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Evaluation of Analgesic in Vaginal and Cesarean Delivery at Dr.Rasidin Regional Hospital, Padang

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Abstract

Background: Childbirth or also known as termination can cause pain in the patient. Pain scores that occur in postpartum patients vary so that treatment must be controlled adequately. Giving analgesics can be one of some choice to reduce or even eliminate pain. **Objective:** To determine the study of using analgesics in patients with vaginal and cesarean delivery at Dr. Rasidin Regional Hospital Padang the period January-December 2023. **Method:** non-experimental with a descriptive research design. Data collection was carried out retrospectively using the cross sectional method. The research data was medical records of postpartum patients Dr. Rasidin Regional Hospital Padang the period January-December 2023 **Results:** Based on the result it was found that the number of patients who met the inclusion criteria was 86 vaginal delivery patients and 180 cesarean delivery patients who received analgesic. The highest using of analgesics is the non-opioid group. **Conclusion:** The largest number of birthing patients based on age group at Dr. Rasidin Regional Hospital Padang for the period January-December 2023 are the non-risk group (20-35 years). Patient characteristics based on parity group are mostly at risk group. So that needed consider choosing the right analgesic to treat pain in patients. **Keywords:** Analgesic, Afterpain postpartum, Cesarean delivery, Vaginal delivery

1. Introduction

Childbirth is a natural process characterized by the release of the products conception through the process thinning and opening of the cervix and is characterized by contractions of the uterine wall which last for a certain time without any complications and can cause pain(Maharani Dewi *et al.*, 2023). Afterpain postpartum is a sensory and emotional experience caused by tissue damage. This condition must be controlled adequately so it doesn't affect to the systems in the body and to avoid morbidity and mortality in postpartum patients. Afterpain postpartum, whether delivery carried out by vaginal or cesarean birth, is the most case of pain which reported in the obstetrics and gynecology department. Pain management can be done by administering analgesics, either opioid or non-opioid analgesics(Ohnesorge *et al.*, 2020). In research conducted by Juwita *et al.*, it shows that the analgesic most widely used after vaginal delivery is mefenamic acid while for cesarean delivery is ketoprofen in suppository (Juwita *et al.*, 2019). Giving medication to afterpain postpartum patients must consider several conditions such as the characteristic of drug in breastfeeding women (Sujata, 2014). Some analgesics are less safe to use in breastfeeding women when the milk/plasma (M/P) or relative infant dose (RID) value is more than 10%. Based on the description above, researcher are interested in conducting research the study use of analgesics in patients with vaginal and cesarean delivery inpatient at department obstetric Dr. Rasidin Regional



hospital Padang for the period January-December 2023 with the aim of studying the use of analgesics in patients with vaginal and cesarean delivery

2. Method

This research was conducted in January-March 2024 in the Medical Room Installation at Dr. Rasidin Regional Hospital Padang and has gone through an ethical test with ethical number (120/UN.16.2/KEP-FK/2024). This type of research is non-experimental research with a descriptive research design. Data collection was carried out retrospectively using the cross sectional method. The research data used was of medical records of postpartum patients at Dr.Rasidin Regional Hospital Padang for the period January-December 2023. The research sample was taken using a purposive sampling technique based on inclusion and exclusion criteria.

2.1 Inclusion and Exclusion Criteria

2.1.1 Inclusion Criteria

- Patients with vaginal and cesarean delivery who received analgesic medication from January to December 2023 at Dr. Rasidin Regional Hospital Padang.
- Patients aged ≥ 18 years.
- Patients with vaginal and cesarean delivery with monotherapy or combination analgesic therapy.

2.1.2 Exclusion Criteria

- Patients with incomplete medical record data.
- Postpartum patients who have not received analgesic therapy after entering the hospital.
- Postpartum patient died before 2 days of treatment.

2.2 Sampling technique

The sampling technique was carried out using purposive sampling. The samples taken represent all the inclusion criteria of this study. The research instrument is a data collection form used when collecting data from medical record sheets.

