Determinants of Family Empowerment in Utilizing Health Services in Kupang, Indonesia: A Cross-Sectional Study

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1. Introduction
Complications during pregnancy, childbirth, and postpartum are responsible for maternal deaths1. Health facility delivery can reduce maternal deaths by 16-33%.2,3 Poor access is associated with worse maternal health outcomes4,5. The Regional Government (NTT) policy, namely the KIA Revolution and 2H2 center, is to stop giving birth by birth attendants at home and prevent delays in getting fast and appropriate treatment.6; however, deliveries in Health Facilities are far from the Strategic Plan target (88.9%). Indonesian Health Profile data (2021) shows that NTT Health Facilities deliveries (2021) were only 68.8%.7 In Kupang Regency, it is much lower (63.4%). This cannot be separated from the role of culture and social structure of Timorese society; namely Timorese customs are related to local cultural practices.8 Timorese people still trust birth attendants, advice from parents/elders, and traditional medicine. The majority of Timorese people still live with their parents, so care decisions depend on the parents/relatives. There is a tradition of "Se’i-tatobi), namely that mothers and babies will bathe in hot water and have a fire during the postpartum period. Apart from that, Timorese society is a patriarchal society where women do not have a significant position which can be seen from the weak position of women relative to men. Method. This research uses mixed method research, this research looks for the influence between variables, carried out with a cross-sectional research design. The research target population is families (mother-in-law, biological mother, or other relatives involved) who have pregnant women in the third trimester of pregnancy in Kupang Regency. The number of puskesmas in Kupang Regency is 26 puskesmas. The sample required is relatively large, the minimum required is up to 50 data samples for a predictor (independent) variable. It can select relationships because it uses a non-linear log transformation approach to predict odds so it uses a logistic regression analysis test. Result. Based on the data above, it shows that of the ten independent variables, there are 2 variables, namely parity and husband's job, which do not affect family empowerment, while the variables of mother's age, mother's education, husband's age, husband's education, place of birth of last child, helper, access, birth status are significant influencing family empowerment. Conclusion. Based on the data above, the mother's age, mother's education, husband's age, husband's education, place of birth of the last child, helper, and access also show family empowerment which significantly influences the family's ability to use it.

Abstract
Complications during pregnancy, childbirth, and postpartum are responsible for maternal deaths, however, childbirth in health facilities is far from the Strategic Plan target (88.9%). The majority of Timorese people still live with their parents, so care decisions depend on the parents/relatives. There is a tradition of "Se’i-tatobi), namely that mothers and babies will bathe in hot water and have a fire during the postpartum period. Apart from that, Timorese society is a patriarchal society where women do not have a significant position which can be seen from the weak position of women relative to men. Method. This research uses mixed method research, this research looks for the influence between variables, carried out with a cross-sectional research design. The research target population is families (mother-in-law, biological mother, or other relatives involved) who have pregnant women in the third trimester of pregnancy in Kupang Regency. The number of puskesmas in Kupang Regency is 26 puskesmas. The sample required is relatively large, the minimum required is up to 50 data samples for a predictor (independent) variable. It can select relationships because it uses a non-linear log transformation approach to predict odds so it uses a logistic regression analysis test. Result. Based on the data above, it shows that of the ten independent variables, there are 2 variables, namely parity and husband's job, which do not affect family empowerment, while the variables of mother's age, mother's education, husband's age, husband's education, place of birth of last child, helper, access, birth status are significant influencing family empowerment. Conclusion. Based on the data above, the mother's age, mother's education, husband's age, husband's education, place of birth of the last child, helper, and access also show family empowerment which significantly influences the family's ability to use it.
services, or providing care that takes into account individual preferences and aspirations and the culture of the community, is an important component of quality care\(^9\). Most women give birth at home due to several individual factors, family, lack of judgment, and dependence on their husband and other family members for the final decision about the place of birth\(^10\).

The strong impact of Timorese social and cultural structures on families requires a health policy strategy to improve maternal and child health through families with a model of family empowerment through a cultural and social structure approach.\(^{11}\). This model has never been studied before, so researchers want to prove that empowering families using an approach to Timorese culture and social structure can be a solution for utilizing health facilities for mothers. The family empowerment model is based on the principle that families can play a role in strengthening family functions to maintain the health of family members. Family empowerment is an approach model based on the belief that every family can develop and become more independent. Every family also has a culture and social structure that can be a family strength in caring for mothers during pregnancy, postpartum delivery, and breastfeeding. The strategy for utilizing health facilities is by Leininger's transcultural nursing theory, health workers can help families by maintaining culture\(^{12}\).

