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Evaluation of health insurance policy impact on maternal and child health outcomes in coastal areas

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ABSTRACT

Introduction: Maternal and child healthcare inequities remain a major challenge in coastal communities despite the implementation of national health insurance programs. This study aimed to evaluate the impact of implementing a health insurance policy on maternal and child health outcomes in coastal areas.

Methods: A quantitative cross-sectional analytical study was conducted in several coastal districts in Eastern Indonesia between January and April 2026. A total of 348 mothers with children under five years old were selected using multistage cluster sampling. Data were collected using structured questionnaires and analyzed using descriptive statistics, chi-square tests, and multivariate logistic regression at $\alpha = 0.05$.

Results: Active participation in health insurance was significantly associated with improved maternal and child healthcare access. Multivariate analysis showed that distance to healthcare facilities was the strongest predictor of limited healthcare access (AOR = 3.46; 95% CI: 2.01–5.95; $p < 0.001$). Non-insured respondents were more likely to experience barriers to healthcare access (AOR = 2.84; 95% CI: 1.63–4.95; $p < 0.001$). Transportation limitations (AOR = 2.17; 95% CI: 1.28–3.69; $p = 0.004$) and low household income (AOR = 1.88; 95% CI: 1.09–3.23; $p = 0.021$) also significantly influenced healthcare accessibility.

Conclusion: Health insurance policies improved healthcare utilization; however, structural barriers continued to limit equitable access to maternal and child healthcare in coastal communities. Strengthening geographically responsive healthcare systems is necessary to optimize the implementation of universal health coverage.

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Keywords: Child Health Services; Coastal Population; Health Insurance; Maternal Health; Universal Health Coverage.

Highlight:

- National health insurance significantly improved maternal healthcare utilization in coastal communities.
- Antenatal care attendance increased among insured pregnant women in remote coastal areas.
- Health insurance coverage contributed to better child immunization and growth monitoring outcomes.
- Geographic and transportation barriers continued to limit equitable access to healthcare in coastal regions.
- Strengthening community-based health services is essential to optimizing the impact of maternal and child health policies.

INTRODUCTION

Maternal and child health remains a central indicator of health system performance and social development in many low- and middle-income countries [1]. Despite substantial global progress in reducing maternal and child mortality over the last two decades, significant disparities continue to persist between urban and geographically isolated populations [2]. Coastal communities represent one of the most vulnerable groups due to limited healthcare infrastructure, transportation barriers, unstable economic conditions, and unequal distribution of health professionals [3]. In Indonesia and several other archipelagic countries, women and children living in coastal regions frequently experience delayed access to antenatal care, childbirth assistance, immunization services, and postnatal monitoring [4]. These conditions contribute to preventable maternal complications, low birth weight, childhood malnutrition, and increased risk of morbidity during early childhood. Although national health insurance policies have been introduced to improve access to healthcare and financial protection, the effectiveness of these policies in geographically disadvantaged coastal settings remains insufficiently understood [5].

Health insurance policies were developed to reduce catastrophic health expenditures and expand healthcare utilization among vulnerable populations. Universal health coverage initiatives, including Indonesia's National Health Insurance program, were expected to improve healthcare equity through broader financial access to essential services [6]. Previous studies demonstrated that health insurance participation was associated with increased utilization of antenatal care services, institutional delivery, skilled birth attendance, and childhood immunization [7]. Insurance coverage has also been linked with improved continuity of maternal care and reduced out-of-pocket healthcare expenditure among low-income households. However, these improvements are not consistently observed across remote and coastal populations [8]. Several reports indicated that insured individuals living in isolated regions continued to encounter barriers related to transportation costs, long travel distances, shortage of healthcare workers, limited referral systems, and inadequate availability of healthcare facilities [9].

Existing literature has largely focused on the relationship between health insurance enrollment and healthcare utilization in urban or general rural populations [10]. Many quantitative studies examined the association between insurance ownership and maternal healthcare visits without adequately accounting for contextual inequalities that affect service accessibility in coastal environments [11]. Furthermore, prior investigations frequently emphasized administrative coverage indicators rather than evaluating the broader impact of insurance policy implementation on maternal and child health outcomes [12]. Studies assessing maternal mortality reduction, child nutritional status, immunization completeness, or healthcare continuity among coastal populations remain relatively limited. Evidence on whether insurance schemes effectively address structural healthcare disparities in coastal communities remains fragmented [13].

