Poltekita: Jurnal Ilmu Kesehatan
e-ISSN: 2527-7170 | p-ISSN: 1907-459X
Volume 20 Issue 1, 2026, pages 24-35
DOI: 10.33860/jik.v20i1.4156
Website:https://ojs.polkespalupress.id/index.php/JIK
Publisher: Poltekkes Kemenkes Palu

Original Article

Association between Maternal Characteristics and Maternal Capabilities: A Quantitative Study in The Special Region of Yogyakarta

Siti Nurunniyah[1,2]*, Fatimatasari[2], Dyah Pradnya Paramita[2], Claudia Banowati Subarto[3], Fatikha Khoirun Nisa[2], Asusan[2], Vera Thasya Ashari[2], Patricia Sator[4]
[1]Alma Ata Graduate School of Public Health, Faculty of Medicine and Health Sciences, Alma Ata University, Yogyakarta, Indonesia
[2]Midwifery Study Program, Faculty of Medicine and Health Sciences, Alma Ata University, Yogyakarta, Indonesia
[3]Stikes Mutiara Mahakam Samarinda, East Kalimantan, Indonesia
[4]Department of Nursing, Faculty of Medicine & Health Sciences, Universiti Malaysia Sabah, Malaysia
*Corresponding Author: nurunniyah.siti@almaata.ac.id

ARTICLE INFO

Article History:
Received: 2025-04-14
Published: 2026-03-30

Keywords:
Maternal Capabilities; Education; Rural-Urban; Socio-Economic Status.

ABSTRACT

Background: The Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) are still high in Indonesia due to various causal factors. Mothers play a crucial role in improving family health. Maternal capabilities are an important factor in fulfilling their role in maintaining family health. The overview of maternal capabilities in Indonesia is not yet known. Given the limited research on maternal capabilities in Indonesia, it is necessary to examine the relationship between demographic characteristics and maternal capabilities to identify the factors that affect them. This study aimed to explore the relationship between demographic characteristics and maternal capabilities.
Method: This study uses a quantitative, cross-sectional design. Sampling in this study uses a consecutive sampling technique with a total of 211 respondents. The research instrument used questionnaires. The analysis uses the chi-square test and logistic regression.
Result: Education level and place of residence were significantly associated with maternal capabilities ($p < 0.05$), whereas level of income, age, and parity showed no significant association. Mothers with >12 years of education and those residing in urban areas were 2.6 and 1.8 times more likely, respectively, to demonstrate strong maternal capabilities. Poor mental health is the highest prevalence indicator of all indicators of maternal capability, with a percentage of 28.4%.
Conclusion: There is a relationship between education level and place of residence with maternal capabilities. Maternal capabilities may be enhanced by targeted interventions in education and health promotion programs, especially in rural areas.

©2026 by the authors. Submitted for possible open-access publication under the terms and conditions of the Creative Commons Attribution (CC BY SA) license (https://creativecommons.org/licenses/by-sa/4.0/)

INTRODUCTION

According to the Maternal and Child Health Profile in Indonesia, nation-building can be achieved by improving maternal and child health, as this is the foundation for developing high-quality Human Resources. The Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) are used as indicators of public health, where the higher the number, the worse the health status of a country (BPS-Statistic Indonesia, 2024). Health in childhood can contribute to physical and

mental health in adults. Maternal health plays an important role in improving children's welfare. Cases of infant death, especially neonatal, can be closely related to the condition of pregnancy complications that occur in the mother, which can be caused by early age or too old, births with low birth weight, and unsafe births (Gregory et al., 2024; Lassi et al., 2013; Nabila et al., 2024; Samutri et al., 2023; Setiapudin et al., 2019). It can also occur due to mental problems experienced by the mother during pregnancy, as well as the socioeconomic conditions of the mother and family (Braudt et al., 2019; Vidriza et al., 2020; Waqas et al., 2022).

Improving children's quality of life through their growth and development is a prerequisite for achieving empowered human development in the future. In this context, maternal capabilities, which include the skills and abilities of mothers in providing important resources such as food, health care, education, and shelter, are important factors in reducing maternal and infant mortality (Humphrey et al., 2015; Matare et al., 2015; Ministry of Health Indonesia, 2018). Maternal capabilities are influenced by maternal characteristics, including age, education level, income, parity, and place of residence, which may affect a mother's ability to perform her caregiving role effectively. Maternal capabilities comprise seven interrelated indicators: decision-making autonomy, gender-norm attitudes, mental health, self-efficacy, perceived physical health, social support, and time management (C. R. Matare et al., 2021b).

