



FACTORS ASSOCIATED WITH THE INDEPENDENCE OF POSTPARTUM MOTHERS IN MEETING SELF-CARE NEEDS

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ABSTRACT

Postpartum mothers' independence in meeting self-care needs is an important indicator of maternal recovery and well-being. This study aimed to analyze the factors related to the level of independence among postpartum mothers in fulfilling self-care needs. A cross-sectional design was conducted in the Delima Ward of RSD Kertosono from January to May 2023, involving 91 postpartum mothers selected through purposive sampling. Data were collected using a structured questionnaire adapted from Nursalam (2020), which covered aspects of nutrition, activity, personal hygiene, perineal care, breast care, and elimination. Bivariate analysis was performed using the Chi-Square test to examine the relationship between independent variables (age, birth order, type of delivery, education, and information sources) and independence. The results showed that the majority of respondents were aged 25-35 years (42.9%) and primiparous (47.3%). Nearly half were categorized as dependent (47.3%), 34.1% needed assistance, and only 18.7% were independent. Type of delivery demonstrated the strongest association with independence ($p=0.000$; $r=0.549$), followed by education level ($r=0.499$) and information sources ($r=0.449$). Mothers who had spontaneous deliveries and higher education levels exhibited greater independence. In conclusion, type of delivery, education level, and information sources were identified as the dominant factors influencing postpartum mothers' independence.

Keywords: maternal self-care; postpartum independence; postpartum mothers

How to cite (in APA style)

Astutik, P. (2026). Factors Associated with the Independence of Postpartum Mothers in Meeting Self-Care Needs. *Indonesian Journal of Global Health Research*, 8(1), 539–548. <https://doi.org/10.37287/ijghr.v8i1.219>.

INTRODUCTION

The postpartum period is a crucial stage in the female reproductive cycle, characterized by complex physiological, psychological, and social changes (Schwartz & Ketner Villa, 2025). During this phase, mothers are required to adapt to postnatal conditions while simultaneously assuming the new role of primary caregiver for their infants. Independence in fulfilling self-care needs during the puerperal period is a critical determinant for optimal recovery and the prevention of maternal complications (Astutik & Erni Dwi Sabarini, 2024). Self-care is defined as an individual's ability to independently perform self-care activities to maintain health and well-being (Choi, 2023). However, previous studies showed that many postpartum mothers had not achieved an optimal level of independence, as they often felt unprepared to face the postnatal period (Sendas & Freitas, 2024). Limited self-care ability was frequently associated with delayed recovery, an increased risk of puerperal infection, and psychological disturbances (Ghiasvand et al., 2017; Rose et al., 2024). This phenomenon underscores the importance of addressing postpartum mothers' independence in self-care as a critical concern.

Research findings indicated that 65.1% of maternal deaths occurred during the postpartum period (Tsfay et al., 2022). A similar condition is observed globally, where reports continue to show a high incidence of postpartum complications influenced by limited knowledge, skills, and support available to mothers after childbirth (Corrigan et al., 2015; Tessema et al., 2023). This issue is further reflected in epidemiological data, where recent reports indicate that maternal mortality in Indonesia remains far from the Sustainable Development Goals (SDG) target (Suparji, 2024). In 2020, the maternal mortality ratio (MMR) in Indonesia was 177, meaning 177 maternal deaths per 100,000 live births (Soltani et al., 2020). This figure places Indonesia as the third highest in

Southeast Asia, after Myanmar (250) and Laos (185). Globally, Indonesia ranks 66th out of 183 countries with available maternal mortality data (Salihi & Attouche, 2023). The high mortality rate is largely attributable to complications occurring during the postpartum period, including postpartum hemorrhage, which affects approximately 8.7% of deliveries (Fukami et al., 2019). Another source reported the prevalence of postpartum complications as 37/263 (14.1%), with 67.6% experiencing postpartum hemorrhage (PPH), 13.5% perineal tears, and 10.8% cervical lacerations (Namutebi et al., 2024). These findings demonstrate that the puerperal period is highly vulnerable to a range of serious complications.

During the puerperal period, mothers face physiological challenges such as bleeding, pain, and fatigue, which often limit their ability to perform self-care (Azlina, 2021; Bryant et al., 2023). In addition, psychological changes, including anxiety, mood swings, and postpartum depression, also affect mothers' motivation and readiness to meet their basic needs (Coates et al., 2014). Social and environmental factors, such as limited family support, inadequate access to reliable health information, and the prevailing culture of dependence on others, further exacerbate this condition (Adams et al., 2023; Reid & Taylor, 2015). When these barriers remain unaddressed, mothers are at risk of experiencing serious complications, ranging from delayed recovery and increased morbidity to contributing to the high maternal mortality rate (Tessema et al., 2023). The impact is not only experienced by the mother but also affects the quality of infant care, emotional bonding, and the overall health of the family.