Several studies have highlighted that financial protection alone is insufficient to improve health outcomes when healthcare delivery systems remain weak [14]. In remote coastal areas, healthcare access is influenced not only by economic capacity but also by transportation availability, environmental vulnerability, weather conditions, and sociocultural factors affecting healthcare-seeking behavior [15]. Women living in fishing communities often postpone healthcare visits because of household economic instability and limited mobility. In addition, healthcare facilities in coastal districts commonly experience shortages of midwives, pediatric services, medicines, and emergency referral mechanisms [16]. Previous research suggested that healthcare utilization may increase after insurance expansion. Yet, the quality and continuity of services may remain inadequate to produce substantial improvements in maternal and child health indicators. This situation demonstrates the need for more contextual policy evaluation studies focusing on underserved coastal populations [17].

This study addresses important gaps in previous research by evaluating the impact of health insurance policy implementation on maternal and child health outcomes in coastal communities. Earlier studies mainly focused on healthcare utilization indicators, such as insurance enrollment and healthcare visits, without comprehensively examining maternal and child health outcomes in

geographically isolated populations. In contrast, the current study evaluates multiple dimensions of maternal and child health, including antenatal care adequacy, institutional delivery, immunization coverage, child nutritional monitoring, and continuity of healthcare access. The study also considers structural barriers influencing healthcare utilization, such as geographic distance, transportation limitations, and socioeconomic vulnerability in coastal settings.

The novelty of this research lies in its integration of health policy evaluation with geographically contextualized maternal and child health analysis in underserved coastal communities. This study extends previous evidence by examining how structural and environmental factors may reduce the effectiveness of insurance policies despite formal healthcare coverage. Therefore, this study aimed to evaluate the relationships among health insurance participation, healthcare accessibility, and maternal and child health outcomes, while identifying contextual barriers to policy effectiveness in geographically isolated coastal populations.

RESEARCH METHODOLOGY

Study Design

This study employed a quantitative cross-sectional analytical design to evaluate the impact of health insurance policy implementation on maternal and child health outcomes in coastal communities. A cross-sectional approach was considered appropriate because the study aimed to examine the relationships among health insurance participation, healthcare accessibility, and maternal–child health indicators within a defined population at a specific point in time. The design also enabled the identification of associated structural barriers influencing healthcare utilization in geographically isolated coastal settings.

Setting & Participants

The study was conducted in several coastal districts in Eastern Indonesia between January and April 2026. The research locations were selected because these areas experience persistent limitations in healthcare accessibility, transportation infrastructure, and maternal–child health service coverage. The study population consisted of mothers of children under 5 years old who had resided in coastal communities for at least 1 year. Inclusion criteria included mothers aged 18 years or older, active residents of the selected coastal areas, and individuals willing to participate voluntarily. Exclusion criteria included respondents with severe communication limitations, incomplete questionnaire responses, or serious medical conditions preventing participation during data collection. A multistage cluster sampling technique was applied to ensure a representative distribution across coastal villages. Sample size was calculated using the LEMESHOW formula for cross-sectional studies with a 95% confidence level, a 5% margin of error, and an estimated prevalence of healthcare access barriers of 50%. After adjustment for non-response, the minimum required sample was 348 respondents.

Variables & Measurement

The independent variable in this study was health insurance policy participation, measured based on active enrollment status and utilization of national health insurance services. Dependent variables included maternal and child health outcomes: antenatal care adequacy, institutional delivery, immunization completeness, child growth monitoring attendance, and continuity of healthcare access. Healthcare accessibility variables included distance to healthcare facilities, availability of transportation, waiting time, and availability of healthcare services. Sociodemographic variables, including maternal age, education level, occupation, household income, and family size, were also assessed. Data were collected using structured questionnaires adapted from previous public health and health financing studies. Instrument validity was evaluated through expert review and pilot testing involving 30 respondents outside the study sample. Construct validity analysis showed acceptable correlation coefficients above the minimum threshold. Reliability testing demonstrated satisfactory internal consistency with Cronbach's alpha values ranging from 0.79 to 0.88.

Primary data were obtained directly from respondents through face-to-face interviews. In contrast, secondary data regarding regional maternal and child health indicators were obtained from local health office reports and community health center records.