Despite growing recognition of maternal capabilities as an important determinant of maternal and child health, research on this concept in Indonesia remains limited. Existing studies in Indonesia predominantly focus on single dimensions of maternal functioning, such as mental health, parenting practices, socioeconomic status, or child nutritional outcomes, rather than examining maternal capabilities as a comprehensive and multidimensional construct. Consequently, there is a lack of evidence describing the overall profile of maternal capabilities among Indonesian mothers and the demographic factors that may influence these capabilities across different contexts (Has, Sabela, et al., 2024; Ickes et al., 2018; C. Matare et al., 2021a; C. R. Matare et al., 2015, 2021b).

Indonesia presents a unique context characterized by substantial disparities in education, income, and rural–urban residence, which are known to influence maternal health behaviors and access to resources. Previous studies have demonstrated associations between maternal demographic characteristics and health outcomes, including mental health status, autonomy, and child survival (Ministry of Health Indonesia, 2018; Surya Rakasiwi & Kautsar, 2021; Vidriza et al., 2020). Nevertheless, evidence linking these demographic characteristics to maternal capabilities, as a multidimensional framework, remains scarce in the Indonesian setting. Understanding these relationships is essential to developing context-specific, equity-oriented maternal and child health interventions (Has, Krisnana, et al., 2024). Each indicator of maternal capabilities reflects a critical dimension of caregiving capacity. Decision-making autonomy and gender norm attitudes influence access to health services and resource allocation for children (Daghagh Yazd et al., 2023; Erci et al., 2016; Singh et al., 2013; Zulkifli Syam et al., 2019). Mental health, self-efficacy, and perceived physical health affect mothers' ability to provide responsive and consistent care (C. Matare et al., 2021a; C. R. Matare et al., 2021b). Social support and time management further enable mothers to balance caregiving responsibilities while maintaining their children's health and development (Di Giorgio et al., 2021; Kay et al., 2024; Saeieh et al., 2017; Saputra et al., 2021).

Decision-making autonomy is also defined as control over choices in decisions, and access to resources that affect the mother herself or her children. Several international studies have stated that the magnitude of personal decision-making autonomy in decision-making to seek health services for pregnant women. Previous research findings indicate that the use of health services for pregnant women is influenced by women's autonomy and women's participation in decision-making. In addition, parents' decisions are considered for certain reasons. In this case, decisions made by parents have an impact on the progress of children in terms of children's health and education (Erci et al., 2016; Zulkifli Syam et al., 2019). Decision-making autonomy for mothers is closely related to the social support she receives and the type of family she lives in, whether it supports and recognizes gender equality. Gender differences are one of the causes of gender injustice. Around the world, both developed and developing countries still experience gender injustice that causes discrimination against women. Good gender norm attitudes in mothers can

influence children's care and health (Daghagh Yazd et al., 2023; Singh et al., 2013). Social support is a reinforcing factor for a person's health behavior, including maternal capabilities and maternal competencies during pregnancy and childbirth (Kay et al., 2024; Saeieh et al., 2017).

Poor perceived physical health among mothers may trigger negative emotional responses, leading to decreased immunity and deterioration of both mental and physical well-being. Maternal mental health has an important role in providing appropriate care for the child and interacting positively with the baby. Meanwhile, the self-efficacy of the mother role involves a woman's confidence in carrying out her role effectively. Strong self-efficacy helps mothers face challenges and threats to health, such as depression, which can negatively impact a child's growth and development (C. Matare et al., 2021a; C. R. Matare et al., 2021b). The last factor included in maternal capabilities is time management. Time management is an internal factor that can affect a mother in carrying out her duties which has an impact on the health of the child (Di Giorgio et al., 2021; Saputra et al., 2021).

This study aims to explore the association between maternal characteristics (education, income, residence, parity, age) and maternal capabilities in a rural and urban population of Bantul. Maternal Capabilities consist of seven indicators, namely decision-making ability, gender fairness, mental health, self-efficacy, physical health, social support, and time management. These indicators represent both internal capacities and external enabling factors that shape maternal caregiving behaviors (C. R. Matare et al., 2021b). By applying a multidimensional framework of maternal capabilities, this study addresses an important research gap. It provides evidence to inform family-centered and equity-oriented maternal and child health programs in Indonesia. In the future, this research can be developed to determine the influence of maternal capabilities on the success of exclusive breastfeeding, the completeness of immunization, stunting treatment, and other programs.