Therefore, comprehensive efforts are needed to enhance postpartum mothers' independence in meeting their self-care needs. One strategy is to identify the factors associated with the level of independence, thereby enabling more targeted interventions (Tengo et al., 2025). Factors such as age, birth order, type of delivery, education level, and sources of information require further investigation to determine their contribution to maternal independence. With a better understanding of these factors, healthcare providers can design effective educational programs, counseling, and support interventions to strengthen postpartum mothers' independence, ultimately contributing to the reduction of maternal morbidity and mortality. This study aimed to analyze the factors related to the level of independence among postpartum mothers in fulfilling self-care needs.

METHOD

This study employed a quantitative approach with a cross-sectional design to examine the relationship between various independent variables such as age, birth order, type of delivery, education level, and sources of information and the dependent variable, namely the level of independence of postpartum mothers in fulfilling their self-care needs. The study was conducted in the Delima Ward, Delivery Room, at RSD Kertosono, Nganjuk Regency, from January to May 2023. The study population consisted of all postpartum mothers hospitalized during the study period. Using purposive sampling, a total of 91 respondents were recruited. The inclusion criteria were postpartum mothers who had delivered by cesarean section, spontaneous vaginal delivery, or vacuum extraction, were able to communicate, could read and write, and were willing to participate as respondents. The exclusion criteria included mothers with severe medical complications, mental or cognitive disorders, or those in critical condition/treated in the ICU.

The research instrument was a structured questionnaire developed based on the concept of Nursalam (2020), covering aspects of nutrition, activity, personal hygiene, perineal/vulvar care, breast care, and urinary and fecal elimination. Responses were scored as 1 (Yes) and 0 (No), with the following categories: independent (30-38), need assistance (20-29), and dependent (10-19). Data were collected through questionnaire completion after respondents signed informed consent. The questionnaire has moderate validity and reliability for measuring the independence of postpartum mothers in meeting self-care needs namely 0.7. Data analysis was performed using SPSS version 25.0, with univariate analysis presented in frequency distributions and percentages, and bivariate analysis conducted using the Chi-Square test.

RESULT

A total of 91 postpartum mothers participated in this study. Table 1 shows the distribution of respondents according to their demographic and clinical characteristics. The largest proportion of respondents was in the age group of 25-35 years (42.9%), followed by those aged 36-55 years (29.7%), while the smallest proportion was in the 16-24 years group (27.5%). With regard to birth order, almost half of the participants were first-time mothers (47.3%), and those with more than three births accounted for the smallest group (20.9%). In terms of type of delivery, cesarean section was the most common (37.4%), whereas vacuum delivery was the least frequent (27.5%). Most respondents had a secondary education background (64.8%), while only a small number had completed primary education (7.7%). Digital media was the most frequently used source of information (42.9%), followed by traditional media (31.9%), and health professionals (25.3%). Concerning the level of independence in self-care, nearly half of the mothers were classified as dependent (47.3%), about one-third needed assistance (34.1%), and only a small proportion were fully independent (18.7%).

Table 1.
Demographic and Clinical Characteristics of Respondents (n = 91)

Variable	f	%
Age		
16-24	25	27.5
25-35	39	42.9
36-55	27	29.7
Birth Order		
1	43	47.3
2	29	31.9
>3	19	20.9
Type of Delivery		
Spontaneous	32	35.2
Vacuum	25	27.5
Cesarean section	34	37.4
Education Level		
Primary Education	7	7.7
Secondary Education	59	64.8
Higher Education	25	27.5
Source of Information		
Digital media	39	42.9
Traditional media	29	31.9
Health professionals	23	25.3
Level of Independence		
Dependent	43	47.3
Needs assistance	31	34.1
Independent	17	18.7

Table 2 presents the association between demographic and clinical characteristics with the level of independence among postpartum mothers in meeting self-care needs. Age was significantly associated with independence ($p = 0.000$; $r = 0.362$). Birth order also showed a significant relationship ($p = 0.000$; $r = 0.379$). Type of delivery demonstrated the strongest association with independence ($p = 0.000$; $r = 0.549$). Educational level was significantly related to independence ($p = 0.000$; $r = 0.499$). Source of information was also associated with independence ($p = 0.000$; $r = 0.449$). Overall, type of delivery ($r = 0.549$), education level ($r = 0.499$), and source of information ($r = 0.449$) emerged as the strongest factors influencing the level of independence in self-care among postpartum mothers.