Data Collection

Trained enumerators with public health and nursing backgrounds conducted data collection. Before field implementation, enumerators received standardized training regarding interview procedures, ethical principles, questionnaire administration, and respondent confidentiality. Structured interviews were conducted at respondents' homes and community health service locations. To maintain data quality, supervisors performed daily monitoring and random verification of completed questionnaires. Double-checking procedures were applied to minimize missing data and entry errors. Pilot testing was conducted before the main survey to improve question clarity and procedural consistency. Completed questionnaires were reviewed before data entry, and inconsistent responses were revalidated when necessary.

Data Analysis

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 26. Descriptive statistics were used to summarize respondent characteristics, health insurance participation, healthcare accessibility, and maternal–child health indicators. Categorical variables were presented as frequencies and percentages, while continuous variables were summarized using means and standard deviations. Bivariate analysis was conducted using chi-square tests to examine associations between independent and dependent variables. Variables with p-values below 0.25 in bivariate analysis were included in multivariate analysis. Multivariate logistic regression was used to identify the dominant factors associated with maternal and child health outcomes and healthcare accessibility barriers. Adjusted odds ratios (AORs) with 95% confidence intervals (CIs) were reported to estimate the strength of the associations. Statistical significance was determined at $\alpha = 0.05$.

Ethical Approval

This study received ethical approval from the Health Research Ethics Committee of the Indonesian Institute of Health Sciences with approval number: 045/KEPK-LEII/I/2026. All respondents received complete information regarding the study objectives, procedures, benefits, risks, confidentiality protections, and their rights to voluntary participation before data collection. Written informed consent was obtained from all participants before interviews. Respondents were informed that participation was voluntary and that they could withdraw from the study at any stage without consequences. Confidentiality and anonymity of participant information were strictly maintained throughout the research process.

RESULT

Table 1. Characteristics of Respondents (n = 348)

Variables	Frequency (n)	Percentage (%)
Age (years)		
< 25 years	82	23.6
25–34 years	176	50.6
≥ 35 years	90	25.8
Education Level		
Primary school	96	27.6
Secondary school	182	52.3
Higher education	70	20.1
Occupation		
Housewife	215	61.8
Fisherman family worker	81	23.3
Private employee/self-employed	52	14.9
Monthly Household Income		
Low income	198	56.9
Moderate–high income	150	43.1
Health Insurance Status		

Active insurance participant	247	71.0
Non-active/non-insured	101	29.0
Distance to Healthcare Facility		
≤ 5 km	141	40.5
> 5 km	207	59.5
Maternal and Child Health Service Access		
Adequate access	158	45.4
Limited access	190	54.6

Most respondents were aged 25–34 years (50.6%) and had secondary-level education (52.3%). More than half of respondents belonged to low-income households (56.9%) and lived more than 5 kilometers from healthcare facilities (59.5%). Although 71.0% of respondents were registered as active national health insurance participants, more than half (54.6%) still experienced limited access to maternal and child healthcare, indicating that insurance coverage alone did not fully eliminate access barriers in coastal communities.

Table 2. Bivariate Analysis of Factors Associated with Maternal and Child Healthcare Access

Variables	Adequate Access n (%)	Limited Access n (%)	p-value
Health Insurance Participation			<0.001
Active participant	132 (53.4)	115 (46.6)	
Non-insured/non-active	26 (25.7)	75 (74.3)	
Distance to Healthcare Facility			<0.001
≤ 5 km	92 (65.2)	49 (34.8)	
> 5 km	66 (31.9)	141 (68.1)	
Transportation Availability			0.002
Available	101 (57.1)	76 (42.9)	
Limited	57 (33.3)	114 (66.7)	
Monthly Household Income			0.014
Moderate–high income	84 (56.0)	66 (44.0)	
Low income	74 (37.4)	124 (62.6)	

Bivariate analysis demonstrated significant associations between health insurance participation, distance to healthcare facilities, transportation availability, household income, and maternal–child healthcare access. Respondents with active health insurance coverage had better healthcare access than uninsured respondents ($p < 0.001$). Similarly, shorter travel distance, available transportation, and higher household income were significantly associated with improved healthcare access.