METHODS

This study uses an observational quantitative method with a cross-sectional design. The research was conducted in Pajangan District, Bantul Regency. The population is 445 mothers. The sample size is determined using the Slovin formula with a 95% confidence level. The sample size in this study was 211 respondents. This study uses consecutive sampling techniques. This technique was chosen due to limited access to the sample's overall characteristics and the absence of a complete sampling frame. Consecutive sampling has limitations in generalization. The inclusion criteria for this study are: Mother willing to be a research respondent, Mother who can read and write, Mother who is married and sexually active with a partner. Exclusion criteria: Mother has no children and does not plan to have children in the next 1 year.

This study has independent variables of maternal characteristics that are interrelated and have the potential to cause a confounding effect. Therefore, from the research design stage, the researcher sets inclusion and exclusion criteria that have the potential to be confounders, one of which is experience and intention or desire to have children, where mothers who do not have children and do not want to have children in the next 1 year will possibly affect maternal capabilities. In the analysis stage, multivariate analysis was conducted to control for confounding factors, enabling more accurate interpretation of the relationship between maternal characteristics and maternal capabilities.

The questionnaire used is derived from the questionnaire used in SHINE (The Sanitation Hygiene Infant Nutrition Efficacy) has been translated and tested for validity and reliability in women with almost the same characteristics as the research respondents, namely, mothers in the Kasihan district (C. R. Matare et al., 2021b). All of the questions are valid and reliable. Validity test using Pearson product-moment correlation and reliability test using Cronbach's Alpha. The questionnaire is shared in Google Forms. The questionnaire in question is as follows:

Table 1. List of Questionnaires

Variable	Questionnaire	Validity Test	Reliability Test (α)
Decision-Making Autonomy	Decision-making autonomy	calculated r value>0.361*	0.866**
Gender Norm Attitudes	Compendium of gender scale	calculated r value>0.361*	0.866**
Mental Health	EPDS (Edinburgh Postnatal Depression Scale)	calculated r value> 0.361*	0.811**
Self Efficacy	Modified Parenting Sense of Competence Scale and Parental Self-Agency Measure	calculated r value> 0.361*	0.815**
Perceive of Physical Health	The RAND 36-item Health Survey	calculated r value> 0.361*	0.887**
Social Support	Interpersonal Support Evaluation List and the Medical Outcomes Study Social Support Survey	calculated r value> 0.361*	0.751**
Time Management	The RAND Time Management	calculated r value> 0.361*	0.796**

*valid because the calculated r value > critical r value (0.361)
** reliable because α >0.60

Strong Maternal Capabilities are defined as good physical and mental health, high levels of social support, self-efficacy, high (moderate-strong) decision-making autonomy, egalitarian gender norms attitudes, and low time stress or enough-good time management. Weak Maternal Capabilities are defined as indicators of maternal capabilities that are not eligible for inclusion in the strong category (C. R. Matare et al., 2021a).

This research has received ethical approval from the Health Research Ethics Committee of Alma Ata University with the number KE/AA/VII/10111119/EC/2023. Research respondents also get informed consent first before participating in the study. They received an information sheet explaining the study objectives, procedures, potential risks and benefits, and data confidentiality. Digitally signed informed consent was obtained from all participants before data collection. Participation was voluntary, and participants were informed of their right to withdraw from the study at any time without any consequences. All collected data were anonymized and stored securely.

The results of this study were analyzed using the Chi-Square test to determine the relationships between education level, income level, age, parity and place of residence and maternal capabilities. Multivariate logistic regression was used to assess the influence of maternal characteristics on maternal capabilities. A limitation of the cross-sectional design is that it cannot establish causality.

The process from sample recruitment to data analysis is illustrated in Figure 1 below.

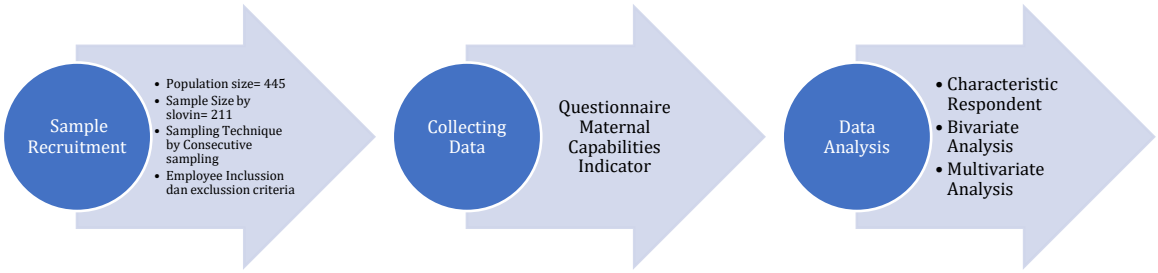


Figure 1. Research flowchart

RESULTS

Respondents' characteristics, including education level, income level, age, residence, and parity, can be seen in Table 2 as follows:

