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Analysis of The Influence of Social Ecological Factors on Access To Health Services By Women Giving Birth In Kupang Regency: Cross-Sectional Study

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ABSTRACT

Background: *The socio-ecological model describes how women's access to health services is influenced at various levels, including the individual, interpersonal, community, organizational, and policy levels.*
Objective: *to analyze The Influence of social ecological factors on access to health services by women giving birth in Kupang Regency*
Methods: *correlation analytical research, with a cross-sectional design. The sampling technique used was purposive sampling for 1 month, which obtained up to 112 samples. This research was carried out at Kupang Regency. The independent variable was socioeconomic position, education level, residence, age, employment status, and belief, and the dependent variable was access to health services. Data were collected using the instruments in this study are the Emotional Belief Questionnaire (EBQ) The overall Cronbach's alpha for the (EBQ) scale was 0.84. Statistical test using the Chi-Square test.*
Results: *socioeconomic(p-value=.000), education level (p-value=.000), Residence (p-value=.000), age (p-value=.000), work status (p-value=.000), and anxiety (p-value=.000). There is a significant related between socioeconomic position, education level, location, age, employment status, and belief in access to health services.*
Conclusion: *Socioeconomic status, level of education, residence, age, employment status, and beliefs all affect a woman's ability to get health care during childbirth.*
Keywords: *Women giving birth, Socio ecological, Access, Health services, Cross-sectional, Chi-Square test.*

ABSTRAK

Latar Belakang: Model sosio ekologis menggambarkan bagaimana ibu bersalin dalam mengakses pelayanan kesehatan dipengaruhi pada berbagai tingkatan, termasuk tingkat individu, interpersonal, komunitas, organisasi, dan kebijakan..

Tujuan: Menganalisis pengaruh faktor sosio-ekologis terhadap akses pelayanan kesehatan oleh ibu bersalin di Kabupaten Kupang.

Metode: Penelitian analitik korelasional, dengan desain potong lintang. Teknik pengambilan sampel yang digunakan adalah purposive sampling selama 1 bulan, sehingga diperoleh 112 sampel. Penelitian ini dilakukan di Kabupaten Kupang. Variabel bebasnya adalah status sosial ekonomi, tingkat pendidikan, tempat tinggal, usia, status pekerjaan, dan keyakinan, sedangkan variabel terikatnya adalah akses pelayanan kesehatan. Data dikumpulkan menggunakan instrumen dalam penelitian ini yaitu Emotional Belief Questionnaire (EBQ). Nilai alpha Cronbach keseluruhan untuk skala (EBQ) adalah 0,84. Uji statistik menggunakan uji Chi-Square.

Hasil: status sosial ekonomi (nilai p = 0,000), tingkat pendidikan (nilai p = 0,000), tempat tinggal (nilai p = 0,000), usia (nilai p = 0,000), status pekerjaan (nilai p = 0,000), dan kecemasan (nilai p = 0,000). Terdapat hubungan yang signifikan antara status sosial ekonomi, tingkat pendidikan, lokasi, usia, status pekerjaan, dan keyakinan terhadap akses terhadap layanan kesehatan.

Kesimpulan: Status sosial ekonomi, tingkat pendidikan, tempat tinggal, usia, status pekerjaan, dan keyakinan semuanya memengaruhi kemampuan perempuan untuk mendapatkan layanan kesehatan saat melahirkan..

Kata Kunci: wanita bersalin, Sosio ekologi, Akses, Layanan kesehatan, Lintas seksi, Uji Chi-quare.