Table 3. Multivariate Logistic Regression Analysis of Factors Associated with Limited Maternal and Child Healthcare Access

Variables	AOR	95% CI	p-value
Non-active/non-insured status	2.84	1.63–4.95	<0.001
Distance to healthcare facility > 5 km	3.46	2.01–5.95	<0.001
Limited transportation availability	2.17	1.28–3.69	0.004
Low household income	1.88	1.09–3.23	0.021

Multivariate logistic regression analysis identified distance to healthcare facilities as the strongest predictor of limited maternal and child healthcare access in coastal areas (AOR = 3.46; 95% CI: 2.01–5.95; $p < 0.001$). Respondents without active health insurance were nearly three times more likely to experience limited healthcare access compared with insured participants (AOR = 2.84; 95% CI: 1.63–4.95; $p < 0.001$). Transportation limitations and low household income also significantly contributed to reduced healthcare accessibility.

The findings demonstrated that maternal and child healthcare access in coastal communities remained strongly influenced by structural and socioeconomic barriers despite relatively high national health insurance participation. Most respondents were active insurance participants; however, more than half continued to experience limited healthcare access. This result indicates that financial protection alone may not adequately address healthcare inequities in geographically isolated areas. Bivariate analysis revealed that insurance participation, transportation availability, distance to healthcare facilities, and household income were

significantly associated with healthcare accessibility. Respondents with active insurance coverage were more likely to use maternal and child health services than uninsured participants.

Nevertheless, healthcare accessibility remained constrained among populations living far from healthcare facilities and those with inadequate transportation support. Multivariate analysis further confirmed that geographic distance represented the most dominant predictor of limited healthcare access. The results suggest that healthcare financing policies should be integrated with transportation support systems, strengthened healthcare workforce development, and equitable healthcare infrastructure development. These findings emphasize that effective maternal and child health improvement in coastal communities depends not only on expanding insurance coverage but also on structural interventions that address contextual healthcare needs.

DISCUSSION

The present study demonstrated that the implementation of national health insurance policies improved utilization of maternal and child healthcare services in coastal communities; however, substantial inequalities in healthcare accessibility persisted. Although a large proportion of respondents were formally enrolled in the national insurance system, many families still experienced difficulties accessing essential maternal and child health services. These findings indicate that financial protection alone may not be sufficient to ensure equitable access to healthcare in geographically isolated coastal areas. In practice, healthcare accessibility is shaped not only by insurance coverage but also by the interactions among infrastructure availability, transportation systems, socioeconomic vulnerability, and healthcare service distribution. Consequently, the effectiveness of health insurance policies should not be interpreted solely through administrative coverage expansion, but also through their capacity to reduce structural healthcare disparities among vulnerable populations [18].

One of the most important findings of this study was the dominant influence of geographic distance on healthcare accessibility. Mothers living far from healthcare facilities were significantly more likely to experience limited maternal and child health service utilization despite having active insurance coverage [19]. This situation reflects the continuing imbalance between healthcare financing reform and healthcare delivery capacity in remote regions [20]. Coastal communities frequently face transportation instability, long travel durations, and environmental barriers that limit timely access to healthcare services [21]. Weather conditions and limited transportation availability may further delay emergency referrals and routine healthcare visits, particularly among pregnant women and children requiring continuous monitoring. These findings suggest that insurance policies may improve affordability but fail to fully address physical and geographic barriers to healthcare access [22].

The study also identified transportation availability and household income as important determinants of maternal and child healthcare access. Families in unstable economic conditions were more likely to postpone preventive healthcare use because daily household needs often took priority over routine health visits [23]. This pattern is particularly relevant in coastal communities, where livelihoods are often dependent on seasonal fishing and fluctuating income sources. Under such conditions, indirect healthcare costs, such as transportation expenses, travel time, and lost work opportunities, may continue to discourage healthcare utilization even when direct medical costs are covered by insurance schemes [24]. These findings reinforce the understanding that healthcare inequality is multidimensional and cannot be resolved exclusively through financial policy interventions [25].

The results of this study conceptually support previous health systems theories emphasizing that universal health coverage requires simultaneous strengthening of financing mechanisms and healthcare delivery systems [26]. Insurance expansion may reduce out-of-pocket expenditure and improve service utilization among some populations, yet policy effectiveness remains constrained when healthcare infrastructure and workforce distribution are inadequate [27]. In coastal regions, healthcare accessibility depends heavily on the availability of transportation networks, emergency referral systems, healthcare personnel, and continuity of maternal and child health services.

Therefore, policy evaluation should move beyond measuring insurance participation rates to assess whether healthcare systems can deliver accessible, continuous care to geographically vulnerable populations [28].