Table 2.
Association between Studied Factors and the Level of Independence in Postpartum Mothers

Variable	Level of Independence	p-value	Strength of
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	Dependent		Needs assistance		Independent		Total		Association	
	f	%	f	%	f	%	f	%		
Age										
16-24	21	23.1	4	4.4	0	0	25	27.5	0.000	0.362
25-35	17	18.7	14	15.4	8	8.8	39	42.9		
36-55	5	5.5	13	14.3	9	9.9	27	29.7		
Birth Order										
1	29	31.9	8	8.8	6	6.6	43	47.3	0.000	0.379
2	11	12.1	16	17.6	2	2.2	29	31.9		
>3	3	3.3	7	7.7	9	9.9	19	20.9		
Type of Delivery										
Spontaneous	4	4.4	12	13.2	16	17.6	32	35.2	0.000	0.549
Vacuum	10	11	15	16.5	0	0	25	27.5		
Cesarean section	29	31.9	4	4.4	1	1.1	34	37.4		
Education Level										
Primary Education	5	5.5	2	2.2	0	0	7	7.7	0.000	0.499
Secondary Education	37	40.7	20	22	2	2.2	59	64.8		
Higher Education	1	1.1	9	9.9	15	16.5	25	27.5		
Source of Information										
Digital media	5	5.5	20	22	14	15.4	39	42.9	0.000	0.449
Traditional media	24	26.4	5	5.5	0	0	29	31.9		
Health professionals	14	15.4	6	6.6	3	3.3	23	25.3		

DISCUSSION

This study examined the factors associated with the level of independence of postpartum mothers in fulfilling their self-care needs, revealing significant relationships across all independent variables investigated. These findings provide important insights into the determinants of maternal self-care capacity during the postpartum period, with critical implications for nursing practice and healthcare policy.

Age and Self-Care Independence

The significant relationship between maternal age and self-care independence ($p = 0.000$; $r = 0.362$) indicated that older mothers tended to achieve greater independence compared to younger mothers. This finding is consistent with recent studies showing that advanced maternal age is associated with higher rates of pregnancy complications and increased interventions during delivery; however, older mothers demonstrate better adaptability in postpartum self-care, thereby minimizing the risk of fatigue (Dulitzki et al., 1998; Henderson et al., 2019). Younger mothers, particularly those aged 16-24 years, exhibited the highest level of dependence (23.1%), with none achieving full independence. This pattern may be attributed to several factors, including limited life experience, heightened anxiety in the maternal role, and potentially insufficient knowledge regarding postpartum self-care practices (Adams et al., 2023; Bryant et al., 2023). The increase in independence observed among mothers aged 36-55 years (9.9% achieving full independence) aligns with studies suggesting that older mothers possess greater emotional maturity, problem-solving skills, and self-efficacy in managing postpartum challenges (Ahmad et al., 2024; McMahon et al., 2011).

Parity and the Effect of Experience

Birth order emerged as another significant predictor of self-care independence ($p = 0.000$; $r = 0.379$), with multiparous mothers demonstrating greater independence compared to primiparous

mothers. Nearly one-third of primiparous mothers (31.9%) were classified as dependent, whereas mothers with more than three children exhibited the highest level of independence (9.9%). These findings reflect the role of previous childbirth experience in fostering maternal confidence and self-care competence (Berentson-Shaw et al., 2009). The learning curve associated with motherhood appears to be substantial, as experienced mothers have had opportunities to develop coping strategies, acquire practical skills, and build confidence through prior postpartum experiences (Kim et al., 2022; Matthies et al., 2017). Recent studies suggest that determinants of maternal self-efficacy in postpartum care are strongly influenced by prior pregnancy and childbirth experiences (Samdan et al., 2022). This highlights primiparous mothers as a highly vulnerable population requiring targeted interventions to strengthen their self-care abilities and prevent complications.