2. Materials And Methods

This research uses mixed-method research. The initial stage of research was carried out using an analytical observational approach, namely collecting data without intervention in the population. The analysis intended in this research looks for an influence between variables, carried out with a cross-sectional research design. The research target population is families (mother-in-law, biological mother, or other relatives involved) who have pregnant women in the third trimester of pregnancy in Kupang Regency. The number of puskesmas in Kupang Regency is 26 puskesmas. The sample size for this stage 1 research is 20 (twenty) indicator variables, so the first stage requires a sample of 20 x 10 or approximately 200 samples. The sampling technique used was Cluster Random Sampling. Data collection uses a questionnaire. Inferential analysis in this research does not require a linear relationship between the independent variable and the dependent variable. The independent variable does not require the assumption of multivariate normality. The assumption of homoscedasticity is not required. The independent variable does not need to be converted into metric form (interval or ratio scale). The dependent variable must be dichotomous. (2 categories, for example: high and low or good and bad). The independent variable does not have to have the same diversity between groups of variables, Categories in the independent variable must be separate from each other or exclusive. The sample required is relatively large, minimum required of up to 50 data samples for a predictor (independent) variable. It can select relationships because it uses a non-linear log transformation approach to predict odds so it uses a Logistic regression analysis test.

3. Results and Discussion

Table 1 Analysis results based on Ordinal regression test with dependent Family Empowerment

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Mean±SD</th>
<th>Max-Min</th>
<th>P-Value</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mother's Age</td>
<td>1.78±0.826</td>
<td>1-3</td>
<td>0.000</td>
<td>There is influence</td>
</tr>
<tr>
<td>2</td>
<td>Mother's Education</td>
<td>1.84±0.896</td>
<td>1-3</td>
<td>0.014</td>
<td>There is influence</td>
</tr>
<tr>
<td>3</td>
<td>Husband's Age</td>
<td>2.38±0.681</td>
<td>1-3</td>
<td>0.027</td>
<td>There is influence</td>
</tr>
<tr>
<td>4</td>
<td>Husband's Job</td>
<td>1.71±0.103</td>
<td>1-4</td>
<td>0.505</td>
<td>No influence</td>
</tr>
<tr>
<td>5</td>
<td>Husband's Education</td>
<td>1.82±0.867</td>
<td>1-3</td>
<td>0.020</td>
<td>There is influence</td>
</tr>
<tr>
<td>6</td>
<td>Parity</td>
<td>1.36±0.480</td>
<td>1-2</td>
<td>0.413</td>
<td>No influence</td>
</tr>
<tr>
<td>7</td>
<td>place of birth of the last child</td>
<td>1.76±0.815</td>
<td>1-3</td>
<td>0.000</td>
<td>There is influence</td>
</tr>
<tr>
<td>8</td>
<td>Helper</td>
<td>1.76±0.809</td>
<td>1-3</td>
<td>0.000</td>
<td>There is influence</td>
</tr>
<tr>
<td>9</td>
<td>Access</td>
<td>1.27±0.444</td>
<td>1-2</td>
<td>0.000</td>
<td>There is influence</td>
</tr>
<tr>
<td>10</td>
<td>Maternity status</td>
<td>1.27±0.446</td>
<td>1-2</td>
<td>0.000</td>
<td>There is influence</td>
</tr>
</tbody>
</table>

Primary Data: 2023

Based on the data above, it shows that of the ten independent variables, there are 2 variables, namely parity and husband's job, which do not affect family empowerment, while the variables of mother's age, mother's education, husband's age, husband's education, place of birth of last child, helper, access, birth status are significant, influencing family empowerment.

Table 2 Distribution of Informant Characteristics of Maternal Maternity

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Mean±SD</th>
<th>Max-Min</th>
<th>P-Value</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Family empowerment</td>
<td>1.69±0.873</td>
<td>1-3</td>
<td>0.000</td>
<td>There is influence</td>
</tr>
</tbody>
</table>

Primary Data: 2023
Based on the data above, it shows that family empowerment significantly influences the family's ability to utilize it.

