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"Malaria Is Not Dangerous Disease for Me and Our Baby": A Qualitative Study of Pregnant Women in Southwest Sumba District, Indonesia

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Abstract

Malaria can harm the mother and fetus, various efforts have been made to prevent this disease in pregnant women but still do not show good results shown by the coverage of services that are still far from the target set, this condition is due to the perception of pregnant women towards malaria. This study aims to provide a complete picture of pregnant women's understanding of malaria in the socio-cultural aspects of pregnant women. This research uses qualitative methods with ethnographic design. This study was conducted in a high malaria endemic area in Southwest Sumba Regency with the highest incidence of malaria in pregnancy, informants in this study were determined purposively, data collection was carried out by in-depth interviews and participatory observation. From the results of the study, it was obtained that the understanding of pregnant women is still wrong about malaria, even pregnant women do not consider that this disease is dangerous and can affect the fetus they contain. Pregnant women still trust traditional medicine and traditional rituals in treating the symptoms of malaria. Thus it is concluded that the understanding of pregnant women about malaria is very lacking, pregnant women still consider that this disease is related to mistakes with ancestors or unfinished customs, so education about malaria in pregnancy is needed, of course, with a socio-cultural approach because pregnant women still hold fast to the local culture in carrying out their daily lives.

Keywords: *Perception, Malaria, Pregnancy, Traditional.*

INTRODUCTION

Malaria is one of the public health problems that is still a concern in the world. World Health organization (WHO) targets that by 2030 it is expected that all countries in the world will be free from malaria. Pregnant women are one of the target groups that are the focus of malaria handling, especially in pregnant women living in malaria-endemic areas. This condition is due to the impact it causes. Pregnant women who live in unstable malaria transmission areas such as Indonesia, will be more at risk of complications than pregnant women who live in areas with stable malaria transmission such as in Africa, this is because mothers who live in unstable malaria transmission areas do not have immunity to malaria, so the risk of complications in the mother and fetus will be greater (Lagerberg, 2008; Sutarto et al., 2019). The impact of malaria on mothers can result in anemia, lymph swelling, liver swelling, and even death. While the impact of malaria on the fetus can occur stunted fetal growth, low birth weight babies, malaria congenital, abortion and fetal death in the womb. Sardjono &; Fitri (2019), for that it is very important to prevent malaria in pregnant women.

The malaria prevention program for pregnant women carried out by the Government of Indonesia through the Ministry of Health of the Republic of Indonesia has been carried out since 2019 through the integrated malaria service MCH program. The integration service is only carried out specifically for malaria endemic areas (low, medium and high categories). The service has 5 key programs, namely: malaria screening at the first visit of pregnancy check-up in the first trimester, distribution of insecticide-treated mosquito nets to pregnant women (routine mosquito net program), malaria treatment for malaria-positive pregnant women, malaria education in pregnancy and home visits (Directorate General of Disease Prevention and Control, 2019).

Malaria disease on Sumba Island disease has been identified since 1975 until now (Soelarto, 1981). Sumba Island is a contributor to the incidence of malaria in East Nusa Tenggara Province, where 87 percent of malaria incidence in NTT occurs on Sumba Island (Ministry of Health of the Republic of Indonesia, 2022; Southwest Sumba, 2021). There are four districts on Sumba Island and Southwest Sumba Regency is the most populous district on Sumba Island. The district had an incidence of API malaria of 12.1 per 1000 population in 2021 and

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increased to 14.8 per 1000 population by the end of 2022. This condition shows that Southwest Sumba Regency is a high malaria endemic area.

Pregnant women's perception of malaria is very important in the success of the MCH integrated malaria service program. This study was conducted with the aim of getting an overview of pregnant women's understanding of malaria and determining what information needs to be conveyed to pregnant women to protect pregnant women living in malaria endemic areas to avoid the disease so that mothers and babies can be born healthy and safe.

REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

Malaria infection in pregnant women can have an impact on maternal and fetal morbidity and mortality. Sequestration of malaria in the mother's placenta can result in red blood cells in pregnant women infected with malaria there will be erythrocytes parasitized on the placenta on the maternal side which will cause blood flow to the fetus to decrease which results in nutritional disorders in the fetus (Chua et al., 2021). Placental blood flow will be reduced and this can cause anemia, abortion, premature birth, stillbirth or low birth weight (Fitri, Loeki Enggar; Cahyani, 2020).

Malaria in pregnant women can cause anemia through complex and multifactorial mechanisms. This condition is evidenced by the high incidence and severity of malaria in primiparous areas in areas with a high risk of malaria and the decreased prevalence of anemia in malaria-positive pregnant women who receive antimalarials. (Lagerberg, 2008) Anemia has a significant impact on maternal morbidity in all regions and is indirectly associated with maternal mortality through increased mortality (CFR) due to postpartum hemorrhage. Malaria can cause anemia in pregnant women or worsen existing anemia due to hemolysis of red blood cells infected with malaria parasites, Anemia due to malaria is more common and becomes severe in the second trimester of pregnancy (16-29 weeks). Previous iron and folic acid deficiency can worsen anemia which then triggers several complications such as the risk of pulmonary edema, the risk of postpartum hemorrhage (Bharatwajan &; Mahapatra, 2009; Lagerberg, 2008). Immunosuppression is a complication of malaria in pregnant women. Immunosuppression can make malaria infections more frequent and severe, but malaria itself can also decrease the immune response. This disease can put pregnant women at risk of secondary infections (upper respiratory tract infections or pneumonia) and algid malaria (septic shock) more common during pregnancy due to this immunosuppression (Chandrasiri et al., 2016).

The impact of malaria on the fetus, among others, is associated with an increased likelihood of Small Pregnancy Period (KMK) in pregnant women exposed to p. falciparum. (Chua et al., 2021) Malaria in pregnancy is known to be associated with decreased expression and bioavailability of placental growth factors due to placental sequestration resulting in reduced placental nutrient transport and contributing to placental insufficiency and contributing to the incidence of premature birth and low birth weight infants (BBLR) which can trigger an increased risk of infant death (Chua et al., 2021; Lagerberg, 2008).

The Government of Indonesia through the Directorate General of Infectious Disease Prevention and Control of the Ministry of Health of the Republic of Indonesia issued the MCH Integrated Malaria Service Program in 2019, a program aimed at pregnant women through integrated malaria services. Activities carried out in this integrated service include: (1) Screening, Screening is carried out through microscopic blood examination of pregnant women by laboratory officers or rapid reaction tests (Rapid Diagnostic test) by midwives or nurses. (2) distribution of insecticide-treated mosquito nets (Sardjono &; Fitri, 2019), (3) Provision of treatment if the blood test results are positive for malaria according to malaria case management guidelines. Indicators of the success of the implementation of this program can be seen, among others: malaria screening coverage in pregnant women: 90%, coverage of pregnant women who get insecticide-treated mosquito nets: 100% (Ministry of Health, Director General of P2PL, 2017; Ministry of Health of the Republic of Indonesia, 2020; Tizifa et al., 2018).

This integrated service can be carried out at Community based Health Center, Public Health Center (PHC) and Private Service facilities by midwives or nurses in the PHC work area. Several articles reported that the keys to the success of malaria prevention programs in pregnancy include: integrating malaria in pregnancy (prevention

and treatment) programs with ANC services, involving communities in the implementation of malaria prevention programs in pregnancy (screening and treatment), integrating malaria prevention programs in pregnancy with existing community programs, increasing public awareness about perceptions and understanding of malaria in pregnancy, and screening and treatment (Sardjono &; Fitri, 2019; Sucipto, 2015).

METHODS

Type And Design

This research is qualitative research and used focused ethnograpphy design. This design is used because researchers want to get a picture of the understanding of pregnant women based on their own understanding which in this design is called the emic approach. However, in the discussion, researchers will compare it with existing scientific theories (ethical approaches), thus this study uses two approaches to discuss the findings of the findings in this study (Martha &; Kresno, 2017). This qualitative research is intended to determine the extent of pregnant women's understanding of malaria, what do they do if they get malaria? and what is their and their family's view of malaria?