3. Result and Discussion

This study aims to determine the profile of analgesic use in patients with vaginal and cesarean delivery inpatient at department obstetric Dr. Rasidin Regional Hospital Padang for the period January-December 2023. Sampling used a purposive sampling method that met the inclusion criteria. The samples obtained were 266 patients consisting of 180 cesarean delivery patients and 86 vaginal delivery patients.

Table 1. Demographics of Vaginal and Cesarean Delivery Inpatients at Department Obstetrics Dr. Rasidin Regional Hospital Padang For Period January-December 2023

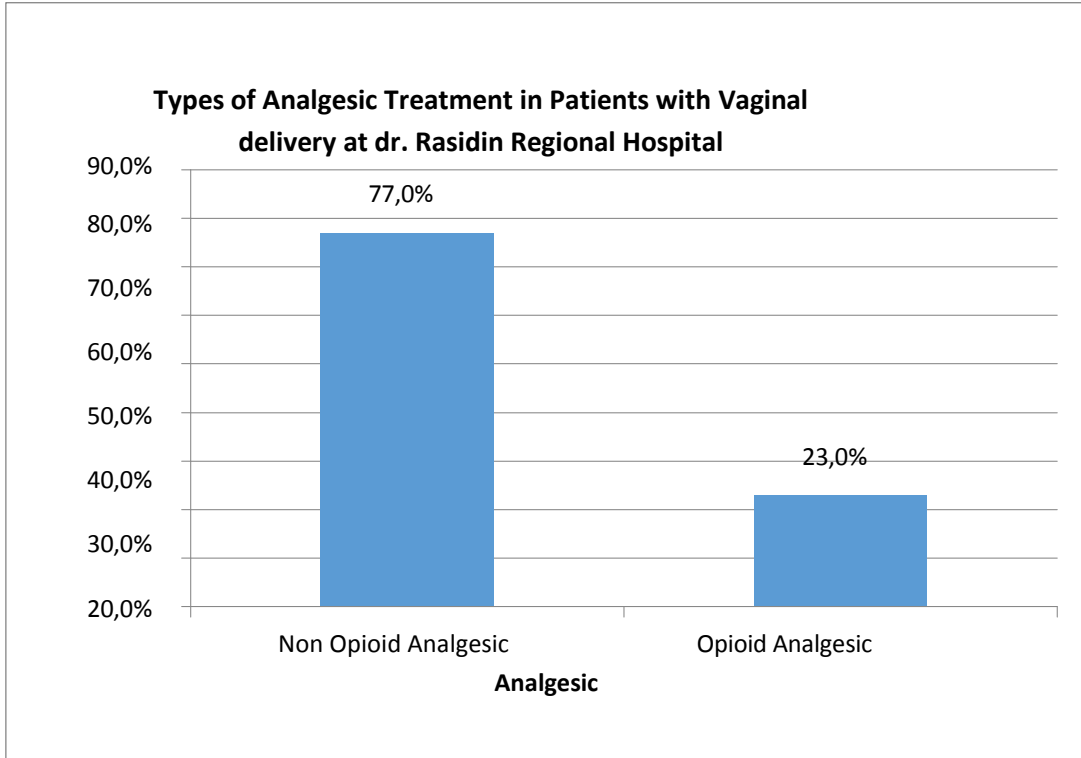
Age characteristics	N (%)
Cesarean section group	
Risk (<20 and >35 year)	47 (26.1)
No risk (20-35 year)	133 (73.9)
Total	180
Vaginal delivery group	
Risk (<20 and >35 year)	30 (34.9)



