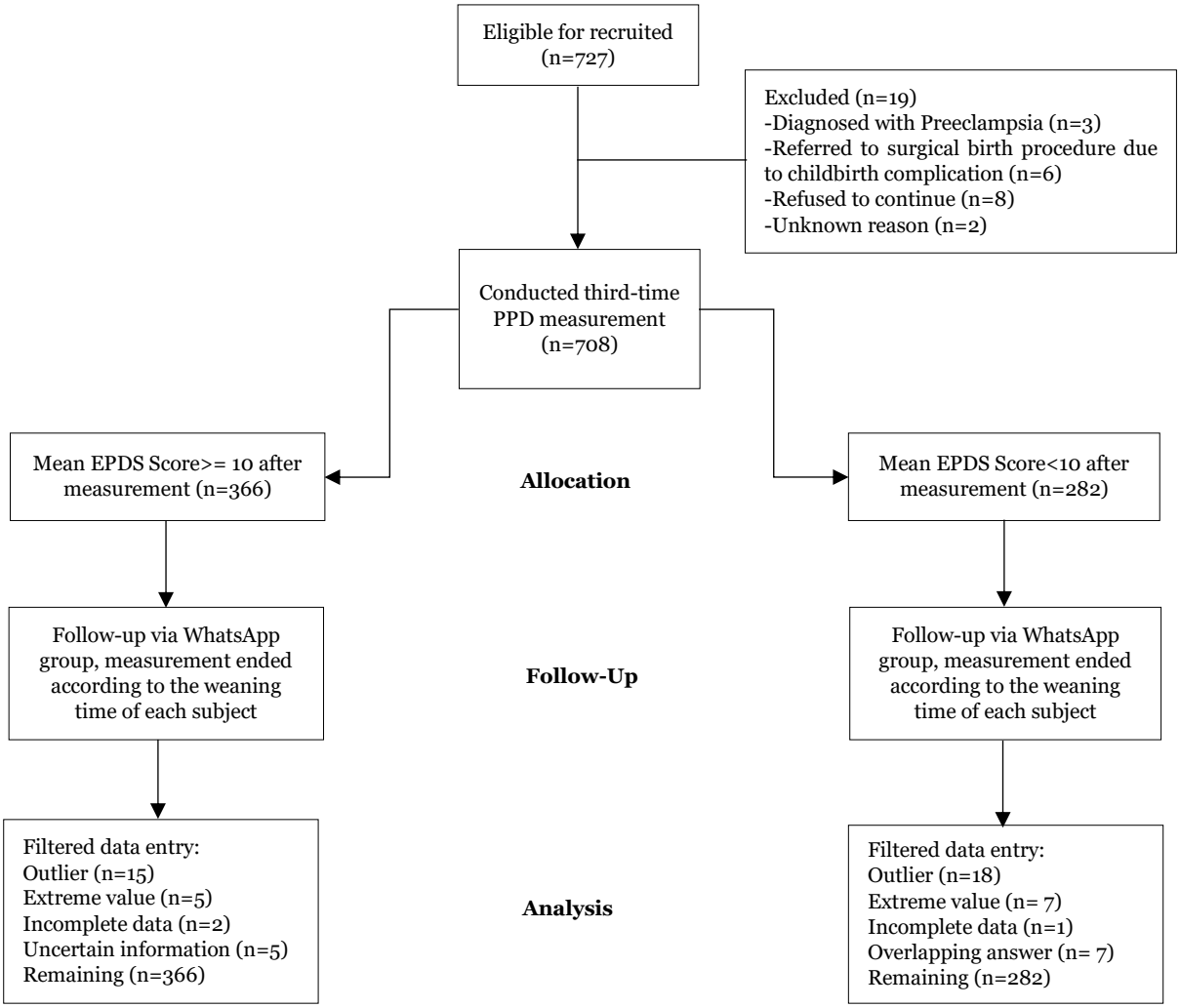

Figure 1. Sampling enrollment

2.3. Measurement and data collection

All participants were directed to adhere meticulously to various observational and interview protocols concerning sociodemographics, including parity, marital age, father support, and weaning time (the cessation of breastfeeding). The assessment of father support was conducted using the same instrument employed in a prior investigation and was administered three times with a 72-hour interval to ensure the reliability of maternal responses. Notwithstanding the