Data Collection Techniques

This research was conducted in North Kodi District, Southwest Sumba Regency. North Kodi District was chosen because this sub-district is the largest sub-district in Southwest Sumba Regency and has the highest incidence of malaria in this district. The research observation area was determined through determining the criteria for the observed research area, namely villages in North Kodi District that had malaria incidence in pregnant women in the past year. Based on discussions and clarifications with the local Puskesmas and from the E-Sismal report data from the South West Sumba district health office, three villages that meet the inclusion criteria were obtained namely Moro Manduyo Village, Kandaghutana Village and Kalena Rongo Village. After going through the licensing process and coordinating with the local village administration and approaching the community, then the researcher began the data collection process. Researchers collected this data for approximately three months, from September to November 2023.

Data collection in this study used semi-structured in-depth interview techniques and document studies using interview guidelines that had been prepared previously. The preparation of this interview guideline is based on research questions, research objectives and several literature studies. The interview guidelines that have been prepared have also been examined and consulted with public health experts at the University of Indonesia. After the interview guidelines were prepared, these interview guidelines were tested on several pregnant women in Southwest Sumba Regency, outside the research location and had the same characteristics. Then revisions were made and consulted again. Once approved, then the interview guidelines were used in data collection in this study. Data collection in this study was carried out by researchers and assisted by one minutes person and one field coordinator. At the time of data collection, researchers are also assisted by a cadre as a guide and assist researchers in translating questions into Sumba language.

Participants/Informants

Key informants in the maternal and child service provider in PHC at North Kori District were identified and then approached for interviews. Key informants in this study were selected based on the inclusion criteria, namely: inclusion criteria: pregnant women who have been diagnosed with malaria, postpartum mothers who during pregnancy have been diagnosed with malaria within the last 1 year. Based on the results of discussions with cadres and midwives at the PHC 15 pregnant and postpartum women were obtained who met these criteria.

Data Analysis

The interview sessions were recorded digitally and then transcribed in Indonesian. An analytical framework was applied for the data obtained with a predetermined code in each question section according to the interview guide. Emergent ideas that surfaced during the interview process were also considered, while the data were

further analyzed by reading and re-reading the transcripts to identify concepts and main issues related to the objectives and framework of the study. Numerical codes were assigned for each identified answer, relationships were established, and a thematic matrix was created. The themes were further interpreted to address the formulated questions.

The process of coding and searching for themes was carried out with the help of the application N.Vivo ver 2.0. During the analysis, all the authors met and discussed the dominant themes. The final theme was translated and interpreted with the selected quotations into Indonesian which was then translated into English for publication purposes. Sources of citations in the results section were identified using the provided abbreviations.

Trustworthiness/Rigor

Credibility, transferability, dependability, and conformability are used to assess the trustworthiness and Rigor of interview data (Sudaryono, 2021). Participants' credibility is shown when they reveal that the research transcript accurately reflects their own experiences. This study's credibility was established by triangulation and member checking (clarification of transcripts by participants). The degree to which qualitative research findings can be generalized or transferred to other researchers or areas experiencing the same problem is referred to as transferability. Auditing the entire study process ensures dependability. Conformability testing determines whether the findings of this research can be agreed upon by a large number of people. Confirmability testing was carried out in this study by communicating the research method and outcomes to community leaders, community health centers, and health services. so that the conclusions and findings might be agreed upon.

Ethical Consideration

Ethical approval was obtained from Public health Departement of Universitas Indonesia Ethical Commission with the registration number Ket- 618/UN2.F10.D11/PPM.00.02/2023 Also, written informed consent was obtained from all key informants, including for audio recording and using excerpts in publications. The purpose of the study and utilization of the results were explained to each informant.