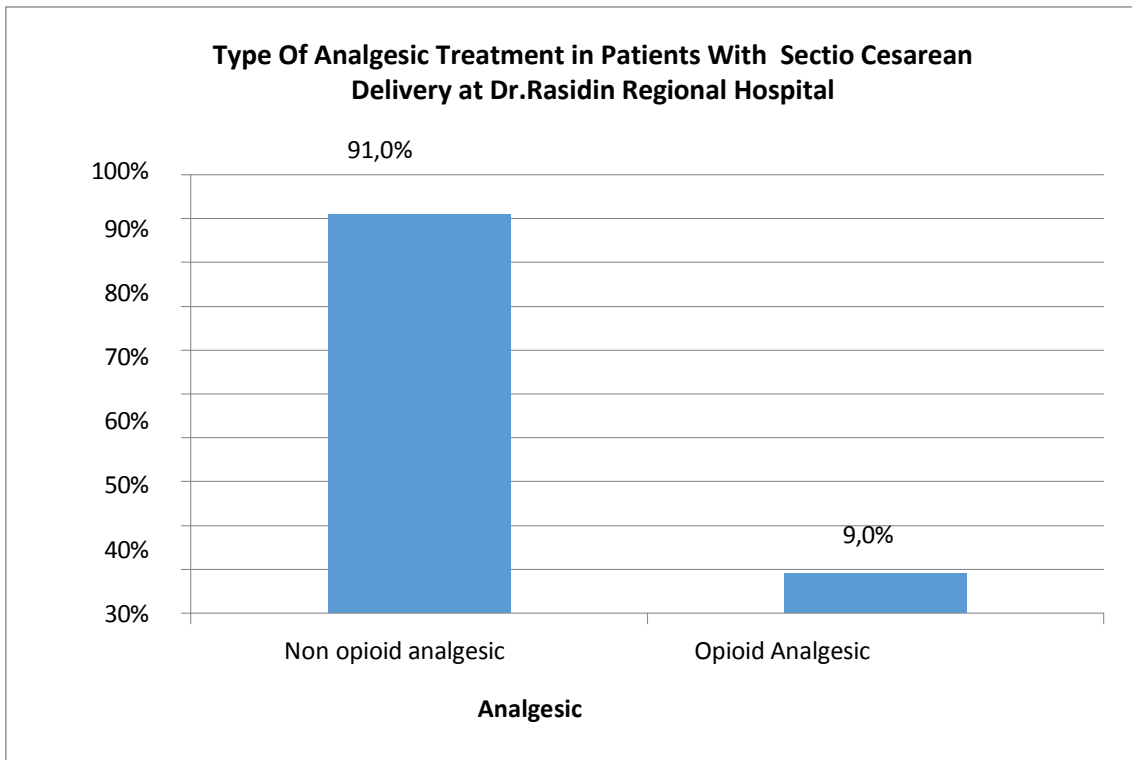
No risk (20-35 year)	56 (65.1)
Total	86
Parity Characteristics	
Cesarean section group	
Risk (≤ 1 and ≥ 4)	115 (63.9)
No risk (2-3)	65 (36.1)
Total	180
Vaginal delivery group	
Risk (≤ 1 and ≥ 4)	43 (50)
No Risk (2-3)	43 (50)
Total	86

Based on age groups, it shows that the largest number of patients in this study were in the non-risk group (20-35 years). Age group is one of the factors that influences the perception of afterpain postpartum. The level of pain felt by women of reproductive age during labor is classified as moderate pain. Apart from that, parturient patients of reproductive age have quite good energy because of the good condition and function of their reproductive organs (Khoirunnisa' *et al.*, 2017). Being too old or too young when pregnant can affect the patient's anxiety level which is also related to the intensity of pain. Young patients are at risk when giving birth because the uterus and pelvis have not developed optimally, which can increase the level of pain felt by the patient (Afritayeni, 2017). This is related to more intense sensory pain and is related to psychological conditions that are still unstable so it is very easy to trigger patient anxiety and cause a sensation of severe pain (Afritayeni, 2017).

Parity group is also a factor that influences labor pain. In this study, it showed that patients in the risk group had higher rates than those in the non-risk group. Mothers who have previously given birth, whether primiparous or multiparous, can influence the perception of pain during the birth process (Afritayeni, 2017). Pain that occurs during the birth process is influenced by each individual's different perceptions such as responses to pain, past experiences, and stress levels (Nursalam, 2015). Previous birth experience can help patients manage pain management during the birth process. The high anxiety factor in primiparous labor will increase the intensity of pain.