instrument's established validity, it is acknowledged that maternal responses may be subject to significant influence from variations in emotional attachment to their partners. Thus, periodic and recurrent assessments were implemented to attenuate potential scrutiny. Father support was evaluated utilizing the Father Support During Pregnancy (FSDP) questionnaire, previously validated in our antecedent research endeavours (Syam & Musni, 2022). This tool was originally developed in the Indonesian language, derived from social support theory perspectives, and consist of four dimensions of support. It comprises 10 inquiries concerning the types of support fathers offer mothers throughout pregnancy and breastfeeding, utilizing a rating scale ranging from always to never, where a higher score indicates better support. Furthermore, the EPDS, or Edinburgh Postnatal Depression Scale, was used to assess the presence and severity of postnatal depression in mothers. It consists of 10 questions that focus on various aspects of mood, such as feelings of sadness, anxiety, and guilt, as well as physical symptoms like sleep disturbances and appetite changes. Each item is scored on a scale ranging from 0 to 3, with higher scores indicating greater levels of depressive symptoms. The EPDS has been tested for its stability and consistency in the Indonesian language (Meltzer-Brody et al., 2013; Syam, Qasim, et al., 2021). The weaning time was quantified in terms of weeks from the first day the mother ceased breastfeeding.

2.4. Data analysis

A Spearman's correlation analysis was performed using SPSS (Version 25.0) to investigate the association between the variable and the measured outcome. The hypothesis was tested using SPSS Amos Modulus 24.0 in the SEM analysis. The analysis phase initiated with examining the uniformity and correlation of sociodemographic factors with the three primary variables: father support, postpartum depression, and the duration of weaning time. Any sociodemographic variables found to have significant correlations with any of the three main variables would be included in the model analysis. The study utilized Structural Equation Modelling (SEM) to investigate the predictive relationships among various factors, including direct and indirect factors, on father support, postpartum depression, and breastfeeding weaning time. The SEM demonstrated a high degree of compatibility, as evidenced by the following indices: The study reported that the model fit indices met the recommended thresholds, including a Comparative Fit Index (CFI) greater than 0.90, a Tucker Lewis Index (TLI) greater than 0.90, a Goodness of Fit Index (GFI) greater than 0.90, and a Normed Fit Index (NFI) greater than 0.90. Additionally, the model had a Root Mean Square Error of Approximation (RMSEA) less than 0.05 and a $\chi 2/df$ less than 3 with a p-value greater than 0.05 (Weston & Gore, 2006). The findings from the analysis were displayed in the form of a frequency distribution table and depicted in a structural equational model scheme.

2.5. Ethical considerations

Mothers expressing willingness to participate were provided with a concise overview of the study's aims, objectives, and the sequence of measurements to be conducted. Following this explanation, mothers were requested to sign the consent form, with their husbands serving as witnesses during the informed consent process. All the study procedures were approved by the Ethics Committee of Sekolah Tinggi Ilmu Kesehatan Nani Hasanuddin Makassar with a reference number 674/STIKES-NH/KEPK/VI/2021.

3. Results

3.1. Characteristics of the respondents

Table 1 shows that out of the 648 mothers who completed the study, most were within the healthy range of reproductive age. Despite the high population density of the urban municipality in South Sulawesi Province, Indonesia, a significant proportion of individuals, approximately one-third, still fall into marriage during early adolescence, which spans from 14 to 19 years of age. Over 50% of the mothers in our sample possess undergraduate degrees and come from households with a combined income that falls below the regional minimum wage of IDR 3 billion. This observation potentially indicates their capacity to secure a personal dwelling, as it reveals that over 50% of mothers resided in leased accommodations and cohabited with multiple family members. Upon conducting the third measurement of depression symptoms, this study determined that the prevalence of maternal depression symptoms exceeded 50%, while the rate of exclusive breastfeeding remained below 50%.

Table 1. Subject characteristics (n=648)

Subject Characteristics	Frequency (f)	Percentage (%)
Mothers Age (years)		
20 – 35	521	80.4
< 20 / > 35	127	19.6
Marital age (years)		
≥ 20	442	68.2
< 20	206	31.8
Educational Background		
Undergraduates	419	64.7
Post/Graduates	229	35.3
Occupations		
Household mothers	371	57.3
Working mothers	277	42.7
Parity		
Primipara	286	44.1
Multipara	362	55.9
Family Income		
≥ Regional minimum wage	195	30.1
< Regional minimum wage	453	69.9
Residency		
Rent	408	63.0
Own	240	37.0
Family Form		
Extended	443	68.4
Nuclear	205	31.6
Depression Symptom		
EPDS<10	282	43.5
EPDS≥10	366	56.5
Breastfeeding Term		
Exclusive	290	44.8
Other	358	55.2

3.2. The correlation between father support, marital age, parity, postpartum depression, and breastfeeding weaning time

The marital age and parity variables exhibited intercorrelation with the primary variables, prompting their inclusion in the SEM model for comprehensive causality analysis. Table 2 indicates a significant correlation (p<0.01) among all variables included in the model. The study found a statistically significant relationship between parity and weaning time with postpartum depression and marital age (p<0.05), with the exception of postpartum depression and marital age. The study found that there was a negative correlation between the weaning time of mothers and postpartum depression (r=-0.183, p<0.01). Additionally, the weaning time was positively correlated with father support (r=0.148, p<0.01), parity (r=-0.269, p<0.01), and marital age (r=0.187, p<0.01). Suggesting those with older marital age, multiple children, higher father support, and lower scores of postpartum depression symptoms were more likely to be correlated with prolonged weaning time.