RESULTS

Respondent Characteristics

Results from the characteristics of informant for the study, It can be seen in the table below:

Table 1. Characteristics of Participant

No	Variables	Frequency	Percentage
1	Age		
	<20 years	6	40
	20-35 years old	8	53
	> 35 years	1	7
2	Parity		
	1	3	20
	2-4	10	67
	> 4	2	13
3	Level of education		
	No school	4	27
	Elementary School	6	40
	SMP/SMA	3	20
	College	2	13

Based on table 1, it can be seen that most pregnant women and postpartum mothers who have been diagnosed with malaria during pregnancy in the last period are at the age of 20-35 years (53%), with multiparous (67%) and low education levels namely elementary and not school 67%).

Theme 1: Malaria Is Not A Dangerous Disease

The first theme that emerged from the results of the researchers' interviews with pregnant women obtained the same pattern regarding malaria. 12 pregnant women stated that this disease was normal, because they had often been exposed to malaria before, even before they became pregnant. The mother also stated that she did not know if this disease could affect the fetus. As stated in the following interview below:

"If I wasn't too afraid of getting malaria, we (*ketong)* here would never have died of malaria, if there was one it would have been excited....." (Y.K.L, 27, Interview on November 2, 2023)

The causes of malaria expressed by mothers include a dirty environment, then there are mosquito larvae that they know as "water worms", and mothers drink the water, then they can get malaria, breaking vows and promises with ancestors because they believe that they live in the land of Sumba and there are promises to ancestors that must be kept or carried out, And there are also those who argue that malaria is caused by "belis" debt or dowry that has not been paid off. All these things can be the cause of various diseases, one of which is malaria. As revealed in one of the quotes below:

"..... It could be because of drinking water that has uma caterpillars (mosquito larvae), or it could be because there is one ancestor, you know that KitAni lives in the ancestral land there is a promise that we must keep Mom, ..." (B.Y, 31 Th, interview on October 29, 2023)

Theme 2 : How To Prevent Malaria According To Mother

Pregnant women in the study area, stated some of the things they do to prevent malaria include: they must carry objects such as small scissors or small knives if they leave the house in the afternoon and evening, besides that they are also sure that bathing with soursop leaves or tamarind leaves every day makes their bodies strong and not easily affected by disease. In addition to the herbs used in bathing, 2 out of 15 pregnant women said that malaria prevention can also be done by taking a clean bath and cleaning the environment, especially cleaning dry leaves around the house and open coconut waste. As stated in the excerpt below:

"... The way we do: if, out of the house that afternoon you have to bring sharp objects such as small scissors or knives, take a bath with soursop leaves so that we are strong and drink papaya leaf juice until the heat disappears..." (SIT, 24 years old, interview on September 18, 2023)

Theme 3: How Malaria Is Treated According To The Mother

The people of Sumba have a way of treatment that is believed to cure various diseases both with traditional herbs and rituals. Mothers generally choose to self-treat their symptoms with traditional medicine. The treatment in question is: drink papaya leaf juice three times a day if you feel fever and chills, then if symptoms do not disappear or decrease pregnant women will visit the Puskesmas to ask for treatment. If after taking the medicine, the mother still feels that the symptoms do not decrease, then the mother and family will meet the village shaman to read the cause of the disease with the media of young chickens, which is then cured through traditional ceremonies and prayers to ancestors. As revealed in the following interview excerpts:

".... Usually, mother, if I drink papaya leaf juice first, if until tomorrow the symptoms do not disappear, then I go to the PHC." (E.K, 25 years old, interview on September 27, 2023).

".... Sometimes, if you take the medicine, it doesn't heal your mother, it means it's sick because of other reasons, so if I immediately look for the village traditional heller *(rato)* already, while bringing chickens that have never been lured. Later, then *rato* will open the chicken's stomach and read what our disease is caused by, then we do the recommendation. Usually, we can heal later, mother..." (B.L, 31 years old, Interview on October 2, 2023).