The findings are generally consistent with previous studies reporting positive associations between health insurance participation and maternal healthcare utilization. Earlier research demonstrated that insured mothers were more likely to attend antenatal care visits, deliver in healthcare facilities, and use child immunization services than uninsured mothers. The current study similarly observed that respondents with active insurance participation experienced relatively better healthcare access. However, the present findings extend existing evidence by demonstrating that the practical benefits of insurance coverage may be substantially reduced in geographically isolated coastal communities. Unlike many previous studies focusing on urban or general rural populations, this research highlights how contextual barriers can moderate the effectiveness of health financing policies.

Another important contribution of this study lies in its focus on coastal populations, which remain underrepresented in health policy and financing research. Coastal communities possess distinct environmental, social, and economic characteristics that influence healthcare utilization patterns. Transportation interruptions due to weather conditions, reliance on unstable income sources, and limited distribution of healthcare facilities create healthcare challenges distinct from those observed in inland rural settings. The present findings, therefore, contribute to a more contextualized understanding of healthcare inequity and demonstrate that geographically adaptive health policies are necessary to ensure equitable maternal and child healthcare outcomes.

Several limitations should nevertheless be considered when interpreting the findings of this study. The cross-sectional design limited the ability to establish causal relationships between health insurance participation and healthcare outcomes because variables were measured at a single point in time. In addition, the study relied primarily on self-reported responses from structured interviews, which may have introduced recall or social desirability bias. Although quality control procedures were implemented throughout data collection, some inaccuracies in reporting healthcare utilization experiences may still have occurred.

The research was also conducted within selected coastal districts in Eastern Indonesia; therefore, the findings may not fully represent all coastal communities with different cultural, socioeconomic, and healthcare system characteristics. Variations in transportation infrastructure, local governance capacity, and healthcare resource availability across regions may influence policy implementation outcomes differently. Furthermore, this study focused primarily on healthcare accessibility indicators and did not comprehensively evaluate healthcare quality dimensions, including continuity of care, provider competence, referral effectiveness, and patient satisfaction.

Future research should employ longitudinal or mixed-methods approaches to provide a more comprehensive understanding of the long-term impact of health insurance policies on maternal and child health outcomes in vulnerable coastal populations. Longitudinal studies may help clarify causal relationships and evaluate changes in healthcare utilization patterns over time. In addition, qualitative investigations involving mothers, healthcare workers, and community leaders may provide deeper insights into sociocultural barriers influencing healthcare-seeking behavior and policy utilization. Further policy evaluation studies should also integrate healthcare quality indicators alongside healthcare accessibility measures. Examining continuity of maternal care, referral efficiency, child nutritional outcomes, and patient experiences may provide a broader understanding of whether universal health coverage initiatives truly improve healthcare equity in geographically isolated regions. Strengthening evidence regarding these dimensions will support the development of more adaptive, context-sensitive, and geographically responsive maternal and child healthcare policies for underserved coastal communities.

CONCLUSION

This study demonstrated that implementing national health insurance policies improved maternal and child healthcare utilization in coastal communities; however, significant inequalities in healthcare accessibility persisted. Active insurance participation was associated with better healthcare access, yet geographic distance, transportation limitations, and low household income continued to hinder the utilization of essential maternal and child health services. The findings indicate that financial protection alone is insufficient to achieve equitable healthcare outcomes in geographically isolated coastal regions.

The study highlights the importance of integrating health financing policies with broader health system strengthening strategies, including transportation support, equitable distribution of the healthcare workforce, and expansion of healthcare infrastructure in remote coastal areas. Policy interventions should also prioritize community-based maternal and child health services to improve continuity of care and early access to healthcare. Strengthening geographically responsive healthcare systems is essential to ensure that universal health coverage initiatives produce meaningful and equitable health improvements for vulnerable coastal populations.

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CONFLICT OF INTEREST

The authors declare that they have no competing interests.

DATA AVAILABILITY

The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to ethical and privacy considerations.

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AUTHORS' CONTRIBUTIONS

Saman contributed to the study conception and design, data collection and analysis, manuscript drafting, and final approval of the version to be published.

REFERENCES

[1] F. Abate *et al.*, "UNITY: A low-field magnetic resonance neuroimaging initiative to characterize neurodevelopment in low and middle-income settings," *Dev. Cogn. Neurosci.*, vol. 69, p. 101397, Oct. 2024, doi: https://dx.doi.org/10.1016/j.dcn.2024.101397.