Table 2. Respondent Characteristics

Variables	n	%
Level of Education		
≤12 years	153	72.5
>12 years	58	27.5
Level of income		
≤ regional income	157	74.4
> regional income	54	25.6
Age		
Unhealthy Reproductive Age	43	20.4
Healthy Reproductive Age	168	79.6
Place of residence		
Rural	124	58.8
Urban	87	41.2
Parity		
Nulliparous	35	16.6
Primigravida or having children	176	83.4

From table 2 about the characteristics of the respondents, it can be seen that the majority of respondents are 153 mothers (72.5%) who have ≤12 years level of education, have an income less than or equal to regional income as many as 157 (74.4%), have a healthy reproductive age of 168 (79.6%), live in rural areas as many as 124 (58.8%) and a pregnant woman or have children as many as 176 mothers (83.4%).

The prevalence level of maternal capabilities and the maternal capabilities indicator can be seen in Table 3 as follows:

Table 3. Level of Maternal Capabilities

Variables	n	%
Maternal Capabilities		
Weak	99	46.9
Strong	112	53.1
Mental Health		
Depression Risk	60	28.4
Not at risk of depression	151	71.6
Self Efficacy		
Low	46	21.8
High	165	78.2
Perception of Physical Health		
Weak	1	0.5
Moderate	78	37.0
Strong	132	62.6
Time Management		
Less	10	4.7
Enough	133	63.0
Good	68	32.2
Decision-Making Autonomy		
Weak	15	7.1
Moderate	151	71.6
Strong	45	21.3
Gender Norms Attitudes		
Weak	10	4.7
Moderate	67	31.8
Strong	134	63.5
Social Support		

Variables	n	%
Weak	0	0.0
Moderate	91	43.1
Strong	120	56.9

According to Table 3 above, the majority of respondents have strong maternal capabilities (112, 53.1%), while 99 (46.9%) have weak maternal capabilities. A total of 151 mothers (71.6%) did not experience depression, 165 mothers (78.2%) had high self-efficacy, 132 mothers (62.6%) had a strong perception of physical health, as many as 133 mothers (63%) had sufficient time management, 151 mothers (71.6%) had moderate decision-making autonomy, 134 mothers (63.5%) had strong gender equality, and 120 mothers (56.9%) had strong social support. Of all these indicators, poor mental health is the problem with the highest prevalence compared to other indicators, which is 28.4%

Table 4. Association of mother characteristics and maternal capabilities

Variables	Maternal Capabilities				Total		*P Value**	*AOR*	*P Value***
	Weak		Strong						
Level of Education	**n**	**%**	**n**	**%**	**n**	**%**			
≤12 years	84	84.8	69	61.6	153	100	0.001*	1	0.01**
>12 years	15	15.2	43	38.4	58	100		2.6 (1.2-5.8)	
Level of Income									
≤ Regional income	85	85.9	72	64.3	157	100	0.001*	1	0.1
> Regional income	14	14.1	40	35.7	54	100		1.9 (0.8-4.3)	
Age									
Unhealthy Reproductive Age	25	25.3	18	16.1	43	100	0.09	1	0.25
Healthy Reproductive Age	74	74.7	94	83.9	168	100		1.5(0.7-3.1)	
Place of Residence									
Rural	66	66.7	58	51.8	124	100	0.02*	1	0.04**
Urban	33	33.3	54	48.2	87	100		1.8 (1.1-3.3)	
Parity									
Nulliparous	20	20.2	15	13.4	35	100		1	
Primigravida or having children	79	79.8	97	86.6	176	100	0.1	1.5 (0.7-3.5)	0.3

*Significants at level 95% CI from Chi-square analysis
** Significants at level 95% CI from multivariable logistic regression analysis

From Table 4 above, we can see that the results of the chi-square analysis show a p-value of less than 0.05 in the variable level of education, level of income, and place of residence. Parity and age do not show a significant relationship. The results of the logistic regression test showed that the P-value was less than 0.05 in the variable level of education and place of residence, with AOR 2.6 and 1.8, and 95% confidence intervals of 1.2-5.8 and 1.1-3.3.