DISCUSSION

Characteristics Of Respondents

Based on table 1 above regarding the characteristics of respondents, it can be seen that most pregnant women are in the age range of 20-35 years which is then followed by under 20 years, and has a parity of 2-4. This shows that some women there have an early marriage age, where marriage occurs at the age of under 20 years, and at that age they become pregnant and have their first child. This condition is also related to the level of education owned by pregnant women where most of them have a low level of education, namely not going to school and elementary school.

The condition of early marriage and the low level of education of mothers or women on the island of Sumba due to economic problems. Another problem that causes early marriage in this research area is the existence of belis customs for marriage. Belis custom is a number of animals and jewelry that must be given by the male side when going to bring his wife to enter the man's family home. Animals are given in large quantities such as 10 buffaloes, horses, pigs and jewelry and cloth. This condition makes the man's family need to counsel with the extended family to fulfill it, then the family will provide assistance in the form of animals to meet this. But the aid must be replaced by the assisted man when the helping family needs the animal. The animal that is replaced is an animal that is similar and at least the same as that which has been given, eventually becomes a debt that must be paid, and this debt will still exist even though the debt given has died, then the debt must be repaid by the offspring. This condition then made the Sumbanese people choose to owe money to loan sharks to pay the customary debt. So to reduce the debt burden to the loan shark, families who have daughters will immediately marry off their daughters after the child enters adolescence which will then get animals from the belis which will then be used to pay the family's customary debts. As a result, women's education in this case pregnant women in rural areas of Sumba becomes very low and at a young age they are already pregnant with their first child.

The findings of this researcher were also revealed by Bata et al, who stated that the consequences of this "belis" made women limited in making health-related decisions.(Bata et al., 2019). A different opinion expressed by Purwadi in his book also states that access to education for the Sumba community is also influenced by the choice of beliefs chosen by the community, because most Sumba people still adhere to the marapu belief, so they do not get access to formal schools that require them to adhere to the national religion. (Soeriadiredja, 2022). Hermambang et al, 2021, stated that marriage at an early age can have a negative impact on various aspects of life such as education, because children who engage in early marriage generally stop continuing their education, which then leads to a new poverty status, which in turn also becomes one of the predictors in health problems and health assistance seekers that will be carried out by mothers and their families (Hermambang et al., 2021). The characteristics of pregnant women in this study are in line with some of the statements above due to early marriage, they then lose access to education and the economy which may then have an impact on their health as well as their understanding of health problems and the search for health assistance.

Theme 1: Malaria Is Not A Dangerous Disease

Based on the findings of the subchapter above, it was concluded that pregnant women in the study area did not consider that malaria was dangerous, because generally mothers had been exposed to this disease before. Mother also revealed that this disease is due to a dirty environment, breaking promises to ancestors or there are shortcomings in traditional ceremonies. From these findings, it can be seen that pregnant women's understanding of malaria is very low. None of the pregnant women claimed that this disease was caused by parasite plasmodium spread by mosquitoes or female anopheles mosquitoes.

The habitat of female anopheles mosquitoes is in puddles that are directly in contact with the ground such as clogged ditches or puddles around springs, as well as in natural rocks on the beach. The spread and reproduction of these mosquitoes is greatly influenced by climatic and humidity conditions in an area, generally the suitable habitat for these mosquitoes is in tropical regions such as Indonesia (Ministry of Health, 2020; RI, 2019). If associated with the characteristics of pregnant women, low maternal understanding of this disease is also related to low maternal education levels, which occur as a result of economic conditions and marriage at a young age

experienced. As stated in several previous studies that early marriage can cause other problems such as education, poverty and health (Hermambang et al., 2021; Isfentiani, 2020).

Theme 2: How To Prevent Malaria

Based on the results of research interviews with pregnant women, there are several ways that pregnant women believe in preventing malaria, including by bathing using soursop leaves and drinking papaya leaf juice three times a day. However, a small number of pregnant women know that cleaning the environment is also an effort that can be done to prevent malaria in pregnant women.