**Discussion**

**The Effect of Maternal Age on Family Empowerment**

Based on the research results, shows that the mother's age significantly influences family empowerment based on the results of \( p \text{ value} = 0.000 < \alpha = 0.05 \). Socio-demographic factors influence the utilization of antenatal care and the use of modern contraception. Increasing maternal age increases antenatal care visits. Most studies have found similar results to this study. Women's education level shows a very strong relationship between the use of antenatal care and the use of contraception. The findings in this study confirm the findings of other studies in developing countries. Research conducted by Adhikari proves that education level increases the frequency of antenatal care visits. This is because educated women tend to be more financially independent and have better information about the importance of antenatal care for mothers and babies. The effectiveness of empowering mothers in caring for babies shows that there are differences between knowledge, family support, and lactation status before and after providing health education with a modeling approach.

**Maternal Education towards Family Empowerment**

Based on the research results, shows that maternal education significantly influences family empowerment based on the results of \( p \text{ value} = 0.014 < \alpha = 0.05 \). The increase in knowledge of pregnant women before and after counseling was 46.7\%. The results of this activity are in line with the theory that factors that influence a person's knowledge include information, education, employment, age, interests, experience, and culture. These results are also in line with the increase in knowledge of pregnant women after being given counseling about nutrition in pregnancy.

**Husband's Age on Family Empowerment**

Based on the research results, shows that maternal education significantly influences family empowerment based on the results of \( p \text{ value} = 0.027 < \alpha = 0.05 \). The importance of the husband's age by involving the person closest to the pregnant mother, namely the husband/family. After the risk factors are found, Communication, Information, and Education are carried out to the pregnant mother and husband/family for midwifery care during pregnancy and planning for a safe birth as well as preparation for planned referrals if conditions occur. emergencies. The husband is the first and foremost person in providing support and encouragement to the wife for pregnancy care. At the community health center, the husband attended the activity. The results of discussions with the husband showed that previously they had never accompanied their wife during pregnancy checks and even rarely communicated with their wife regarding the current pregnancy. Also, et al (2013) explained that the husband's role is needed to maintain the health of pregnant women who are at risk. The role of the husband, among others, is as a decision maker for measures to prevent complications by preparing for nutritional needs during pregnancy, preparing funds in emergencies, and providing mental and emotional support to the mother.

**Husband's work towards family empowerment**

Based on the research results, shows that maternal education does not significantly influence family empowerment based on the results of \( p \text{ value} = 0.505 > \alpha = 0.05 \). This is due to their work as farmers, who spend more time in the fields and paddy fields. This husband's lack of attention also results in them not knowing that their wife's current pregnancy is risky. Husband's support includes: preparing funds for childbirth, discussing with the wife about the current pregnancy so that the pregnant mother feels empathy, and together with the wife for pregnancy checks. If the husband is absent, other family members, such as the in-laws, accompany the pregnant mother for pregnancy checks. At this community health service center there is also an inaccurate understanding of husbands and wives regarding nutritious foods such as fish and eggs. Meanwhile, pregnant women need more nutrients for the growth of the fetus and themselves. However, after being given education, the family will set aside the results of fishing, namely fish as a food source of nutrition that will be consumed by pregnant women. Husbands and pregnant women understand that fish is the best source of protein for the health of pregnant women and fetal development.

**Husband's Education Towards Family Empowerment**

Based on the research results, shows that the husband's education significantly influences family empowerment based on the results of \( p \text{ value} = 0.020 < \alpha = 0.05 \). A husband's education contributes to family empowerment, especially in the care of pregnant women. Pregnant women's compliance in
Consuming Fe tablets can be influenced by the husband's education. Higher education can guarantee that knowledge is better than lower education. The higher the level of education, the easier it will be for someone to understand and influence behavior change, including in the health sector. Non-compliance with consuming Fe tablets can be influenced by the role of midwives in providing counseling regarding consuming Fe tablets which is not optimal, also in the use of Maternal and Child Health books, this is possible due to the availability of time for each patient who is only a few and rarely accompanied by her husband during ANC (Antenatal Care), so that mothers Pregnant women do not understand the importance of consuming Fe tablets. This is in line with research that midwives have an important role in the compliance of pregnant women in consuming Fe tablets.

Parity toward family empowerment

Based on the research results, shows that parity does not significantly influence family empowerment based on the results of p value = 0.413 > α = 0.05. Pregnancy parity status, both primary and multiple, does not contribute to family empowerment, especially in ANC (antenatal care) because it considers all pregnancies to be very important. Changes in the ability to empower families in caring for pregnant women after the intervention was carried out because direct guidance was carried out by researchers. using the existing MCH book for pregnant women which has been synchronized with the content of Pinkesga which contains the role of the family in accompanying pregnant women each trimester so that it makes it easier to make decisions and plan what should be done each trimester by pregnant women so that there is reciprocity with what is done. will be carried out by pregnant women and the role of the family in every preventive action and action that should be carried out Implementation of pregnancy checks/ANC visits for pregnant women.