DISCUSSIONS

This study demonstrates that maternal education level and place of residence are significant predictors of maternal capabilities, even after adjustment for other maternal characteristics. Mothers with more than 12 years of education were 2.6 times more likely to have strong maternal capabilities, while mothers living in urban areas had 1.8 times the odds of those residing in rural areas. These findings highlight the importance of structural and contextual factors in shaping maternal capabilities, rather than relying solely on individual characteristics.

Higher maternal education is consistently associated with good maternal capabilities across multiple domains, including mental health, self-efficacy, decision-making autonomy, and gender norm attitudes. Education enhances cognitive skills, access to information, and problem-solving abilities, which collectively support mothers in navigating health services, managing household resources, and responding effectively to childcare challenges. Previous studies similarly reported that women with lower educational attainment are more vulnerable to mental

health disorders and lower self-efficacy, which may negatively affect caregiving practices and child wellbeing (Agnafors et al., 2019; Andi Syahputra & Farizca, 2022; Khoiriyah & Handayani, 2020). Importantly, education should not be interpreted as a causal factor but rather as a proxy for broader social empowerment and access to health-promoting resources (Anindyasari & Nadiroh, 2019; Erci et al., 2016; Paramita et al., 2021; Shaaban et al., 2022).

Place of residence also emerged as a significant determinant of maternal capabilities. Mothers living in urban areas demonstrated better maternal capabilities than those in rural areas. This disparity may be explained by differences in access to health information, availability of health services, social support networks, and exposure to gender-equitable norms. Rural mothers may face structural barriers such as limited health facilities, transportation constraints, and reduced access to mental health support, which can hinder the development of maternal capabilities. Similar findings have been reported in previous studies linking rural residence to poorer maternal and child health outcomes (Gregory et al., 2024; C. Matare et al., 2021a). These results underscore the need for targeted maternal capability-strengthening interventions in rural settings.

In contrast, maternal age and parity were not significantly associated with maternal capabilities in multivariate analysis. This finding suggests that maternal capabilities are not determined solely by biological maturity or childbirth experience. While some previous studies have shown that parity may influence maternal self-efficacy or anxiety (Brunton et al., 2020; Gupitha et al., 2019; Shakarami et al., 2021). The absence of a significant association in this study may reflect contextual differences, the availability of social support, or adaptive coping mechanisms among mothers, regardless of age or parity. Therefore, assumptions that older or multiparous mothers inherently possess stronger maternal capabilities should be reconsidered. The study also found that maternal income was related to maternal ability in bivariate analyses but was not significant in multivariate analyses; meaning that income levels are not related to maternal capabilities independently but together with other factors. Income describes socioeconomic status. The income of each individual will also affect the health status of each individual because the income level of a person can measure whether a person has a good health status or not, a person with a high income will use his income to carry out a healthy lifestyle by consuming healthy foods and doing sports activities to maintain his health status (Surya Rakasiwi & Kautsar, 2021).

One of the most important findings of this study is that mental health problems represent the most prevalent challenge among maternal capability indicators, affecting 28.4% of respondents. This finding aligns with global evidence recognizing maternal mental health as a critical determinant of caregiving quality and child outcomes (WHO, 2022). Poor maternal mental health may compromise decision-making capacity, emotional responsiveness, and time management, women's readiness to have children(Nurunniyah et al., 2022), thereby weakening overall maternal capabilities. Given that maternal mental health is modifiable through early screening and community-based interventions, this finding has significant implications for maternal and child health programs in Indonesia.

The findings of this study are consistent with the UNICEF caregiving framework, which emphasizes maternal capabilities such as mental and physical health, autonomy, social support, and self-efficacy as key determinants of child nutrition and growth (Has, Krisnana, et al., 2024). Previous studies have demonstrated that stronger maternal caregiving capabilities are associated with improved infant feeding practices, adequate energy-protein intake, and better linear growth outcomes (Has, Sabela, et al., 2024; Ickes et al., 2018; Tome et al., 2020). However, maternal capabilities remain under-integrated into routine maternal and child health programs in many low- and middle-income countries, including Indonesia.

This study has several limitations that should be considered when interpreting the findings. First, the cross-sectional design precludes causal inference; therefore, the observed associations cannot establish directionality between maternal characteristics and maternal capabilities. Second, the use of self-reported questionnaires may introduce response and social desirability bias. Third, the consecutive sampling method limits the generalizability of the findings beyond the study area. Future longitudinal and mixed-methods studies are needed to explore

causal pathways and contextual mechanisms influencing maternal capabilities.