INTRODUCTION

Maternal mortality rates have decreased globally since the worldwide commitment to reduce maternal mortality rates (MMR), with a substantial 34% drop between 2000 and 2020 (Kartiningrum, E. D., & Ginka, 2024). Globally, the MMR for 2021 was 159 deaths per 100,000 live births. According to data from the Indonesian Ministry of Health for 2022, Indonesia's MMR was 183 per 100,000 live births. The average pregnancy visit coverage rate in NTT Province was 52.2% in 2019, 66% in 2020, and 56% in 2021. Data on the achievement of prenatal care tests by province for three consecutive years demonstrates that NTT Province remains extremely low in terms of (Senci Marselin Beti et al., 2024). Meanwhile, in East Java Province, maternal death rates fell dramatically from 1,279 in 2021 to 499 in 2020 (Rudiyanti, 2024). Maternal mortality has been linked to maternal health service coverage, including for women giving birth, women in labor, and postpartum women. (Sri, 2025). Adequate health service coverage is recognized to have an important impact on pregnancy and maternal outcomes, with women giving birth being advised to have at least four prenatal care appointments. (Aprianti, D., Ulfa, L., & Hartono, 2024). This is aimed at minimizing maternal morbidity and death. It is also indirectly connected to the availability of healthcare services throughout pregnancy and delivery through the socio-ecological model. (Rudiyanti, N., & Utomo, 2024). The SEM is a public health framework that describes how health is impacted at multiple levels, including the individual, interpersonal, community, organizational, and policy levels. Key themes were identified, and factors contributing to menstrual health and hygiene were categorized according to the level of the socio-ecological model (SEM) (Luu et al., 2022).

Access to health care facilities, together with a history of trained health workers (such as doctors or midwives), can lower the chance of mortality while also providing complete treatment. (Monchalin et al., 2022). This refers to the discovery that care provided by trained health professionals prior to, during, and after delivery can improve the safety of women and newborns. (Devi et al., 2022). High-risk pregnancies with a history of maternal disorders, such as gestational hypertension, preeclampsia, eclampsia, and metabolic variables that contribute to unstable women's health, worsen unequal access to health care facilities. As a result, having a history of health issues, along with restricted access to health care, raises the risk of morbidity and death. (Sharma et al., 2007). This is consistent with the situations described in the delays faced by women giving birth in seeking help, getting aid in a timely way, and obtaining sufficient care. (Nash Ojanuga & Gilbert, 1992). In general, these delays are caused by a lack of information among women, their families, and close relatives about emergency illnesses that require immediate and proper care. (Matin et al., 2021). Unskilled and incompetent caregivers are providing care for women giving birth, aiding with deliveries, and caring for postpartum moms, which is delaying awareness of the need for therapy. The importance of evaluating maternal mortality is highlighted owing to the possible health, social, and economic consequences. (Marshall et al., 2005). Furthermore, this affects the right to sufficient reproductive health care. As a result, it is critical to investigate the association between maternal mortality rates in Indonesia and health-care coverage for women giving birth, women in labor, and postpartum women giving birth in Kupang. This study was conducted to identify the characteristics of women giving birth, women in labor, and postpartum women giving birth. Based on the issues and needs that have been raised, the author wishes to analyze the social-ecological factors affecting women's access to health services in Kupang Regency. This research has received a letter of ethical approval from Universitas NHM with the number: No: 2811/KEPK/UNIV-NHM/EC/III/2025.

METHOD

Participant characteristics and research design

The subject matter is a correlational analytic investigation, trying to explain, estimate, and test associations based on current theories to see the link between the variables of social-ecological factors affecting women's access to health services. This type of research is descriptive analytic with a cross-sectional design. The population in this study was all women giving birth at Kupang district in the last three months, with an average of 112 women giving birth.

Sampling procedures

The sampling technique in this study is non-probability sampling with a purposive sampling technique, and is taken according to the criteria. Inclusion criteria: Women in their first pregnancy giving birth. Exclusion criteria: Has a history of severe mental disorders such as schizophrenia, bleeding during women giving birth, women giving childbirth complications (fibroids, cancer, cysts, and diseases causing bleeding)

Sample size, power, and precision

The Lameshow algorithm yielded a sample size of 112 women giving birth. Independent factors include anxiety, socioeconomic status, education level, residence, age, employment status, and wealth status, as well as dependent variables such as access to health services. The tools used in this study include the initial validation of a 16-item self-report measure called the Emotion Beliefs Questionnaire (EBQ). Confirmatory factor analyses found its structure to consist of three first-