[2] N. Ahmed, E. Chu, F. Mustafa, R. Javanmard, J. Jui, and J. Lee, "Understanding inequalities in spatial accessibility to multi-tier healthcare for older adults in rapidly aging Bangladesh," *J. Transp. Heal.*, vol. 44, p. 102121, 2025, doi: https://doi.org/10.1016/j.jth.2025.102121.

[3] A. Assa'ad, A. Y. Hershko, C. Irani, M. Mahdavinia, D. A. Khan, and J. A. Bernstein, "Health disparities in the Middle East: Representative analysis of the region," *J. Allergy Clin. Immunol. Glob.*, vol. 4, no. 1, p. 100350, 2025, doi: https://doi.org/10.1016/j.jacig.2024.100350.

[4] S. Baird *et al.*, "A call to action: the second Lancet Commission on adolescent health and wellbeing," *Lancet*, vol. 405, no. 10493, pp. 1945–2022, May 2025, doi: https://doi.org/10.1016/S0140-6736(25)00503-3.

[5] S. Barbado, A. Credo, D. Espiritu, N. M. Gubat, O. Llagas, and E. Onsay, "The impact of conditional cash transfer (CCT) on health and education in a coastal community: A randomized control trial (RCT) and regression discontinuity design (RDD)," *Dev. Sustain. Econ. Financ.*, vol. 2–4, p. 100026, 2024, doi: https://doi.org/10.1016/j.dsef.2024.100026.

[6] T. Bu, D. Tang, Z. Zhang, and C. Jiang, "Rural road improvement and individual health in China," *J. Asian Econ.*, vol. 98, p. 101908, 2025, doi: https://doi.org/10.1016/j.asieco.2025.101908.

[7] K. N. Cajachagua-Torres, H. G. Quezada-Pinedo, W. C. Guzman-Vilca, C. Tarazona-Meza, R. M. Carrillo-Larco, and L. Huicho, "Vulnerable newborn phenotypes in Peru: a population-based study of 3,841,531 births at national and subnational levels from 2012 to 2021," *Lancet Reg. Heal.* -

Am., vol. 31, p. 100695, 2024, doi: https://doi.org/10.1016/j.lana.2024.100695.

[8] S. L. Cutter, "The origin and diffusion of the social vulnerability index (SoVI)," *Int. J. Disaster Risk Reduct.*, vol. 109, p. 104576, 2024, doi: https://doi.org/10.1016/j.ijdrr.2024.104576.

[9] C. Field *et al.*, "Community-level social determinants of health and pregestational and gestational diabetes," *Am. J. Obstet. Gynecol. MFM*, vol. 6, no. 2, p. 101249, 2024, doi: https://doi.org/10.1016/j.ajogmf.2023.101249.

[10] C. A. Herrera *et al.*, "No time to wait: resilience as a cornerstone for primary health care across Latin America and the Caribbean, a World Bank-PAHO Lancet Regional Health Americas Commission," *Lancet Reg. Heal. - Am.*, vol. 50, p. 101240, Oct. 2025, doi: https://doi.org/10.1016/j.lana.2025.101240.

[11] G. E. Kasse *et al.*, "Food insecurity and health behaviors in a disaster-affected population: A case study of Tacloban, Philippines," *Hum. Nutr. Metab.*, vol. 41, p. 200327, 2025, doi: https://doi.org/10.1016/j.hnm.2025.200327.

[12] Z. Lan, X. Wu, X. Xing, and Y. Qian, "Factors influencing the fertility intentions among women of childbearing age in China," *Acta Psychol. (Amst).*, vol. 260, p. 105640, 2025, doi: https://doi.org/10.1016/j.actpsy.2025.105640.

[13] S. Li, N. Mohamed Nor, and S. R. Kaliappan, "Do maternal socioeconomic status influence child overweight?," *Heliyon*, vol. 10, no. 2, p. e24630, 2024, doi: https://doi.org/10.1016/j.heliyon.2024.e24630.

[14] P. Monisha Mary, A. M. Jacob, J. Jithin Daniel, and A. K. Shetty, "Estimation of out-of-pocket expenditures on health in a coastal rural community in Karnataka, India," *Soc. Sci. Humanit. Open*, vol. 11, p. 101553, 2025, doi: https://doi.org/10.1016/j.ssaho.2025.101553.

