



## Characteristics and Maternal Neonatal Outcomes Analysis of Referral Cases at Lakipadada Regional Public Hospital, Tana Toraja on Period March-August 2019

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### ABSTRACT

**Background:** Referral system is often noticed as an obstacle for getting health services because it requires more time, higher cost, health services that are not appropriate with competence, patients are accumulated in several health care facilities that can reduce satisfaction of the patient. The implementation of tiered referral system also experiences obstacles that related to geographical factors, distance, transportation and limitations of health services, therefore it is necessary to have an assessment how the characteristics and outcomes of obstetric referral cases in an area. **Objective:** To identify the characteristics of obstetric referral cases and maternal – neonatal outcomes from referral cases at Lakipadada Regional Public Hospital on period March – August 2019. **Methods:** : This study was a retrospective analysis study using descriptive methods of medical record data in obstetric patients at Lakipadada Regional Public Hospital, Tana Toraja on period March - August 2019. **Results:** The total number of obstetric referral cases is 218 cases, which 154 cases were referred from inside Tana Toraja itself (the most referrals were from private clinics), 64 cases were referred from outside Tana Toraja (the most referrals were from Enrekang District) with the most referral indication was Prolonged Latent Phase. Vaginal delivery was performed in 86 total of cases, caesarean section was 117 total of cases. **Conclusion:** In the referral cases, there was still a delay in referring patients which on period March-August 2019, there were 2 maternal death, 2 infant deaths and 5 IUFD.

### Introduction

Health development is a process leading to health status which there is a combination between socio-cultural conditions and behavior regulation systems inside that impact an individual. Health is a human right and one of the element of

well-being that has to be realized in accordance with the ideals of principle of Republic Indonesia based on Pancasila and Constitution 1945 of Republic Indonesia. Maternal Mortality Rate (MMR) is one indicator of the results of development in the health sector. The lower MMR in an area indicates the better development and

services in the health sector. Various programs in the health sector are organized to lower MMR in order to achieve the 2015 Millennium Development Goals (MDGs) targets (BPJS Kesehatan: 2014).

Health Indonesia Program is implemented with three main pillars, i.e health paradigm, support health services and national health insurance. The pillar of health paradigm is carried out with strategies for support health services in development, preventive promotion and community development. The pillars of support health services are carried out with strategies improvement of access to health services, optimalization of the referral system and improve the quality of health services, using a *continuum of care* approach and health risk-based interventions. The pillar of national health insurance is carried out with a strategy of expanding targets and benefits as well as quality control and cost control (Kementrian Kesehatan Republik Indonesia. 2017)

One of the steps that is taken to achieve the support of health services is by optimalization of the referral system. The referral system is often seen as an obstacle for patients in obtaining health services according to their needs because it is considered require more time, higher cost, health services that are not appropriate with their competencies, patients' accumulation in several health care facilities and finally reduce patient's satisfaction<sup>2,5,6</sup>. The implementation of this tiered referral system also faces obstacles related to geographical factors, distance, transportation and limitations of health service facilities in the area, therefore we will assess how the characteristics of referral and outcomes of obstetric referral cases in Tana Toraja district especially at Lakipadada Regional

Hospital which is a referral hospital in this district (Zubaidah Z, 2017: 161-9).

## Method

This study was a retrospective analysis study using descriptive methods of medical record data in obstetric ward at Lakipadada Regional Public Hospital, Tana Toraja on period March - August 2019. This study was conducted after obtaining approval from Lakipadada Regional Public Hospital with letter number 572/RSUD.LP/VII/2019.

The inclusion criteria of this study was all of obstetric referral cases with exclusion criteria was gestational age less than 20 weeks.

## Results

South Sulawesi is a province with 24 regencies / cities, which consist of 21 regencies and 3 municipalities, 304 subdistricts and 2,953 villages / kelurahan which have 4 ethnic groups : Bugis, Makassar, Mandar and Toraja. Lakipadada Hospital is a class C hospital located in Makale, the capital of Tana Toraja regency. Lakipadada Regional Public Hospital is projected as a referral hospital in Tana Toraja Regency (Statistik BP. 2008)

### Refferal Characteristics of Obstetric Cases in Lakipadada Regional Public Hospital

Obstetric cases treated in delivery room of Lakipadada Regional Public Hospital on period March - August 2019 were 893 totsal of cases, which 218 cases (24.30%) were referral cases, 318 cases (35.45%) were patients who came by themselves, and 361 cases (40.24%) were from obstetric outpatient clinic of Lakipadada Regional

