



Description of Factors Risking Delivery Referrals in the Working Area of Mataraman Public Health Center Banjar Regency

Halimatussa'diah^{1*}, Sismeri Dona¹, Istiqomah¹, Lisda Handayani²

^{1,2} Sari Mulia University

*Correspondence: Halimatussa'diah

Email:

hidayathalimatussadiyah@gmail.com

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Danger) with 145 individuals (81%), followed by AGO (Obstetric Danger) with 29 individuals (16.2%), and AGDO (Emergency Obstetric Danger) with 5 individuals (2.8%). The dominance of the APGO group indicates that most referral cases are at the potential risk stage, which can still be prevented through proper early detection and intervention.

Keywords

AGO, AGDO, APGO, Delivery Referral, Obstetric Risk

Introduction

Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) are key indicators of a country's public health status. The 2022 World Health Organization (WHO) report shows that approximately 287,000 mothers die each year due to pregnancy and childbirth complications. Despite various efforts, Indonesia still faces significant challenges with a relatively high MMR. Data from the 2020 Intercensal Population Survey (SUPAS) recorded an MMR of 305 per 100,000 live births, still far from the 2030 Sustainable Development Goals (SDGs) target of 70 per 100,000 live

Abstract

Background: Maternal Mortality Rate (MMR) in Indonesia remains a major challenge, partly caused by delayed management of obstetric complications. Early risk detection through the classification of Potential Obstetric Danger (APGO), Obstetric Danger (AGO), and Emergency Obstetric Danger (AGDO) is essential to support the effectiveness of the maternal referral system. However, limitations in facilities and suboptimal communication between healthcare levels often pose obstacles. This descriptive quantitative study used secondary data from medical records of referred delivering mothers at Mataraman Public Health Center, Banjar Regency, conducted from March to May 2025. The study population consisted of 179 referred mothers recorded in medical records during 2024. The total sample included all 179 respondents. Data were analyzed using frequency distribution and percentages. The study showed that the majority of respondents were classified as APGO (Potential Obstetric

births. Similarly, Indonesia's infant mortality rate (IMR) is recorded at 23 per 1,000 live births, higher than the SDGs target of 12 per 1,000 live births by 2030 (BPS, 2023; Assembly, 2030).

Childbirth is a critical phase in a mother's life due to the risk of complications that can threaten the safety of both the mother and the baby. Obstetric complications such as postpartum hemorrhage, preeclampsia, eclampsia, dystocia, and infection are the leading causes of maternal and neonatal mortality. These obstetric emergencies require immediate treatment with adequate facilities and medical personnel. Data from the Ministry of Health of the Republic of Indonesia (2022) shows that around 24% of pregnant women in Indonesia require referral to higher-level health facilities to receive appropriate treatment.

In the maternal referral system, the identification of risk factors is the basis for clinical decision-making. According to Rochyati (2023), pregnancy risks are classified as low risk (KRR), high risk (KRT), and very high risk (KRST). In addition, referral risk factors can also be grouped based on urgency, namely Potential Obstetric Emergency (POE), Obstetric Emergency (OE), and Obstetric Emergency (OE). This classification helps health workers in determining referral priorities so that complications can be prevented as early as possible.

A number of studies support the importance of this risk classification. A study at Dr. Rasidin Padang Regional General Hospital reported a 56.1% delay in referrals for high-risk pregnancies (Diflayzer et al., 2018). Another study at Gambiran Regional General Hospital in Kediri found that obstetric risk factors were significantly associated with referral implementation ($p=0.011$; $OR=6.122$) (Laili et al., 2017). In addition, research at the Kema Minahasa Utara Community Health Center showed that midwives play a key role in referral decision-making, although decisions are often constrained by cost factors and family consent (Ab. Halim & Amni, 2023; Mortensen et al., 2019). However, ineffective communication among health workers can affect the smoothness of the referral process (Cassie et al., 2021; Ximba et al., 2021).