Table 2. Spearman's correlation coefficient of marital age, parity, father support, postpartum depression, and breastfeeding weaning time

	Mean	SD	1	2	3	4	5
Marital age (1)	21.1	3.8	1				
Parity (2)	2.0	1.2	-0.086	1			
Father support (3)	33.3	7.8	0.103**	0.054**	1		
PPD (4)	10.0	4.7	-0.059	-0.204*	-0.205**	1	
Weaning time (5)	18.8	14.7	0.187**	0.269**	0.148**	-0.183**	1

Note:
**p<0.01; *p<0.05; 1) Marital age; 2) parity; 3) Father support; 4) Popstpartum Depression; 5) Breastfeeding Weaning time

Figure 2 presents the final structural equation model, which forecasts the interdependence among variables such as weaning time in breastfeeding mothers, postpartum depression, father support, parity, and marital age. The statistical analysis revealed that the final model demonstrated a satisfactory fit, as evidenced by the X2/df value of 21.278, a p-value of 0.05, an RMSEA value of 0.177, a GFI value of 0.987, a CFI value of 0.849, and an NFI value of 0.853. The present investigation has yielded supplementary results that demonstrate the model's identification of the standardized direct impact of father support, parity, and age of marriage on postpartum depression as B=-0.192, -0.122, and -0.05, respectively. As per the research findings, the standardized direct impacts of father support, age at marriage, and postpartum depression on the duration of weaning were determined to be B = 0.23, 0.116, and -0.129, respectively. The present research shows the standardized indirect impacts of father support, parity, and age at marriage on weaning, which are B = 0.025, 0.016, and 0.006, respectively. The present study's findings indicate a marginal rise in the overall influence of father support, parity, and age of marriage on the cessation of breastfeeding. The regression coefficients for the aforementioned variables are correspondingly 0.256, 0.016, and 0.123.

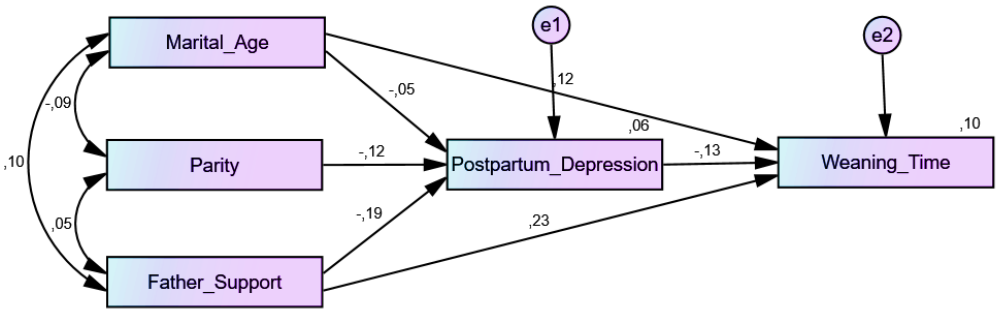

Figure 2. The structural equational model of marital age, parity, father support, postpartum depression and breastfeeding weaning time

The study's results suggest that there is a significant relationship between father support and weaning time, which is mediated by postpartum depression. The study found that father support was a significant predictor of overall impact rate, demonstrating a noteworthy improvement compared to other examined predictors. It could be posited that 25% of the decisions made during the weaning process are impacted by the degree of support provided by the father in addressing the mother's postpartum depression.