order factors: a controllability factor spanning both negatively and positively valanced emotions (General-Controllability), and two valence-specific usefulness factors (Negative-Usefulness, Positive-Usefulness). The Emotional Belief Questionnaire (EBQ) is a reliable psychometric tool for testing the multidimensional emotion belief construct. The capacity to evaluate views about the controllability and utility of emotions across both valences is a promising strength of the measure, paving the way for future research into the complicated link between emotion beliefs and fundamental emotional outcomes. Subscale score: Negative-Controllability Sum items 1, 5, 9, 13. Measurement: Beliefs about how uncontrollable negative emotions are, Positive-Controllability Sum items 2, 6, 10, 14, measurement: Beliefs about how uncontrollable positive emotions are, Negative-Usefulness Sum items 3, 7, 11, 15 measurements: Beliefs about how useless (e.g., undesirable, unimportant, or harmful) negative emotions are. Positive-Usefulness Sum items 4, 8, 12, 16, measurement: Beliefs about how useless (e.g., undesirable, unimportant, or harmful) positive emotions are. The overall Cronbach's alpha for the Emotional Belief Questionnaire (EBQ) scale was 0.84.

Measures and covariates

The method of collecting data in this research is using primary data, because the researcher collected the data by using the Emotional Belief Questionnaire (EBQ), which had been tested for validity and reliability.

Data analysis

The variables that affect women's access to health services, socioeconomic status, education level, residence, age, employment status, wealth status, and dependent variables, as well as their frequency and percentage values, were obtained from the univariate analysis. Initially, the Chi-Square Test was used in the study. After that, a collinearity test was performed to see if the independent variables had a statistically significant association. Furthermore, the statistical analyses for the survey were performed using IBM SPSS Statistics 26 software, and the findings of the statistical tests were achieved with an error rate (α) = 5% and a 95% degree of significance. The findings may be interpreted if the p-value of the parameter α is 0.05.

RESULTS AND DISCUSSION

Characteristics of Respondents

The study showed that the proportion of women giving birth

Table 1: The Results of Bivariate Analysis (n=112)

Variable	Access to Health Services		P-value
	Yes (n=68)	No (n=44)	
Socioeconomic status			.000*
Poorest	95.1%	4.9%	
Poorer	95.6%	4.4%	
Middle	97.7%	2.3%	
Richer	96.8%	3.2%	
Richest	96.1%	3.9%	
Education level			.000*
No education	94.6%	5.4%	
Primary	96.3%	3.7%	
Secondary	93.5%	6.5%	

Higher	93.9%	6.1%	
Residence			.000*
Urban	92.8%	8.2%	
Rural	96.1%	3.9%	
Age group			.000*
15-19	92.3%	7.7%	
20-24	93.8%	7.2%	
25-29	96.6%	4.4%	
30-34	92.3%	8.7%	
35-39	89.7%	10.3%	
40-44	93.7%	7.3%	
45-49	95.4%	4.6%	
Employment status			.000*
Unemployed	96.8%	4.2%	
Employed	93.7%	6.3%	
Belief			.000*
Beliefs about how uncontrollable negative emotions are	97.1%	2.9%	
Beliefs about how uncontrollable positive emotions are	98.6%	1.4%	
Beliefs about how useless (e.g., undesirable, unimportant, or harmful) negative emotions are	98.7%	1.3%	
Beliefs about how useless (e.g., undesirable, unimportant, or harmful) positive emotions are	93.8%	2.1%	

** Indicated 0.05 level*

Table 1 shows the findings of bivariate analysis. Based on Socioeconomic status, women giving birth with middle have the highest proportion of women giving birth, and Socioeconomic status is significantly related to experiencing access to health services. Supported by other research, according to this analysis, socioeconomic variables both impeded and facilitated women refugees' and asylum seekers' access to mental health services.. Addressing socioeconomic determinants of health can help to minimize obstacles and improve facilitators of access to mental health care for vulnerable groups such as refugee women. One significant limitation of the evidence in this analysis is that certain data may be underreported or misreported due to the sensitive and highly stigmatizing nature of mental health concerns in refugee communities. (DeSa et al., 2022). Even perceived stigma and fear of discrimination contributed to a lack of confidence in healthcare personnel, as well as a fear of disclosure, which prevents revelation. Women reported low understanding of accessible support services, an absence of health professional screening, and an inadequate reaction when they confessed to the occurrence of domestic and familial violence, which combined to decrease their healthcare access. (Papas et al., 2023). Besides that, being exposed to low socioeconomic status was Low, and middle-income nations have little decision-making autonomy for maternal health care. It was impacted by sociodemographic variables as well. Educational accessibility and income-generating generating should have been advocated so that women could make their own decisions. (Gebeyehu et al., 2022). Meanwhile, other research has been conducted among women seeking treatment in safety-net settings. Unmet childcare needs lead to delays in care, which may affect health outcomes. (Gaur et al., 2024). Based on education level, women giving birth with primary education levels have the highest proportion of experiencing access to health services, and education level is significantly related to experiencing access to health services, Women giving birth showed a significant As a result, in order to promote professional maternal health care utilization, women's

education above the primary level must be prioritized. The government should also work to strengthen community infrastructure and security in all areas and locales. (Amwonya et al., 2022)