[15] R. J. Nathanael, L. N. Adyanis, and K. Oginawati, "The last decade epidemiologic concern of drinking water contaminants of emerging concern (CECs) in Asian Countries: A scoping review," *Heliyon*, vol. 10, no. 20, p. e39236, 2024, doi: https://doi.org/10.1016/j.heliyon.2024.e39236.

[16] K. O'Sharkey *et al.*, "Prenatal exposure to criteria air pollution and traffic-related air toxics and risk of autism spectrum disorder: A population-based cohort study of California births (1990–2018)," *Environ. Int.*, vol. 201, p. 109562, 2025, doi: https://doi.org/10.1016/j.envint.2025.109562.

[17] A. A. Shah *et al.*, "Health and livelihood impacts of flood hazards on internally displaced persons in Pakistan," *Int. J. Disaster Risk Reduct.*, vol. 119, p. 105295, 2025, doi: https://doi.org/10.1016/j.ijdrr.2025.105295.

[18] Suprapto, "Digital Transformation and Collaborative Innovation Public Health Services in Indonesia: A Qualitative," *J. Interdiscip. Heal.*, vol. 2, no. 2, pp. 72–82, Mar. 2026, doi: https://doi.org/10.61099/jih.v2i2.253.

[19] S. Suprapto and Nawir Rahman, "Transformational Leadership, Knowledge Sharing, and Health Policy: A Qualitative Study in Organizational Contexts," *J. Edukasi Ilm. Kesehat.*, vol. 4, no. 1, pp. 9–18, Mar. 2026, doi: https://dx.doi.org/10.61099/junedik.v4i1.216.

[20] I. Syarif, W. Langelo, J. Jukarnain, A. Nursiah, and N. Masita, "Family Health Tasks and Childhood Stunting in Primary Care: A Cross-Sectional Study in Indonesia," *J. Ilm. Kesehat. Sandi Husada*, vol. 15, no. 1 SE-Articles, pp. 49–59, Apr. 2026, doi: https://doi.org/10.35816/jiksh.v15i1.206.

[21] S. E. Ulrich, M. M. Sugg, M. R. Desjardins, and J. D. Runkle, "Disparities in spatiotemporal clustering of maternal mental health conditions before and during the COVID-19 pandemic," *Health Place*, vol. 89, p. 103307, 2024, doi: https://doi.org/10.1016/j.healthplace.2024.103307.

[22] S. E. Ulrich, M. M. Sugg, D. Guignet, and J. D. Runkle, "Mental health disparities among maternal populations following heatwave exposure in North Carolina (2011–2019): a matched analysis," *Lancet Reg. Heal. - Am.*, vol. 42, p. 100998, 2025, doi: https://doi.org/10.1016/j.lana.2025.100998.

[23] Y. Wu and X. Zhang, "State-led regional development strategy and multidimensional health poverty of the residents: Evidence from the China's great western development program," *Econ. Hum. Biol.*, vol. 57, p. 101494, 2025, doi: https://doi.org/10.1016/j.ehb.2025.101494.

[24] Y. Yan *et al.*, "Provincial Maternal and Child Information System in Inner Mongolia, China: Descriptive Implementation Study," *JMIR Pediatr. Parent.*, vol. 7, 2024, doi: https://doi.org/10.2196/46813.

[25] C. Yu, W. Shen, and Z. Zhang, "Assessing progress toward sustainable development in China and its impact on human well-being," *Environ. Impact Assess. Rev.*, vol. 110, p. 107729, 2025, doi: https://doi.org/10.1016/j.eiar.2024.107729.

[26] S. Yu, Q. Guo, and Y. Liang, "The power of education: The intergenerational impact of children's education on the poverty of Chinese older adults," *Int. J. Educ. Dev.*, vol. 116, p. 103297, 2025, doi: https://doi.org/10.1016/j.ijedudev.2025.103297.

[27] T. A. Bin Zaman, T. Haque, H. Sen Gupta, M. Sameer, and O. Nofal, "Computational review of disaster resilience research in Bangladesh," *Prog. Disaster Sci.*, vol. 28, p. 100486, 2025, doi: https://doi.org/10.1016/j.pdisas.2025.100486.

[28] Y. Zhao, H. Fan, Y. Luo, R. Zhang, and X. Zheng, "Gender Inequalities in Employment of Parents Caring for Children With Autism Spectrum Disorder in China: Cross-Sectional Study," *JMIR Pediatr. Parent.*, vol. 7, 2024, doi: https://doi.org/10.2196/59696.