4. Discussion

This study aimed to measure the direct and indirect effects of father support throughout pregnancy on postpartum depression and breastfeeding weaning time by considering potential mediating pathways and controlling for relevant sociodemographic variables. The present study is a noteworthy contribution to the literature, as it features a substantial sample size and focuses on the context of Indonesia. According to the research, father support is the primary contributing factor to postpartum depression and has an indirect impact on the duration of breastfeeding. The study reveals that there exists an inverse correlation between the level of support provided by fathers and the incidence of postpartum depression. This inverse association serves as a protective factor, wherein a higher score of support provided by the father results in a lower mean score of potential depression in the mother. Mothers who are able to fulfil their social needs during pregnancy and the postpartum period are more likely to prevent the onset of depression. The present study validates several prior research discoveries (Duan et al., 2020; Karande & Perkar, 2012; Rempel et al., 2017; Xue et al., 2018), specifically that father participation in pregnancy and childcare amplifies the spectrum of favourable consequences for both maternal and infant well-being. Breastfeeding performance is enhanced, maternal anxiety is reduced, milk production is increased, depression onset is prevented, and the long-term quality of life of the child is improved. This present study explores the potential impact of father mediation on reducing anxiety and

depression, thereby promoting favourable breastfeeding outcomes (longer breastfeeding duration).

The model, as mentioned earlier, posits that premature cessation of breastfeeding is closely linked to postpartum depression. The pathophysiological mechanism of depression disrupts the endocrine control of lactation, leading to impaired responsiveness of lactation signalling pathways. Additionally, depression exerts an adverse impact on the immunological constituents of breast milk. These findings have been extensively deliberated in various meta-analytical and literature review studies (Dias & Figueiredo, 2015; Lee & Kelleher, 2016; Szpunar & Parry, 2017). The aforementioned are empirical observations that have been collectively agreed upon by professionals in the field. To achieve a substantial influence on the therapeutic level of an individual, it is imperative to seek hormone-based interventions that can alter the intracellular mechanism's pathway (Napso et al., 2018; Seth et al., 2016). Regarding issues related to breastfeeding, it is necessary to adopt a more comprehensive approach that takes into account the moderating influence of mothers rather than relying solely on individual therapy (Rivi et al., 2020). The provision of comprehensive solutions aimed at extending lactation duration among mothers necessitates the involvement of the community. The process of lactation is known to induce hormonal changes that have a protective effect against long-term depression. This is due to its regulation of various factors such as sleep patterns, emotional stability, and maternal self-esteem. It is of greater significance to provide assistance to mothers in sustaining lactation, as it can serve as a safeguard against the unfavourable consequences of depression in the future. The proposed model can potentially serve as a basis for community intervention by engaging fathers as a primary support system for expectant and lactating mothers within the community. Public health-based interventions (da Silva et al., 2016; Nabulsi et al., 2014) have been found to be a comparatively efficacious approach in achieving a wide-ranging impact, as opposed to individual therapies. The findings of our study also indicate that parity has a counteractive effect on postpartum depression. This suggests that mothers who have previously given birth possess knowledge about the obstacles they may encounter, have higher expectations regarding breastfeeding, and are better equipped to confront the challenges of lactation. Additionally, it imparts knowledge to individuals regarding their previous shortcomings and strategies for enhancing their breastfeeding proficiency in the long run. These findings might be the result of present investigation reports that the mean duration of weaning time for the entire sample was 18 to 19 weeks, with a predominant representation of multiple offspring.

The present study confirms the positive role of fathers during pregnancy towards postpartum depression. This is consistent with prior research (Syam & Musni, 2022), indicating that promoting regular and transparent communication between fathers and mothers could be a viable approach to addressing postpartum depression. The importance of father engagement in promoting maternal welfare is heightened by the fact that other family members have been preoccupied with the newborn. During the period of gestation and breastfeeding, it is crucial for the maternal figure to remain cognizant of her social requirements across four distinct dimensions, which include emotional, instrumental, informational, and assessment needs. In specific areas of Indonesia, involving the father in all aspects of antenatal, intra-natal, and postnatal care presents a unique difficulty. The aforementioned phenomenon can be attributed to cultural norms that strongly associate the responsibility of childbearing with the mother, potentially leading to her difficulty in expressing her emotional exhaustion (Borra et al., 2015). The societal expectations and norms surrounding the assessment of motherhood often lead to the suppression of female voices. The occurrence of frequent complaints from a mother may be considered atypical, as many mothers and even grandmothers (da Silva et al., 2016; Houghtaling et al., 2018; Negin et al., 2016) take pride in their capacity to independently manage and nurture a substantial number of children, with the father being solely responsible for providing financial support. The existence of a barrier to communication can give rise to a setting that nurtures the emergence and continuity of symptoms of depression. Therefore, it is crucial to improve the communication between partners during pregnancy to overcome language barriers. The current investigation posits that the assessment of father support is a subjective construct, as indicated by the accounts provided by both the maternal figure and the researcher. The father figure held the belief that he had met the maternal figure's social expectations through both verbal and nonverbal means despite the possibility of the maternal figure's anticipated standards differing from his own (deMontigny et al., 2018; Gebregzabiherher et al., 2017). Therefore, it is essential to