Based on this description, it is clear that maternal referrals are not only influenced by the mother's medical condition but also by factors such as the health care system, communication, and family support. However, research that specifically describes the risk factors for referrals during childbirth at the primary care level is still limited. Therefore, this study aims to describe the risk factors underlying childbirth referrals in the working area of the Mataraman Community Health Center in Banjar Regency.

Methods

The research method used in this study was quantitative descriptive. This study aimed to describe the risk factors for referral during childbirth as they are, without intervention or broader generalization. This study was conducted from February to July 2025.

The population in this study consisted of all mothers who gave birth, were referred, and were recorded in the medical records of the Mataraman Community Health Center in Banjar Regency from January to December 2024, totaling 179 cases. The research sample was determined using total sampling technique, so that the entire population was used as the research sample. The research instrument was an observation sheet in the form of a checklist to record data from medical records.

Data analysis was performed univariately to describe the frequency distribution and

percentage of each category of referral risk factors for childbirth (APGO, AGO, AGDO). The results of the analysis were presented in the form of a frequency distribution table to provide a clear picture of the pattern of referral risk factors for childbirth in the working area of the Mataraman Community Health Center in Banjar Regency.

Results and Discussions

Based on the research conducted at the Matarana Community Health Center, the research results are presented as follows:

1 Table Frequency Distribution of Referral Risk Factors for Childbirth at the Mataraman Community Health Center

No	Referral Risk Category	f	
1	APGO	145	81
2	AGO	29	16.2
3	AGDO	5	2.8
Total		179	100

Based on Table 1, it can be seen that of the 179 respondents, the APGO group had the highest number of respondents, namely 145 people or 81%. Meanwhile, in the AGO group, of the total respondents, there were 29 people or 16.2%. Meanwhile, the AGDO group had the smallest number of respondents, namely 5 people or 2.8%.

Discussion

The results of the analysis of obstetric risk distribution among respondents show that the majority of pregnant women are in the potential risk category (APGO) at 81%, followed by the AGO group at 16.2%, and AGDO at only 2.8%. The high proportion of the APGO group indicates that most pregnant women have one or more risk factors that could potentially develop into obstetric complications if not monitored proactively and intensively.

According to Poedji Rochjati's theory, the APGO category includes potential risk factors such as age ≥ 35 years, anemia, multiparity, and medical history; AGO includes actual medical conditions such as hypertension or bleeding; AGDO is an emergency condition such as severe preeclampsia or active bleeding.

Early detection of risk using the Poedji Rochjati Score Card (KSPR) has been proven to be relevant and effective in reducing maternal mortality rates. For example, Widarta et al. (2015) showed that almost all cases of maternal mortality at Soetomo General Hospital had high risk scores (KRT/KRST) and delays in referral decisions.

Diflayzer et al. 2018 confirmed that the dominant risk factors for APGO were age ≥ 35 years (35.9%) and hypertension. This is in line with previous research showing that advanced maternal age and gestational hypertension are strong predictors of obstetric complications (Diflayzer et al., 2018).

Tjokroprawiro et al. (2024) noted that although 94.5% of women of childbearing age live within a 2-hour radius of obstetric emergency facilities, there are still access gaps in several provinces. (Tjokroprawiro et al., 2024).

Another study by Nunu et al. (2023) reported that the combination of APGO + AGO groups accounted for 35.2% of total obstetric referral cases at Anutapura Palu General Hospital, emphasizing the importance of early detection and management of complications in primary care. As for the AGDO group, although only 2.8%, it had a high mortality rate (Muh. Rifai H. Nunu et al., 2023). Indarti et al. (2021) and Dibaba et al. (2021) highlighted the importance of rapid response to emergency conditions such as severe bleeding and eclampsia to prevent maternal and infant deaths.(Indarti et al., 2021), (Dibaba et al., 2021)

Tafdhila et al. (2023) also reported that in Palembang, 34.9% of pregnant women aged ≥ 35 years fell into the APGO category, with hypertension as the dominant risk factor. This indicates that APGO characteristics consistently emerge in various regions as a significant risk group but can still be prevented if monitoring is conducted from the beginning of pregnancy.(Tafdhila et al., 2023).