Hospital. From 218 referral cases, 154 cases (70.64%) were referred from inside Tana Toraja itself and 64 cases (29.36%) were referred from outside of Tana Toraja. Of the 154 referral cases from inside Tana Toraja itself, the most cases were referred from private clinics in 33 cases (21.4%). Most referral cases of public health centre were from Bittuang public health centre, with 18 cases (11.7%) with the distance to Lakipadada Regional Public Hospital was about 38 km with travel time about 1 hour 10 minutes. Referral cases with the longest distance with 82 km with travel time about 4-6 hours, were from the Kondodewata public health center with 2 cases (1.2%). For the 64 cases referred from outside of Tana Toraja, 57 cases (89.06%) from Enrekang District and 7 cases (10.94%) from North Toraja District where the most referrals were from the public health centre in Enrekang Regency with 54 of total cases (84.37%).

Of all the referral cases, the most common indication of referral cases was pregnancy with complications that required further treatment was prolonged latent phase with 51 cases (23.39%), premature rupture of membranes (PROM) with 30 cases (13.7%) and Previous Caesarean Section were 23 cases (10.55%) consecutively. All of referral cases require further treatment in the Lakipadada Regional Public Hospital. From total 218 referral cases, 86 cases (39.45%) were delivered by vaginal delivery, with one case of vaginal delivery performed hysterectomy due to hemorrhage post partum because of placental retention suspected placenta accreta, Supravaginal Hysterectomy was decided and one case was post caesarean section with indication of eclampsia who had died on post operation day-1; and 117 cases (53.67%)

delivered by caesarean section; 11 cases (5.04%) performed manual placenta with indication hemorrhagic post partum due to placental retention in which there was one case after performed manual placenta ended with catheter condom insertion because of uterine hypotonia that unsuccessful with uterotonic administration; 2 cases (0.92%) performed conservative treatment to improve the condition of the mother ; 1 case (0.45%) due to hemorrhagic post partum because of uterine atonia and planned for laparotomy emergency but died during preparation of laparotomy. From total referral cases that are still pregnant, 206 cases in the Lakipadada Regional Public Hospital, 63 cases (30.58%) with primigravida and 143 cases (69.42%) with multigravida; while the post partum referral cases were 12 cases with 2 cases of primiparity (16.6%) and 10 cases of multiparity (83.33%). For gestational age from the total referral cases who are still pregnant, 206 cases, obtained pregnant women with < 28 weeks gestational age were 2 cases (0.97%), 28-33 weeks gestational age were 7 cases (3.40%), 34-37 weeks gestational age were 24 cases (11.65%), > 37 weeks gestational age were 173 cases (84%). The financing for total referral cases in Lakipadada Regional Public Hospital were 29 cases (13.30%) with Jampersal, 184 cases (84.40%) with BPJS, and general costs were 5 cases (2.29%) .

### **Outcome Analysis of Obstetric Referral Cases in Lakipadada Regional Public Hospital**

The maternal outcome of 218 obstetric referral cases to Lakipadada Regional Public Hospital on period March - August 2019 was 216 cases (99.03%) which were treated until they were discharged from

Lakipadada Regional Public Hospital with good condition. There were 2 cases (0.92%) maternal deaths from all referral cases which the first case was a post partum referral case from midwife with a diagnosis of hemorrhagic post partum caused by uterine atony and was planned for surgery, but died in preparation for surgery. The second case was a referral case from Fatima Hospital, Makale, Tana Toraja with a diagnosis of IUFD + Eclampsia + Suspected Pulmonary Edema + Decrease of Consciousness that had been performed hysterectomy but the patient died in the first day of care at ICU. From 203 labor cases of referral cases, there were 205 babies born with outcome of the babies in terms of infant weight were 177 cases with infant weight  $\geq 2500$  g, 18 cases with infant weight 2000 -2490 g, 6 cases with infant weight 1000 - 1990 g, 2 cases with infant weight 500 – 900 g. In terms of Apgar Score at birth, there were 171 cases with no asphyxia (Apgar Score  $> 7$ ), 25 cases with moderate asphyxia (Apgar Score 4-6), 2 cases with severe asphyxia (Apgar Score  $< 3$ ) who died after being treated for 2 days at NICU, and then 5 cases of IUFD. For total referral cases, there were 203 deliveries with 205 babies were obtained, with 198 healthy babies and able to discharged in good condition, 2 babies died due to severe asphyxia and 5 babies with IUFD.