Despite these limitations, the findings offer important implications for maternal and child health practice in Indonesia. Interventions aimed at strengthening maternal capabilities, particularly maternal mental health, education, and autonomy, should be prioritized, especially in rural communities. Integrating maternal mental health screening and empowerment-based education into existing maternal health services may enhance caregiving quality and improve reproductive and child health outcomes. Future research should examine the longitudinal effects of maternal capabilities on child nutrition, stunting prevention, and maternal well-being to inform evidence-based policy and program development.

CONCLUSION

There was a relationship between education level and residence with maternal capabilities (p-value < 0.05 in both bivariate and multivariate analyses), with income level associated with maternal capabilities only in bivariate analysis. At the same time, parity and age were not related to maternal capabilities. Poor mental health is the highest prevalence indicator of all indicators of maternal capabilities, with a percentage of 28.4%. This research has the strength of examining the relationship between maternal characteristics and maternal capabilities. However, this study has some limitations. First, data were collected using a cross-sectional design, which makes it difficult to determine a cause-and-effect relationship. In the future, this research can be expanded to examine how maternal capabilities affect maternal and child health outcomes and to develop interventions to improve maternal capabilities. These findings affirm the importance of developing maternal empowerment programs that focus on improving education and improving the living environment, while integrating regular maternal mental health screening and assistance in maternal health services. The Program for enhancing Maternal capabilities may be targeting interventions in education and health promotion programs, especially in rural areas.

Author's Contribution: Siti Nurunniyah: Conceptualization, methodology, supervision, software, validation, formal analysis, writing original draft, writing-review, and editing. **Fatimatasari**: Methodology, project administration, data curation, formal analysis, writing original draft. **Claudia Banowati Subarto**: formal analysis, writing original draft, writing-review. **Dyah Pradnya Paramita**: formal analysis, writing-review and editing. **Vera Thasya Ashari**: Investigation, project administration**,** formal analysis**. Fatikha Khoirun Nisa:** Investigation, project administration**,** formal analysis. **Asusan:** Investigation, project administration**,** formal analysis**. Patricia Sator**: visualization, formal analysis, writing-review.

Conflict of Interest: The authors declare that the research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

Source of Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Acknowledgment: We are grateful to Alma Ata University for the opportunity to conduct this research and to the Pajangan subdistrict, Bantul District, for serving as the research site. Ms. Sundari Mulyaningsih for the suggestions for improving the text.

REFERENCES

Agnafors, S., Bladh, M., Svedin, C. G., & Sydsjö, G. (2019). Mental health in young mothers, single mothers and their children. *BMC Psychiatry*, *19*(1). https://doi.org/10.1186/s12888-019-2082-y

Andi Syahputra, T., & Farizca, A. (2022). Hubungan Antara Kesehatan Mental Ibu dengan Pola Asuh Terhadap Anak. *Ked. N. Med |*, *5*(1). https://doi.org/10.35324/jknamed.v5i1.171

Anindyasari, V., & Nadiroh. (2019). *Penghapusan Budaya Patriarki Di Masyarakat Melalui Pendidikan Bagi Perempuan*.

BPS-Statistic Indonesia, 2024. (2024). *profil-kesehatan-ibu-dan-anak-2024*.

Braudt, D. B., Lawrence, E. M., Tilstra, A. M., Rogers, R. G., & Hummer, R. A. (2019). Family Socioeconomic Status and Early Life Mortality Risk in the United States. *Maternal and Child Health Journal*, *23*(10), 1382–1391. https://doi.org/10.1007/s10995-019-02799-0

Brunton, R., Simpson, N., & Dryer, R. (2020). Pregnancy-related anxiety, perceived parental self-efficacy and the influence of parity and age. *International Journal of Environmental Research and Public Health*, *17*(18), 1–17. https://doi.org/10.3390/ijerph17186709

Daghagh Yazd, S., Oroszlányová, M., & Pekin Alakoç, N. (2023). Understanding how gender inequality may affect children's health: An empirical study across 161 countries. *Cogent Social Sciences*, *9*(1). https://doi.org/10.1080/23311886.2023.2209982

Di Giorgio, E., Di Riso, D., Mioni, G., & Cellini, N. (2021). The interplay between mothers' and children behavioral and psychological factors during COVID-19: an Italian study. *European Child and Adolescent Psychiatry*, *30*(9), 1401–1412. https://doi.org/10.1007/s00787-020-01631-3

Erci, B., Polat, S., & Ozyazicioglu, N. (2016). Mothers' Decision-Making Processes Regarding their Children's Health Care. *International Journal of Caring Sciences*, *9*(3). www.internationaljournalofcaringsciences.org

Gregory, E. C. W., Valenzuela, C. P., & Hoyert, D. L. (2024). National Vital Statistics Reports Volume 73, Number 9 September 12, 2024 Fetal Mortality: United States, 2022. In *National Vital Statistics Reports* (Vol. 73, Issue 9). https://www.cdc.gov/nchs/products/index.htm.