overcome the language barrier in communication during antenatal care (Hansen et al., 2018). Incorporating the father into antenatal consultations and counselling sessions can serve as an initial assessment to gauge the readiness of both partners to assume parental responsibilities, while also mitigating their own apprehension towards childbirth (Philpott et al., 2019; Vismara et al., 2016). Furthermore, the research findings indicate an inverse association between postpartum depression and the duration of breastfeeding. Specifically, a higher score on the postpartum depression scale is associated with a shorter period of breastfeeding initiation by the mother. The contention surrounding the issue has been resolved, as evidenced by our prior research, which has established that postpartum depression poses a significant obstacle to successful breastfeeding (Syam, Iskandar, et al., 2021). It is imperative to highlight that the indirect impact of father support extends the duration of the weaning period of an infant.

In the present study, marital age has a direct impact on postpartum depression and has a modest indirect impact on the decision to wean. These findings also support our previous report that examines the significant role of marital age on depressive symptoms (Syam et al., 2022). The topic of early marriage and its potential impact on breastfeeding in the later stages of life has been a subject of debate. From a normative standpoint, early marriage presents a significant challenge to the successful practice of lactation and childcare. However, the assumption that early marriage has a uniformly negative impact on minors and child care warrants careful consideration. The provision of social support during pregnancy has the potential to serve as a preventive factor for adolescent mothers. Possessing a support system that distinguishes between one's spouse and family members is highly advantageous. In Indonesia, it is common for young couples to reside with their parents. This living arrangement can offer support to young mothers through the presence of grandmothers. However, it can also present challenges, such as potential conflicts arising from the granddaughter's desire for independent decision-making (da Silva et al., 2016; Mossman et al., 2008).

5. Implications and limitations

This study highlighted several implications, specifically in nursing, as nurses can play a pivotal role in promoting father involvement in antenatal, intra-natal, and postpartum care. Educating expectant fathers about the importance of their support in preventing postpartum depression and enhancing breastfeeding outcomes can lead to more comprehensive care for mothers and infants. Nursing professionals need to be aware of and sensitive to cultural norms surrounding childbirth and parenting practices, particularly in regions like Indonesia, where societal expectations may hinder effective communication and support between partners. By fostering open dialogue and challenging traditional gender roles, nurses can facilitate improved communication and support within families. Nurses are well-positioned to identify signs of postpartum depression early on and provide appropriate interventions. By recognizing the inverse relationship between postpartum depression and breastfeeding duration, nurses can advocate for comprehensive support systems that address maternal mental health alongside breastfeeding support. The study underscores the importance of taking a holistic approach to maternal and infant care, considering not only physical health but also social and emotional well-being. Nurses can advocate for integrated care models that address the complex interplay between father support, maternal mental health, and breastfeeding outcomes.

Nonetheless, this study is also subject to certain limitations. It primarily relies on maternal reports of father support, potentially introducing bias or inaccuracies stemming from individual perceptions or experiences. Additionally, the study may not have comprehensively addressed all potential confounding variables that could influence the relationship between father support, postpartum depression, and breastfeeding outcomes, including socioeconomic status or maternal mental health history.

6. Conclusion

The present study offers reliable models that examine the interrelationships among parity, age of marriage, father support, postpartum depression, and duration of breastfeeding. Father involvement during the prenatal period up until the establishment of breastfeeding has been identified as a crucial factor in mitigating the impact of postpartum depression on the duration of breastfeeding. It is imperative to include the father in all stages of antenatal care, including intra-natal and postnatal care, in order to augment the father's involvement in childcare. Therefore,

future studies could incorporate objective measures of father support, such as direct observations or partner reports, to complement maternal self-reports and enhance the validity of findings. Researchers should strive to include a more comprehensive assessment of potential confounding variables, such as socioeconomic status and maternal mental health history, to better understand their influence on the association between father support, postpartum depression, and breastfeeding outcomes. Intervention studies could be implemented to assess the effectiveness of interventions aimed at promoting father involvement in prenatal, delivery, and postpartum care and their impact on maternal mental health and breastfeeding success. Nurses can contribute to advancing knowledge in this area by participating in interdisciplinary research teams and advocating for comprehensive assessment approaches.

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Author contribution

II conceptualized and designed the research, collected and analyzed the data, and drafted the manuscript. AS contributed to the conceptualization and design of the study, supervised the data analysis, and critically revised the manuscript for important intellectual content. Both authors are contributing equally and approved the final version of the manuscript for submission.

Conflict of interest

The authors declare no conflicts of interest.

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