## Discussion

Since national health insurance had been validated, health service in Indonesia also so many changed that caused public access to health service was enhanced. But it can not be denied that referral system that include part of this health service system is still a kind of problem in health

service system that need restoration in any fields (RSUD Lakipadada: 2019). Regional public hospital in a regency should be the center of referral by primary health service facilities. Lakipadada Regional Public Hospital is not only primary health facilities service for Tana Toraja regency but also for two other regencies nearby i.e Toraja Utara and Enrekang, which within 24% referral cases there is 29% referral cases from outside of Tana Toraja, where the most cases are from Enrekang as many as 89,06%. The most referral cases from Enrekang was about 84,37 % that came from direct referral from public healths without passed Massenrenpulu Regional Public Hospital, Enrekang. The appearance referral cases from outside of Tana Toraja was caused by facility access limitation and health facility from regional hospital in both regency especially for obstetry case service.

Health problem is the basic for repairing well being public so that government make policy about national health insurance that is an excellent program, but undistributed access and public health facilities in each regency caused not all public could achieve enough health facility, where in this study we get several emergency maternal cases that need access time 4-6 hours to able to get enough health service<sup>13</sup>. Several referral cases regional hospital Lakipadada is not managed by ladder because of geographic condotion in Tana Toraja and most of referral maternal cases are emergency cases. According to Peraturan Menteri Kesehatan Republik Indonesia No. 001, 2012 about Single Health Service Referral system in Chapter 4 said that health service is managed by ladder, as well as the medical requirement initiated from first level. Health service in

second level can only be given from first level health service referral. But certainty in this chapter 4 can be excluded in emergency case, disaster, special health problem and geography consideration (Setiawati. 2019).

Top three most indications of maternal referral in Regional Hospital Lakipadada, Tana Toraja are Prolonged Latent Phase (23,39%), PROM (13,7%) dan previous caesarean section (10,55%). These three diagnostic maternal referrals are emergency cases which should be referred to secondary health facility for achieving advance treatment. From total maternal referral cases that still in pregnancy period, the most treatment that being managed is performed caesarean section (53,67%). From this data, it can be concluded that most of referral cases to regional hospital lakipadada needs emergency procedure by obstetrician and the decision to be referred is appropriate because these cases can not be handled in primary health care. If in such these cases experience delayed i.e late detection, late decision, late referral, there will enhance morbidity and mortality for mother as well as baby. By the special treatment to emergency referral cases in referral system, it will be very helpful for public in achieving treatment on time <sup>13,14</sup>. In this study there were two maternal death that actually can be prevent if the maternal service was managed optimally. The first cause of death was hemorrhagic post partum due to atonia uteri and the second cause of death was eclampsia. According to data of WHO in 2019, hemorrhagic post partum and eclampsia were still the most top three cause of maternal death i.e hemorrhagic, infection and gestational hypertension (Sumarmi S. 2017 : 129-141).

For the data in Indonesia, based on data from health center and information health ministry in 2014, the most two cause of death are hemorrhagic (30,3%) and hypertension (27,1). Commonly, there was lowering of maternal mortality rate during period 1991-2015 which from total of 390 in 1991 lower to 305 in 2015 (WHO. *Maternal Mortality*. 2019). In this study there were two babies died due to severe asphyxia and 5 IUFD cases. Neonatal mortality rate based to data of WHO in 2016 were about 2.6 million of neonatal deaths (46%) (Kementerian Kesehatan RI. 2018). Neonatal mortality rate, IUFD were quite influenced by maternal health condition during pregnancy, childbirth helper and neonatal care (Kementerian Pemberdayaan Perempuan dan Perlindungan Anak (KPPPA), 2018: 201).

Lowering maternal and neonatal mortality rate is still big challenge in Indonesia because maternal death and neonatal is still caused by multifactor. Several varieties factor could become root of problem in high maternal and neonatal death not only from health service part that can be fixed by health program, but also from variety environmental sector, society and government.

### Conclusion

Lakipadada Regional Public Hospital is a type C class hospital which is a referral center hospital in Tana Toraja Regency. On the period from March to August 2019, there were 218 obstetric referral cases, with the most indications of referral was Prolonged Latent Phase that requiring further management. There were 2 maternal death, 2 neonatal death and 5 IUFD that actually can be prevent if the

maternal service was managed optimally. All these cases were delivered with Caesarean Section and the method of insurance, the most referral cases were using BPJS services.

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