Gupitha, D. N., Yugistyowati, A., & Samutri, E. (2019). *Hubungan Status Paritas dan Self Efficacy dengan Kemampuan Ibu Merawat Bayi Baru Lahir (BBL) di RSUD Wates Kulon Progo Yogyakarta* [Alma Ata University]. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=m3VvPDcAAAAJ&cstart=20&pagesize=80&citation_for_view=m3VvPDcAAAAJ:Se3iqnhoufwC

Has, E. M. M., Krisnana, I., & Efendi, F. (2024). Enhancing Maternal Caregiving Capabilities Model to Prevent Childhood Stunting: A UNICEF-Inspired Model. *SAGE Open Nursing*, *10*. https://doi.org/10.1177/23779608231226061

Has, E. M. M., Sabela, A., Qona'ah, A., Efendi, F., Wahyuni, S. D., Riadini, F. A., & Widodo, R. B. P. (2024). Maternal Caregiving Capabilities are Associated with Energy-Protein Adequacy of Children with Stunting in Central Java, Indonesia. *Current Research in Nutrition and Food Science*, *12*(1), 157–165. https://doi.org/10.12944/CRNFSJ.12.1.13

Ickes, S. B., Wu, M., Mandel, M. P., & Roberts, A. C. (2018). Associations between social support, psychological well-being, decision making, empowerment, infant and young child feeding, and nutritional status in Ugandan children ages 0 to 24 months. *Maternal and Child Nutrition*, *14*(1). https://doi.org/10.1111/mcn.12483

Kay, T. L., Moulson, M. C., Vigod, S. N., Schoueri-Mychasiw, N., & Singla, D. R. (2024). The Role of Social Support in Perinatal Mental Health and Psychosocial Stimulation. *Yale Journal of Biology and Medicine*, *97*(1), 3–16. https://doi.org/10.59249/WMGE9032

Khoiriyah, R., & Handayani, S. (2020). Kesehatan Mental Emosional Perempuan Penderita Kanker di Indonesia Emotional Mental Health of Women With Cancer in Indonesia. *164 JKMM*, *3*(2).

Lassi, Z. S., Majeed, A., Rashid, S., Yakoob, M. Y., & Bhutta, Z. A. (2013). The interconnections between maternal and newborn health-evidence and implications for policy. *Journal of Maternal-Fetal and Neonatal Medicine*, *26*(SUPPL.1), 3–53. https://doi.org/10.3109/14767058.2013.784737

Matare, C. R., Mbuya, M. N. N., Dickin, K. L., Constas, M. A., Pelto, G., Chasekwa, B., Humphrey, J. H., & Stoltzfus, R. J. (2021). Maternal Capabilities Are Associated with Child Caregiving Behaviors among Women in Rural Zimbabwe. *Journal of Nutrition*, *151*(3), 685–694. https://doi.org/10.1093/jn/nxaa255

Matare, C. R., Mbuya, M. N. N., Pelto, G., Dickin, K. L., & Stoltzfus, R. J. (2015). Assessing maternal capabilities in the SHINE Trial: Highlighting a hidden link in the causal pathway to child health. *Clinical Infectious Diseases*, *61*, S745–S751. https://doi.org/10.1093/cid/civ851

Matare, C., Tome, J., Makasi, R., Dickin, K., Pelto, G., Constas, M., Chasekwa, B., Mbuya, M., Ntozini, R., Prendergast, A., Humphrey, J., & Stoltzfus, R. (2021). Maternal Decision-Making

Autonomy, Mental Health, Gender Norm Attitudes, and Social Support During Pregnancy Predict Child Care-Giving and Stunting in Rural Zimbabwe. *Current Development in Nutrition*, *4 (Suppl*(866). https://doi.org/10.1093/cdn/nzaa053_071

Ministry of Health Indonesia. (2018). Basic Health Research 2018. In *Ministry of Health Indonesia*.