Picture 1. Type Of Analgesic Treatment in Patients With Vaginal Delivery at Dr.Rasidin Regional Hospital,Padang



Picture 2. Type Of Analgesic Treatment in Patients With Sectio Cesarean Delivery at Dr.Rasidin Regional Hospital,Padang

Analgesics that are widely used for pain management can be opioid analgesics or non-opioid analgesics. In this study, the analgesics that were widely used were non-opioid such as NSAIDs, which consisted of dexketoprofen, ketoprofen, ketorolac, ibuprofen, and paracetamol. This is in accordance with The American College of Obstetricians and Gynecologists which states that NSAIDs are the first line of safe and effective treatment for afterpain postpartum patients (Bryant & Miller, 2021). The class of analgesics used in this study was tramadol and a combination of tramadol with paracetamol. Tramadol is a weak opioid and is considered safe for breastfeeding mothers because it does not cause addictive properties and the amount of excretion through breast milk is very small (Juwita *et al.*, 2019).

Table 2. Types of Analgesics For Afterpain Postpartum In Departement Obstetrics Dr.Rasidin Regional Hospital Padang For Period January-Desember 2023

Type Of Analgesic	
Sectio Cesarean Delivery Group	
(Tramadol+paracetamol)+paracetamol+ketorolac	2
(Tramadol+paracetamol)+ketoprofen	8
(Tramadol+paracetamol)	13
Dexketoprofen+paracetamol+ketorolac	2
Ketorolac+paracetamol	74
Paracetamol	64
Paracetamol+(Tramadol+paracetamol)	1
Paracetamol+(Tramadol+paracetamol)+ketoprofen	1
Paracetamol+tramadol	1
Ketoprofen+paracetamol	13
Ketoprofen+paracetamol+ibuprofen+(Tramadol+paracetamol)	1
Total	180
Vaginal delivery group	
(Tramadol+paracetamol)	12
Paracetamol+(Tramadol+paracetamol)	9
Ketorolac+paracetamol	1
Paracetamol	64
Total	86

The most varied use of analgesics in this study was paracetamol for patients who gave vaginal birth, while patients who gave birth by cesarean mostly used an analgesic combination of ketorolac and paracetamol. Paracetamol works by inhibiting prostaglandin synthesis in the central nervous system and blocking the generation of pain impulses in the periphery. It is hoped that giving analgesics in combination will provide a synergistic effect and minimize side effects and can reduce the dose of each drug. In the management of afterpain postpartum pain for cesarean delivery, ketorolac is chosen because this drug can treat moderate to severe pain (Octasari, 2022).

Table 3. Use of Analgesic Based on Route of Administration For Afterpain Postpartum In
Departement Obstetrics Dr.Rasidin Regional Hospital Padang For Period January-Desember 2023

Administration	N (%)
Cesarean Delivery Group	
oral	79 (44%)
Oral+injection	79 (44%)
Oral+suppository	22 (12%)
Total	180
Vaginal delivery group	
Oral	82 (96%)
Injection	1 (3%)
Oral+Injection	3 (1%)
Total	86

The most widely used of analgesic preparation after normal delivery or cesarean delivery is oral preparation. However, in cesarean delivery, it is also found that combination oral and injection dosage forms are given with the aim of immediately reducing the scale of pain that occurs in the patient. Administration of drug combinations via oral administration and suppositories was also often found in this study. This is due to the condition of the patient who has difficulty swallowing due to the sensation of nausea and vomiting after surgery due to the influence of anesthesia.

4. Conclusion

Based on research that has been conducted, it shows that the most analgesics used in postpartum patients are non-opioid analgesics. The non-opioid drugs most commonly used are paracetamol in vaginal delivery and a combination of ketorolac injection/paracetamol tablets in cesarean delivery patients.

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