The Family Empowerment Concept has three main components. First, all families have strength and can build that strength. Second, the family's difficulty in meeting their needs is not due to an inability to do so, but rather the family's social support system does not provide the family with the opportunity to achieve this, if this is not achieved, emotional changes can occur which ultimately results in prolonged stress and low self-esteem can occur. Third, to empower the family, family members try to apply skills and competencies to bring about change in the family. Optimally, it is done eight times during pregnancy, namely, once every 4 weeks from the first pregnancy check up to 28 weeks of gestation, once every 2 weeks from 28-36 weeks of gestation, and once every week from 36 weeks of gestation until the time of delivery.

A place to give birth to the last child for family empowerment

Based on the research results, shows that the place where the last child was born significantly influences family empowerment based on the results of p value = 0.000 < α = 0.05. Home birth is a birth that takes place at home, not in a hospital, not in a birthing house, or at a midwife’s practice. Home birth is divided into two, namely planned home birth and unplanned home birth. A home birth is said to be planned if a mother who intends to give birth at home meets the medical requirements and environmental criteria for optimal perinatal care and has a qualified birth attendant who works in a health care system that provides access to equipment.

Helper towards family empowerment

Based on the research results, shows that birth attendants significantly influence family empowerment based on the results of p value = 0.000 < α = 0.05. Childbirth is an event where a pregnant mother gives birth to the fruit of her pregnancy (baby, placenta, and amniotic fluid), and is known as a critical period for the woman. The people of Kupang Regency also view that childbirth is an important thing, and not only pregnant women are involved in this process but husbands and families are also involved in the success of a birth. From the results of the interviews, researchers found that the husband plays a role in the birthing process, namely preparing hot water, clothes, and all the necessities needed during the birthing process. Meanwhile, for birth positions, people choose the sitting or kneeling position for delivery rather than lying on their back or half-sitting because they believe that the sitting position is safer for the mother and baby (white blood can't rise to the head).

Access to family empowerment

Based on the research results, show that access significantly influences family empowerment based on the results of p-value = 0.000 < α = 0.05. Primary health services in Indonesia's border areas are still low. As the main provider of public health services, Community Health Centers cannot provide the greatest services to border areas and remote islands (especially border areas). Community health center services in remote border areas are greatly influenced by the affordability of services. Due to its large working area, some areas are geographically difficult to reach, the population is small, and they are

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spread out in small groups that are far from each other. Puskesmas, the Community Health Center in Indonesia, is the first-level health facility that is the spearhead in efforts to reduce disparities in health development throughout the region. Puskesmas is supported by Posyandu which aims to increase coverage of Family Planning (KB), immunization, and nutrition for toddlers. Puskesmas, which was developed in 1968, is a leading health facility that provides basic health services to the community. Since 2000, in the era of decentralization and regional autonomy, the management and development of Community Health Centers have been handed over to district/city regional governments. Thus, the development and development of Community Health Centers varies and depends on regional commitment and capacity. In terms of access to health services in East Nusa Tenggara (NTT), Community Health Centers are the health institutions most widely used by the community. In general, outpatient treatment is the treatment most widely used by the people of NTT, but the costs are still higher than the national average. When compared with the size of the country, there is a gap in the number of medical personnel. In NTT there are 1.4 doctors per community health center, lower than the national average of 1.8 doctors per community health center. The number of midwives working in community health centers in NTT is also lower than the national average. The limited number of general practitioners, specialist doctors, and dentists can reduce the quality of services provided to residents.61

Maternity status on family empowerment

Based on the research results, show that maternity status significantly influences family empowerment based on the results of p value= 0.000 < α = 0.05. The midwifery care provided is holistic, always respecting clients and their families and realizing that clients and their families have the right to determine appropriate care for themselves. Activities carried out include advocacy activities educating WUS and carrying out nursing actions in overcoming pregnancy problems, childbirth, and postpartum, assisting and detecting early deviations from normal conditions during pregnancy until delivery and the period between two pregnancies, providing consultations about pregnancy care, pregnancy management, assisting in the birthing process and assisting with normal childbirth, caring for postpartum women and newborn babies until they are 40 days old towards independence, referring to other health teams for conditions that require further treatment accompanying experiences during the fertile age period is a maturation event (Maturation), so that making birth a family-centered event (Family Center Maternity Care Concept) and a very happy experience. Service management in the maternity nursing area is a form of professional nursing service aimed at women in the reproductive age period (WUS) related to the reproductive system, pregnancy, childbirth, postpartum, between two pregnancies, and newborns up to 40 days of age, and their families, focuses on fulfilling basic needs in adapting physically and psychosocially to achieve family well-being using a nursing process approach.62