Nabila, M., Baidani, A., Mourajid, Y., Chebabe, M., & Abderraouf, H. (2024). Analysis of Risk Determinants of Neonatal Mortality in the Last Decade: A Systematic Literature Review (2013–2023). *Pediatric Reports*, *16*(3), 696–716. https://doi.org/10.3390/pediatric16030059

Nurunniyah, S., Julia, M., Hadi, H., Nurdiati, D. S., & Lewis, E. C. (2022). The effect of a Maternal Mentoring Programme on Pregnancy Readiness among Indonesian Women: Results of a Cluster Randomised Control Trial. *Africa Journal of Nursing and Midwifery*, *24*(2). https://doi.org/10.25159/2520-5293/9367

Paramita, L. D. A., Devi, N. L. P. S., & Nurhesti, P. O. Y. (2021). Hubungan Pengetahuan Dan Sikap Ibu Mengenai Stunting Dengan Kejadian Stunting Di Desa Tiga, Susut, Bangli. *Coping: Community of Publishing in Nursing*, *9*(3), 323. https://doi.org/10.24843/coping.2021.v09.i03.p11

Saeieh, E., Rahimzadeh, M., Yazdkhasti, M., & Torkashvand, S. (2017). *Perceived Social Support and Maternal Competence in Primipara Women during Pregnancy and After Childbirth*.

Samutri, E., Rahmawati, I., Yugistyowati, A., & Paratmanitya, Y. (2023). *Maternal role and psychosocial development of children aged 36-59 months*. *7642*(February). http:ejournal.almaata.ac.id/index.php/JNKI

Saputra, S., Suryani, K., & Pranata, L. (2021). Studi Fenomenologi : Pengalaman Ibu Bekerja Terhadap Tumbuh Kembang Anak Prasekolah. In *Indonesian Journal Of Healath and Medical* (Vol. 1).

Setiapudin, M. Z., Yugistyowati, A., & Alfiana, R. D. (2019). Hubungan Usia Menikah Dan Paparan Informasi Dengan Kemampuan Ibu Merawat Bayi baru Lahir (BBL) Di RSUD Wates Kulon Progo. *Skripsi*.

Shaaban, A. N., Martins, M. R., & Peleteiro, B. (2022). *Factors associated with self-perceived health status in Portugal: Results from the National Health Survey 2014*. https://doi.org/https://doi.org/10.3389/fpubh.2022.879432

Shakarami, A., Mirghafourvand, M., Abdolalipour, S., Jafarabadi, M. A., & Iravani, M. (2021). Comparison of fear, anxiety and self-efficacy of childbirth among primiparous and multiparous women. *BMC Pregnancy and Childbirth*, *21*(1). https://doi.org/10.1186/s12884-021-04114-8

Singh, K., Haney, E., & Olorunsaiye, C. (2013). Maternal autonomy and attitudes towards gender norms: Associations with childhood immunization in Nigeria. *Maternal and Child Health Journal*, *17*(5), 837–841. https://doi.org/10.1007/s10995-012-1060-5

Surya Rakasiwi, L., & Kautsar, A. (2021). *Pengaruh Faktor Demografi dan Sosial Ekonomi terhadap Status Kesehatan Individu di Indonesia*. *5*, 12220. https://doi.org/10.31685/kek.V5.2.1008

Tome, J., Mbuya, M. N. N., Makasi, R., Manges, A., Mangwadu, G., Maluccio, J. A., Mbuya, M. N. N., Moulton, L. H., Ntozini, R., Prendergast, A. J., Stoltzfus, R. J., Tielsch, J. M., Chasokela, C., Chigumira, A., Heylar, W., Hwena, P., Kembo, G., Majo, F. D., Mutasa, B., … Mujuru, H. A. (2020). Maternal caregiving capabilities are associated with child lineargrowth in rural Zimbabwe. *Maternal Child Nutrition*, *17*(1), 1–11. https://doi.org/10.1111/mcn.13122

Vidriza, U., Bachtiar, N., & Sofyardi, &. (2020). Analysis of socio-economic factors affecting infant mortality rate in Indonesia. In *Jurnal SDGs* (Vol. 2020, Issue 1).

Waqas, A., Zafar, S. W., Meraj, H., Tariq, M., Naveed, S., Fatima, B., Chowdhary, N., Dua, T., & Rahman, A. (2022). Prevention of common mental disorders among women in the perinatal period: a critical mixed-methods review and meta-analysis. *Global Mental Health*, *9*, 157–172. https://doi.org/10.1017/gmh.2022.17

WHO. (2022). *Guide for Integration of Perinatal Mental Health in Maternal and Child Health Services*. World Health Organization.

Zulkifli Syam, A., Tahir Abdullah, M., (2019). Decision Making Behavior by Pregnant Woman in Searching For Health Services in Coastal Areas of Palu City. *93 JKMM*, *2*(1).

https://doi.org/10.30597/jkmm.v2i1.10061