According to (Diflayzer et al., 2018; Tafdhila et al., 2023, Indarti et al., 2021) Some of the main causes of referral cases originating from the APGO group include Age ≥ 35 years. Pregnant women of advanced age have a higher risk of developing hypertension in pregnancy, preeclampsia, gestational diabetes, and complications during childbirth. This condition often triggers referral even though it was initially only a potential risk.

Hypertension and Preeclampsia: Hypertension initially detected as a subclinical condition in the APGO group can progress to preeclampsia, which falls under the AGO category or even AGDO if accompanied by severe symptoms. This is one of the most common and urgent causes for referral; **Multiparity and Poor Obstetric History,** Women with high parity tend to have a higher risk of postpartum hemorrhage, placenta previa, or fetal presentation abnormalities. Although not always apparent early in pregnancy, these risks can trigger sudden referrals as delivery approaches; **Anemia and Malnutrition,** Anemia during pregnancy can cause complications during delivery and worsen obstetric emergencies, such as hypovolemic shock due to bleeding. Many cases of anemia are identified early in pregnancy but are not optimally managed in primary care. **Delayed Risk Detection in Primary Facilities:** Weaknesses in the recording and risk detection systems at community health centers (Puskesmas) remain an obstacle. Limited examination tools, uneven training of personnel, and a lack of periodic screening cause some pregnant women to move risk categories without early detection, resulting in referrals only being made when the condition has already entered the AGO or AGDO category. **Lack of Education and Regular Monitoring:** Pregnant women's low understanding of the importance of routine check-ups, danger signs during pregnancy, and compliance with birth plans also contribute to delayed risk detection. This contributes to an increase in the number of emergency referrals, which should be preventable; **Primary Facilities Unprepared to Handle Moderate Risks,** Many community health centers do not yet have the capacity to handle moderate risks such as mild hypertension or pregnancy with comorbid factors. As a result, referral policies are implemented as a preventive measure, even though the mother's condition does not yet show severe complications.

Based on existing data and theory, researchers assume that the dominance of the APGO group in obstetric risk distribution is closely related to the characteristics of the study area. Most pregnant women at the Mataraman Community Health Center are in the older age group, have high parity, and short pregnancy intervals. In addition, the researchers suspect that there are still

weaknesses in the risk recording and monitoring system at primary health facilities, so that some cases of AGO and AGDO may not be accurately identified due to limitations in detection tools and training of health workers.

The researchers also argue that the high APGO rate should not only be viewed as a risk statistic, but as an opportunity for early intervention. If regular screening using KSPR and continuous education for pregnant women are implemented, the transition to more dangerous conditions such as AGO and AGDO can be prevented. Therefore, the midwifery service system () must place greater emphasis on health promotion, complication prevention, and capacity building for health workers in primary care.

Conclusion

This study concludes that most referral cases of childbirth in the working area of Mataraman Public Health Center fall into the APGO (Potential Obstetric Danger) category, accounting for 81%, while the AGO (Obstetric Danger) category accounts for 16.2%, and the AGDO (Emergency Obstetric Danger) category accounts for 2.8%. The predominance of the APGO category indicates that most obstetric risks remain at a potential stage and can be prevented through proper early detection, intensive monitoring, and timely intervention at the primary healthcare level. The main risk factors contributing to the high incidence of APGO include maternal age ≥ 35 years, hypertension, multiparity, poor obstetric history, anemia, and malnutrition. Delayed risk detection, limited maternal health education, and inadequate healthcare facilities and personnel capacity at the primary care level further exacerbate these conditions. Therefore, strengthening early detection capacity, risk recording systems, maternal health literacy, and the quality of primary healthcare services is essential to reduce the number of high-risk obstetric referrals and lower maternal and infant mortality rates.

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