Type of Delivery: The Strongest Predictor

The mode of delivery showed the strongest association with self-care independence ($p = 0.000$; $r = 0.549$), underscoring the profound impact of delivery methods on maternal recovery and functional capacity. Mothers who experienced spontaneous vaginal delivery demonstrated the highest level of independence (17.6%), whereas those who underwent vacuum-assisted delivery did not achieve independence at all, and mothers who delivered by cesarean section had the highest rate of dependence (31.9%). These findings reflect the physiological and psychological consequences of different delivery methods. Spontaneous vaginal delivery, as the most natural process, typically involves less trauma and allows for faster recovery, enabling mothers to resume self-care activities more quickly (Mazda et al., 2023). In contrast, cesarean section is a major abdominal surgery that requires a prolonged recovery period, pain management, and activity restrictions, which naturally limit self-care independence (Emrich et al., 2023; Sharpe et al., 2019). Recent studies confirm that women with a history of cesarean section have a significantly higher risk of maternal and neonatal morbidity in subsequent pregnancies compared with those who deliver vaginally (Galyean et al., 2009). The absence of full independence among mothers with vacuum-assisted deliveries may be attributed to a combination of prolonged labor, instrumental birth trauma, and potential complications that affect maternal well-being (Abbas et al., 2021; Chawanpaiboon et al., 2023). These findings have significant implications for nursing care planning, suggesting that the mode of delivery should be a primary consideration in determining the intensity and duration of postpartum support services required.

Education Level and Health Literacy

Educational attainment showed a strong association with self-care independence ($p = 0.000$; $r = 0.499$), with higher education correlating with greater independence. Mothers with higher education achieved the highest level of independence (16.5%), whereas those with only primary education did not demonstrate independence, and mothers with secondary education exhibited a high rate of dependence (40.7%). This relationship likely reflects the role of health literacy in postpartum self-care. Higher education is typically associated with better health knowledge, critical thinking skills, and the ability to access and interpret health information (Sangdang et al., 2025a). A study conducted among postpartum mothers in Eritrea revealed significant knowledge gaps regarding postnatal care among women with lower education levels, rural residence, and younger maternal age (17-25 years) (Beraki et al., 2020). Educated mothers may be better prepared to differentiate between normal and abnormal postpartum symptoms, apply appropriate self-care strategies, and make informed decisions about when to seek professional assistance (Sangdang et al., 2025b). The high level of dependence observed among mothers with secondary education (40.7%) suggests that basic education may be insufficient for optimal postpartum self-care, highlighting the need for comprehensive health education programs to bridge knowledge gaps regardless of formal educational background.

Sources of Information and Health-Seeking Behavior

Health information sources significantly influenced self-care independence ($p = 0.000$; $r = 0.449$), with digital media users demonstrating the highest level of independence (15.4%). Mothers who

relied on traditional media such as magazines, newspapers, radio, and television exhibited the highest dependence (26.4%), while those who received information from healthcare professionals showed a moderate level of independence (3.3%). The superiority of digital media may reflect its accessibility, interactivity, and capacity to deliver immediate and personalized information (Hanach et al., 2024a; Smith et al., 2020). Recent pilot studies suggest that mobile-based self-care tools have the potential to address significant maternal morbidity and mortality outcomes by providing continuous companionship that responds to physical, mental, and real-life concerns during the postpartum period (Bora Güneş et al., 2023; Bryant et al., 2023). Digital platforms often offer comprehensive resources, peer support networks, and real-time access to health information, potentially empowering mothers to exercise greater control over their self-care (Hanach et al., 2024b; Yao et al., 2023). However, the quality and accuracy of digital health information remain a concern, necessitating guidance from healthcare providers to direct mothers toward reliable digital resources.

Limitations

Although these findings contribute significantly to the understanding of self-care independence during the postpartum period, several limitations should be acknowledged. The cross-sectional design restricts the ability to draw causal inferences, while the relatively small sample size may limit the generalizability of the results to a broader population. Future longitudinal studies that track the trajectory of self-care independence across the postpartum period would provide more comprehensive insights into the temporal aspects of recovery and the development of independence. Furthermore, this study did not account for other potentially relevant variables such as social support, mental health status, and cultural factors that may influence self-care behaviors. Therefore, future research is recommended to adopt a more comprehensive approach to capture the multifactorial complexity of postpartum self-care independence.

CONCLUSION

This study demonstrated that several demographic and clinical factors significantly influence the ability of postpartum mothers to achieve independence in self-care. The findings underscore the need for individualized and risk-stratified approaches to postpartum care that take into account maternal age, parity, mode of delivery, education level, and health-seeking behavior. Healthcare providers, particularly nurses, play a crucial role in identifying high-risk mothers and implementing targeted interventions to promote self-care independence while ensuring patient safety and optimal outcomes. These results support the development of evidence-based protocols for postpartum care that move beyond a one-size-fits-all approach toward personalized care plans that foster maternal empowerment and self-efficacy. Such approaches hold the potential to improve maternal outcomes, reduce healthcare costs, and enhance the overall postpartum experience for mothers and their families.

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