Regarding the type of residence, women giving birth in rural areas have a higher ratio than those in urban areas, who are experiencing access to health services, and residence is significantly related to experiencing access to health services. In accordance with other research, Although women have significantly increased healthcare services for women Veterans, rural women Veterans continue to face barriers to enrolling in and accessing women's healthcare due to a lack of awareness of such programs and the intricacies of eligibility and enrollment. Targeted engagement with rural women Veterans who are not registered in women's care is one recommended strategy for raising knowledge of the enrollment procedure, eligibility, and extension of women's healthcare services. Creative techniques for overcoming access and transportation limitations in rural areas are also required (Rohs et al., 2023). Based on Age Group, women giving birth in the 25-29 age group have the highest proportion of experiencing access to health services, and Age Group significantly related among experiencing access to health services, supported by other research that Most women providing birth are illiterate, between the ages of 20 and 35 (Fegita et al., 2022). Evidence on the influence of maternal age has been inconsistent (18-20), presumably due to the use of various ages in assessment (Aksünger et al., 2022). Maternal age between 15 and 24 years (AOR = 6.9, 95% CI: 2.89-8.81), education, parity, frequency, timeliness, and media availability were all significantly linked with missing access to health care follow-up. As a result, all stakeholders should focus on advocating for and expanding the benefits of access to health care, which will play a vital role in enhancing client follow-up for these important services (Mussa et al., 2023).

Regarding Employment status, Unemployed women giving birth have a higher ratio than those employed, to experiencing accessing women healthcare, and Employment status is significantly related among those experiencing accessing women healthcare status. Support other research that This may assist the most vulnerable mothers and children when they need it the most, providing children a better start in life, with health and economic advantages considerably outweighing the expenses (Luthuli et al., 2022). Finally, based on Belief, Beliefs about how useless (e.g., undesirable, unimportant, or harmful) negative emotions are women giving birth have a higher ratio than those Belief others, to experiencing accessing women's healthcare, consider additional studies that this investigation shows that socio-cultural views are widespread and persist throughout the peripartum period. Some of these social activities tend to influence the use of some critical mother and child health practices. Accepting innocuous social customs during labor, on the other hand, will increase trust, cater to the community's viewpoint about birthing, and promote competent delivery (Ansong et al., 2022). Another research that the ubiquity of inadequate understanding, as well as the dominance of prior experiences and community beliefs, makes it difficult for a woman to make an educated decision regarding her desired site of birth (Nyakang'o & Booth, 2018). Meanwhile, other research that These publications documented how cultural attitudes and behaviors hampered safe delivery reporting outcomes such as vesicovaginal fistula and fetal death. Some cultural attitudes and behaviors favored unskilled birth attendants, such as matriarchal figures and traditional untrained birth attendants, above competent midwives. First-time moms or primiparous women were asked by their families to stay at home and give birth with the assistance of inexperienced birth attendants who had little or no physiological understanding of labor and birth. Other cultural customs include requiring women to confess an adulterous conduct to satisfy the gods and ensure safe childbirth (Bulndi et al., 2022).

LIMITATION OF THE STUDY

The researchers acknowledged the limitations of this study. First, the status of husbands' support may contribute to social and belief factors in women's access to health services. Women in labor cannot fully assess the availability of health services, which may contribute to mistrust in accessing them. Therefore, it would be beneficial to include husbands and family support in measuring women's beliefs, although cultural aspects should be further examined.

CONCLUSIONS AND SUGGESTIONS

Women giving birth have access to healthcare services influenced by socioeconomic status, education level, location, age, employment status, and religious beliefs. Future researchers should conduct further studies on husband support, access to healthcare, culture, and spirituality about maternal health.

ETHICAL CONSIDERATIONS

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Conflict of Interest

No conflict of interest that is directly or indirectly related to the current article was found.

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