



## Analysis of BPJS Patient Delivery Referral System in Reducing MMR at Gunung Tinggi Health Center

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**Abstract:** *The Maternal Mortality Rate (MMR) in Indonesia is still high and is a major challenge in the health system, especially in the labor phase. This study aims to analyze the implementation of the BPJS patient labor referral system in reducing MMR at the Gunung Tinggi Health Center. The study used a qualitative method with a case study approach to health workers at the Gunung Tinggi Health Center. The results of the study showed that the availability of competent health workers, adequate facilities and infrastructure, and a referral system integrated with BPJS have made a positive contribution to labor services. However, challenges were still found in the form of late responses from referral hospitals, geographical constraints, and low public health literacy regarding the importance of referrals. This study concludes that strengthening the coordination system between facilities and educating the community is very important in increasing the effectiveness of the referral system and reducing maternal mortality.*

**Keywords:** *Referral System, Childbirth, BPJS, MMR, Health Center*

### 1. INTRODUCTION

Maternal mortality is still a major problem worldwide. According to WHO, the maternal mortality rate due to childbirth and pregnancy as a whole is 189 deaths per 100,000 live births. However, in Southeast Asia (ASEAN), the maternal mortality ratio reaches 218 deaths per 100,000 live births. The maternal mortality rate in Indonesia is still relatively high, ranking third in Southeast Asia, where the maternal mortality rate in 2023 is 173/100,000 live births.

The main causes that commonly occur are obstetric complications during pregnancy, childbirth and postpartum in women of reproductive age such as bleeding, eclampsia, infection, prolonged labor, and abortion. Twenty-three million women (15% of all pregnant women) in the world develop life-threatening complications each year.

Pregnancy with complicated conditions is also exacerbated by the delay in handling emergency cases or maternal complications adequately due to the 3 Late (3T) conditions, namely late decision-making to refer, late reaching a health facility, and late getting immediate medical treatment. In addition, it is also summarized in the 4 Too (4T) namely too old, too young, too often and too much.

In 2020, the maternal mortality rate in Medan city reached 12 cases, while in 2024 the maternal mortality rate in North Sumatra reached 124 cases. Based on data from the Deli Serdang Regency Health Office, in 2022 the number of maternal deaths in Deli Serdang Regency was recorded at 16 cases of maternal death during childbirth. From this Health

Office data, it can be seen that two of the 16 maternal deaths in Deli Serdang occurred in Pancur Batu sub-district which is the working area of the Gunung Tinggi Health Center. The main cause of death was hypertension in pregnancy which could have been prevented through early detection and a fast and appropriate referral system.

Adequate health services during pregnancy are crucial for the health and safety of pregnant women and their fetuses. These service efforts aim to prevent high-risk conditions that can be experienced by pregnant women, which if not treated can lead to illness and even death. Since the establishment and implementation of the JKN program, health centers must pay more attention to improving their health services. The reduction in the Maternal Mortality Rate (MMR) in Indonesia has obstacles, one of which is in the provision and access to health services in emergency response. Handling complex cases, especially in the health sector, still relies heavily on advanced health care facilities such as hospitals. The referral system in a health service is a mechanism that is able to coordinate tasks and responsibilities in health services, both vertically and horizontally. The government has established an obstetric emergency referral system for childbirth to minimize maternal and infant mortality.

Gunung Tinggi Health Center as a first-level health service center in Pancur Batu has a big responsibility in detecting pregnancy risks, providing antenatal services, and processing the referral system for mothers in labor, especially JKN participants. However, even though the JKN program provides easy access to services, challenges in implementing referrals remain. One of the main functions of the health center is to organize first-level UKP (Individual Health Efforts) services in its working area, including using medical indications and an effective referral system.

Based on the background, this study was conducted to analyze the implementation of the childbirth referral system. The purpose of this study was to analyze the childbirth referral system for BPJS participant patients in reducing MMR at Gunung Tinggi Health Center.

## **2. RESEARCH METHODS**

This study uses a qualitative approach method, namely a case study. This study was conducted at the Gunung Tinggi Health Center, Pancur Batu District, Deli Serdang Regency, North Sumatra. The study population consisted of health center employees who were relevant in their fields, namely doctors, midwives, and health center referral officers. The selection of subjects used a purposive sampling technique, which is a data collection technique based on certain considerations. Data were collected through interviews, observations, and documentation of health center staff.

### 3. RESULTS AND DISCUSSION

#### Resource Availability

From the interview results, it is known that the availability of human resources at the Gunung Tinggi Health Center is adequate in first-level health services. To improve the quality and capacity of health workers, the Gunung Tinggi Health Center routinely conducts training twice a year. The informant said:

*"Currently, the number of health workers in our health center is sufficient to meet the needs of community services. Every section, from medical services, nursing, to laboratory personnel, has been well-staffed but training is still needed so that services can run smoothly and optimally. We conduct this training every two years."*

Based on the results of observations and interviews, the availability of human resources at the Gunung Tinggi Health Center is 29 people consisting of 2 doctors, 2 obstetricians, 8 midwives, 6 nurses, 1 dentist, 3 environmental sanitation workers, 2 nutritionists, 3 pharmacists, and 2 medical laboratory technology experts. In this case, the availability of human resources at the Gunung Tinggi Health Center is quite adequate. The Gunung Tinggi Health Center routinely conducts training for health workers every two years to increase the capacity of health workers, including handling obstetric emergencies, asphyxia, care for low birth weight babies (LBW), and emergency baby care, which aims to strengthen the ability to handle critical situations that can prevent maternal and infant deaths based on the Regulation of the Minister of Health Number 30 of 2014 (Ministry of Health of the Republic of Indonesia, 2014).