Cultural Influence Se'I and Tatobi cultural practices on family empowerment

Based on the research results, shows that Se'I and Tatobi cultural practices significantly influence family empowerment based on the results of p value= 0.000 < α = 0.05. Community mothers also still adhere to the tradition of roasting. They do the roasting in traditional houses (uma fan). The culture of Haruka h'ai/fire roasting the mother aims to restore the strength of the mother's body after giving birth and prevent the mother from going crazy. Apart from the hatuka h'ai/fire roasting tradition, postpartum mothers also have to undergo the tuhik/tatobi tradition or what is called a hot water compress, namely compressing boiling water on all parts of the mother's body after giving birth. The culture of fire roasting the mother aims to restore the strength of the mother's body after giving birth and prevent the mother from going crazy. Apart from the hatuka h'ai/fire roasting tradition, postpartum mothers also have to undergo the tuhik/tatobi tradition, namely compressing boiling water on all parts of the mother's body. The culture of the people of Malacca Regency is that mothers are required to give birth in traditional houses and some give birth in the kitchen and receive care for 40 days by a dukun (dok) or someone who is believed to have experience caring for mothers giving birth. Care for birthing mothers and postpartum mothers usually takes the form of certain food restrictions, hatuka h'ai/fire roasting and tuhik. The provisions or restrictions that must be followed by mothers after giving birth and during the postpartum period are that they cannot leave the house/room for 40 days except to go to the bathroom (Indriani, 2017). H'ai/fire roasting and tuhik culture. mothers do after giving birth. They perform the hatuka h'ai ritual to warm themselves and overcome the aches after giving birth. The culture of fire roasting the mother aims to restore the strength of the mother's body after giving birth and prevent the mother from going crazy. Apart from the hatuka h'ai tradition, postpartum mothers also have to undergo the tuhik/tatobi tradition, namely compressing boiling water on all parts of the mother's body. The roasting process in the roundhouse is also believed by local people to be an antidote to serious illness, especially in women after childbirth. Another underlying reason for doing hatuka h'ai/fire roasting or tatobi is the parents' worry if the child's body condition becomes weak and weak, it will even cause madness in the birthing mother.63

The influence of family empowerment on the family's ability to utilize health facilities.

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Based on the research results, shows that maternal education significantly influences family empowerment based on the results of p value = 0.014 < α = 0.05. Health problems are multi-dimensional problems, that is, there are many determining factors (determinants). Most of these determining factors are even beyond the reach (duties and authority) of the health sector. For example, one factor that has quite a large influence on maternal mortality rates is the large number of marriages and pregnancies that occur at a very young age. For this reason, arrangements are needed so that marriages do not occur at too young an age. The preparation and issuance of regulations on this matter are clearly outside the duties and authority of the health sector. In connection with this, it is realized that the success of the Healthy Indonesia Program with a Family Approach is also largely determined by the roles and responsibilities of other sectors outside the health sector (across sectors). As has been stated, the success of the Healthy Indonesia Program with a Family Approach is measured by the Healthy Family Index, which is a composite of 12 indicators. The more indicators a family can fulfill, the more the family status will lead to a Healthy Family. Meanwhile, the more families that achieve Healthy Family status, the closer they will be to achieving a Healthy Indonesia64.

4. Conclusion
1. There is an influence of maternal age on family empowerment in utilizing health facilities in Kupang Regency
2. There is an influence of maternal education on family empowerment in utilizing health facilities in Kupang Regency
3. There is an influence of the husband's age on family empowerment in utilizing health facilities in Kupang Regency
4. There is no influence of the husband's employment on family empowerment in utilizing health facilities in Kupang Regency
5. There is an influence of husband's education on family empowerment in utilizing health facilities in Kupang Regency
6. There is an influence of parity on family empowerment in utilizing health facilities in Kupang Regency
7. There is an influence of place of birth on family empowerment in utilizing health facilities in Kupang Regency
8. There is an influence of Helpers on empowering families in utilizing health facilities in Kupang Regency
9. There is an influence of access on family empowerment in the use of health facilities in Kupang Regency
10. There is an influence of maternity status on family empowerment in utilizing health facilities in Kupang Regency
11. There is an influence of family empowerment on the family's ability to utilize health facilities in Kupang Regency

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