WHO recommends the main key steps of malaria prevention efforts in pregnant women, these efforts include: taking iron tablets and using insecticide-treated mosquito nets carried out throughout pregnancy starting from the first trimester of pregnancy, and giving intermittent preventive therapy that begins when the mother begins to feel fetal movement and is given for 3 months at intervals of one month. (WHO, 2021) Meanwhile, efforts to prevent malaria in pregnant women carried out by the government of the Republic of Indonesia are carried out through integrated malaria services with MCH with key strategies consisting of: Malaria screening in early pregnancy, using insecticide-treated mosquito nets and giving malaria therapy to malaria-positive pregnant women, besides that there are also home visits to malaria-positive pregnant women (Directorate General of Disease Prevention and Control, 2019). Thus, the understanding of pregnant women in the research area regarding malaria prevention is still wrong, papaya leaves and bathing with soursop leaves have not been proven effective in preventing malaria in pregnant women.

Theme 3: How To Treat Malaria

Researchers found several treatment efforts made by pregnant women and their families when they feel symptoms of malaria, including Mothers generally choose to self-treat the symptoms they feel with traditional medicine. The treatment in question is: drink papaya leaf juice three times a day if you feel fever and chills, then if symptoms do not disappear or decrease pregnant women will visit the Puskesmas to ask for treatment. If after taking the medicine, the mother still feels that the symptoms do not decrease, then the mother and family will meet the village shaman to read the cause of the disease with the media of young chickens, which is then cured through traditional ceremonies and prayers to ancestors. From these findings, it was found that the choice of treatment to health workers is not the main choice for pregnant women when they feel malaria symptoms, even if geja does not disappear after getting treatment, the mother does not return to the health care but performs rituals that are believed to be able to find out the cause of the pain felt and the solution is customary.

Sumbanese society has three important frameworks in its culture: religious belief (Marapu), residence (Paraingu), and kinship (Kabisu). These three frameworks together form guidelines, values and rules for the social life of the Sumba people. Marapu is a belief that has penetrated the entire life of the Sumba people. they believe that marapu is a deified ancestor (Soeriadiredja, 2022). Sumbanese believe that around them there are supernatural powers in natural phenomena and extraordinary things in the form of natural phenomena, human figures, human body parts, animals, plants, objects and extraordinary sounds. Some of these natural gejjala can be a source of disease and some can cure disease. In the community in Southwest Sumba, generally healing diseases using animal media such as chickens, pigs or buffaloes, but in the ritual must be done by people who are believed to have supernatural powers and are permitted by marapu (Soeriadiredja, 2022). This condition is also believed by pregnant women in the research area to cure the disease. Treatment with traditional plants such as papaya leaves is also carried out on pregnant women in Mali, West Africa which they believe can treat malaria symptoms, The plants used include: *Lippia chevalieri, Combretum micranthum, Parkia biglobosa and Vepris heterophylla* (Nergard et al., 2015). In addition, the level of maternal education is also a strong predictor for mothers and families in seeking health assistance (Udenweze, 2019).

CONCLUSION

The description above has provided information to all of us that the understanding of pregnant women towards malaria which includes the causes of malaria, how to prevent and treat when experiencing symptoms of malaria

in this research area is still very lacking. This condition shows the lack of education from health workers about malaria in pregnant women, even though the mother lives in a high malaria endemic area and unstable transmission area, where the risk of complications will be more severe in pregnant women infected with malaria than those who are not pregnant. Based on this, researchers raised some information needed in providing education about malaria in pregnancy, the theme includes: about the causes of malaria, anopheles mosquito habitat, the impact of malaria on mothers and fetuses, efforts to prevent and treat malaria in pregnant women that can be done by pregnant women and families. These themes are very important to be conveyed to all pregnant women living in malaria endemic areas, but because pregnant women in this region have a low level of education, it is hoped that the media delivered can be more easily understood, with that what is understood by pregnant women and the community, use less writing. This message can be conveyed directly to pregnant women during the ANC examination, or mass counseling directly by community leaders or delivered by people who have emotional closeness to pregnant women such as pregnant women's shamans, cadres, or local community leaders.

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