#### Availability of Facilities and Infrastructure

Based on the results of observations and interviews at the Gunung Tinggi Health Center, it is known that the availability of facilities and infrastructure to support service and referral activities is adequate, this is supported by the informant's statement:

*"The facilities and infrastructure here, thank God, are complete, including one ambulance unit, medicines, medical equipment such as USG and incubators. Most of the facilities and infrastructure are in good condition and support optimal health services"*

From the interview results, although the suggestions and infrastructure are adequate, there are technical obstacles in the childbirth referral system at the Gunung Tinggi Health Center, such as waiting for a response from the hospital, but the health center still handles patients while contacting the hospital, and if it is an emergency, they are immediately referred

by ambulance and ambulance drivers who are always available. Therefore, the most important recommendation is to improve the communication and coordination system between the Health Center and referral hospitals through the implementation of a technology-based referral information system. Research by Lutfiah et al. in this case also states that limited facilities and infrastructure at the health center have the potential to hinder health services and increase the number of patients referred to the hospital. The condition of facilities that are not suitable for use can have an impact on the quality of health services, both from an administrative and technical aspect.

### **Mechanisms in Childbirth Referral**

Based on the interview results, the referral mechanism for childbirth at the Gunung Tinggi Health Center is running well and easily. The informant stated:

*"The referral mechanism, childbirth begins from the first examination, if serious medical conditions and complications are found, the pregnant woman will be referred directly to the hospital."*

Based on the results of this interview, it is known that the referral mechanism at the Gunung Tinggi Health Center begins with the first examination carried out by the patient. This is done by filling in patient data that is integrated with BPJS Kesehatan. After registration, the patient will be taken to the polyclinic for examination and to determine what further actions will be taken. If the patient experiences serious complications such as hypertension, breech position, and so on, a referral will be made. After that, the health center communicates with the destination hospital to ensure the availability of space and the readiness of medical personnel. If the hospital accepts, the health center will prepare ambulance transportation or the patient's own private vehicle with procedures that are appropriate and safe for the patient. The doctor must provide appropriate recommendations, such as whether the patient can give birth at a first-level health facility (FKTP) or needs to be referred to a referral-level health facility (FKRTL) for delivery. In the past year, 2024, the Gunung Tinggi Health Center has carried out 30 childbirth referrals, most of which were caused by complications such as preeclampsia/eclampsia, hypertension, history of difficult labor, abnormal baby position (breech or transverse), and premature birth.

## Patient Obstacles to Childbirth Referral Services

From the results of the interviews conducted, it was discovered that there were several obstacles that occurred in the birth referral process, this was supported by the informant's statement:

*"In the referral process, several obstacles and challenges are still found in the referral system, such as slow responses from the destination hospital, administrative obstacles such as not having an ID card and family card, patients who do not want to be referred."*

Based on the results of this interview, it is known that the main obstacle in the referral process is the slow response of the destination hospital which can hinder the referral process. The delay in the response of the referral hospital, even though initial treatment is carried out at the Puskesmas, reflects the problem of coordination between health facilities, which often occurs in primary health systems in developing countries (Scott et al., 2020). Although now with a Medan KTP you can get free services even though you are not a BPJS participant, patients who do not have a KTP and KK are an obstacle, and another obstacle is patients who do not want to be referred to the hospital because they insist on giving birth at the Puskesmas. This happens because of the lack of public health literacy about the importance of referrals in the BPJS system, in line with the findings that social and cultural factors influence compliance with obstetric referrals (Banke-Thomas et al., 2020). Therefore, the recommendation that needs to be done is to provide education and understanding to the community about the conditions they are experiencing and what risks will occur if they are not referred.



**Figure 1.** Mind Map Analysis of BPJS Patient Delivery Referral System in Reducing MMR at Gunung Tinggi Health Center

This mind map presents a systematic series of existing resources, conditions of facilities and infrastructure, operational mechanisms for childbirth referrals, and obstacles faced in their implementation. With visualizations such as mind maps, the Health Center and policy makers can easily identify areas that are already running well and areas that need improvement, especially in terms of communication between facilities and patient education. This opens up opportunities for the development of more effective and responsive services to reduce the number of complications and maternal and infant mortality.

#### **4. CONCLUSION**

The implementation of the childbirth referral system for BPJS patients at the Gunung Tinggi Health Center has shown a significant contribution to efforts to reduce the Maternal Mortality Rate (MMR). The availability of health workers, especially competent and trained midwives, as well as adequate facilities and infrastructure such as ambulances, ultrasounds, and incubators, are important components in supporting first-level childbirth services. The referral mechanism has been well structured, supported by the integration of the recording and reporting system with BPJS which accelerates the administrative process, especially in emergency cases. However, challenges are still encountered, especially in terms of late responses from referral hospitals and the lack of public health literacy which causes rejection of referrals in high-risk cases. Distance and coordination factors between facilities are also obstacles in themselves. Therefore, it is necessary to increase education for patients and strengthen coordination with referral facilities to improve the effectiveness of the system and reduce maternal mortality due to childbirth complications.

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