



# Determination of Oligohydramnios and Its Perinatal Outcome in Tertiary Hospital, India

**S. M. Sindhuja<sup>1\*</sup> and Meenakshi<sup>1</sup>**

<sup>1</sup>Department of Obstetric and Gynaecology, Saveetha Medical College and Hospital, Chennai, India.

## **Authors' contributions**

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

## **Article Information**

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## **ABSTRACT**

**Introduction:** Oligohydramnios is an extremely rare condition where the liquor amnii is deficient in amount to the extent of less than 200 mL at term.

**Methods and Materials:** This study is a retrospective study conducted in Saveetha Medical college from JAN2021- MAR2021 done by random sampling method and 50 patients with oligohydramnios were taken as study population after satisfying inclusion and exclusion criteria.

**Results:** In the current study, 78 percent of patients received emergency LSCS, while only 22 percent had a normal delivery, in this study, approximately 20% weighed less than 2 kg, The most common cause of Oligohydramnios in this study was idiopathic.

**Conclusion:** Oligohydramnios is now being identified more frequently in regular USG examinations. Oligohydramnios is linked to a higher likelihood of pregnancy problems, as well as a higher rate of death and morbidity.

**Keywords:** Oligohydramnios; neonatal outcome; maternal outcome.

## 1. INTRODUCTION

Oligohydramnios is an extremely rare condition where the liquor amnii is deficient in amount to the extent of less than 200 mL at term. Sonographically, it is defined when the maximum vertical pocket of liquor is less than <2 cm or when amniotic fluid index (AFI) is less than 5 cm (less than 5 percentile). With AFI less than 5 cm (below 5th percentile) or more than 24 cm (above 95th percentile) was considered abnormal at gestational age, from 28 to 40 weeks. AFI between 5 and 8 is termed as borderline AFI or borderline oligohydramnios [1]. Oligohydramnios is reported to occur in 1 to 5% of total pregnancies [2].

Decreased amount of amniotic fluid, particularly in the third trimester, has been associated with multiple fetal risks like cord compression, musculoskeletal abnormalities such as facial distortion and clubfoot, intrauterine growth restriction, low birth weight, fetal distress in labor, meconium aspiration syndrome, severe birth asphyxia, low APGAR scores, NICU admission, congenital abnormalities and stillbirths and Maternal complications like Prolonged labor due to inertia, Increased operative interference due to malpresentation. The sum effect may lead to increased maternal morbidity [3].

This study evaluates the mode of delivery in oligohydramnios, the perinatal outcome in the form of meconium-stained liquor, APGAR score, NICU admission, birth weight, and maternal risk factors associated with oligohydramnios like pregnancy-induced hypertension, post-dated pregnancy, and other complications.

The obstetric risk factors associated with oligohydramnios and its perinatal outcome can be identified and these Obstetric risk factors can be duly addressed in the future leading to better perinatal outcome

## 2. METHODS AND MATERIALS

This study is a retrospective study conducted in Saveetha Medical college from JAN2021-MAR2021 done by random sampling method and 50 patients with oligohydramnios were taken as study population after satisfying inclusion and exclusion criteria.

### 2.1 Inclusion Criteria

- No gross fetal anomalies

- Antenatal patients in their third trimester
- Alive baby.

### 2.2 Exclusion Criteria

- Premature rupture of membranes,
- Antenatal patients before the third trimester
- Intrauterine death of the fetus.

The outcome measures recorded were the age of patients, gestational age, mode of delivery, maternal risk factors, APGAR score at 1 minute and 5 minutes, NICU admission, meconium-stained liquor

## 3. RESULTS

Out of 50 patients with Oligohydramnios, 48 percent are between the ages of 20 and 25, and 46 percent are primi. The majority of them (58 percent) have a gestational age of 36 to 40 weeks, while 22 percent have a gestational age of 32 to 36 weeks.

**Table 1. Age and percentage**

AGE	PERCENTAGE
20-25	48
26-30	28
>30	24

**Table 2. Gestational age**

Gestational age	Percentage
<32	10
32-36	22
36-40	58
>40	10

**Table 3. Gravida percentage**

Gravida	Percentage
Primi	46%
Gravida 1	34%
Gravida 2	12%
Above	8%

In the current study, 78 percent of patients received emergency LSCS, while only 22 percent had a normal delivery.

The most common cause of Oligohydramnios in this study was idiopathic, accounting for half of all cases. Other causes included pregnancy-induced hypertension (40%) and post-date pregnancy (20%).

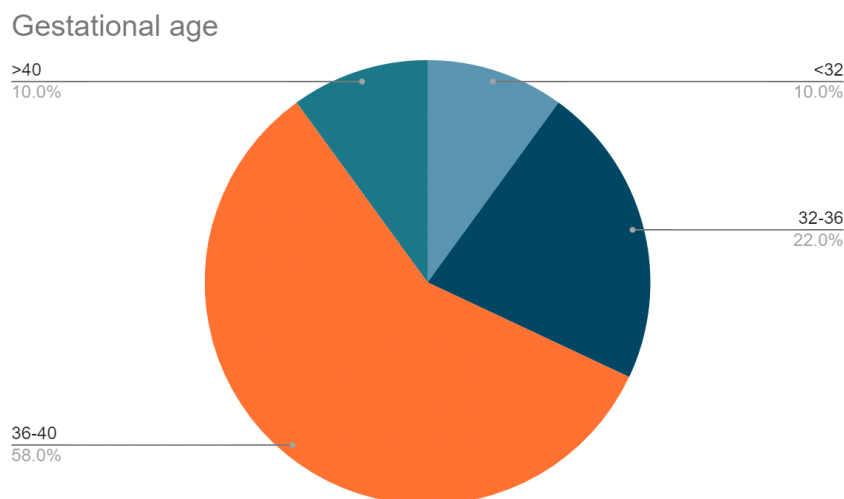


Fig. 1. Pie chart

Table 4. Labour mode

MODE OF LABOUR	PERCENTAGE
Emergency LSCS	78%
Normal vaginal	22%

Table 5. Maternal risk factors

MATERNAL RISK FACTORS	PERCENTAGE
Post-dated pregnancy	10%
Pregnancy-induced hypertension	40%
Idiopathic	50%

In terms of neonatal outcome, 72 percent were term babies and 28 percent were preterm babies, with approximately 12 percent having an APGAR score (1min) 7 and only 4 percent having an APGAR score (5min) 7. In this study, approximately 20% weighed less than 2 kg, approximately 80% weighed more than 2 kg, and approximately 46% were admitted to the NICU at birth.

#### 4. DISCUSSION

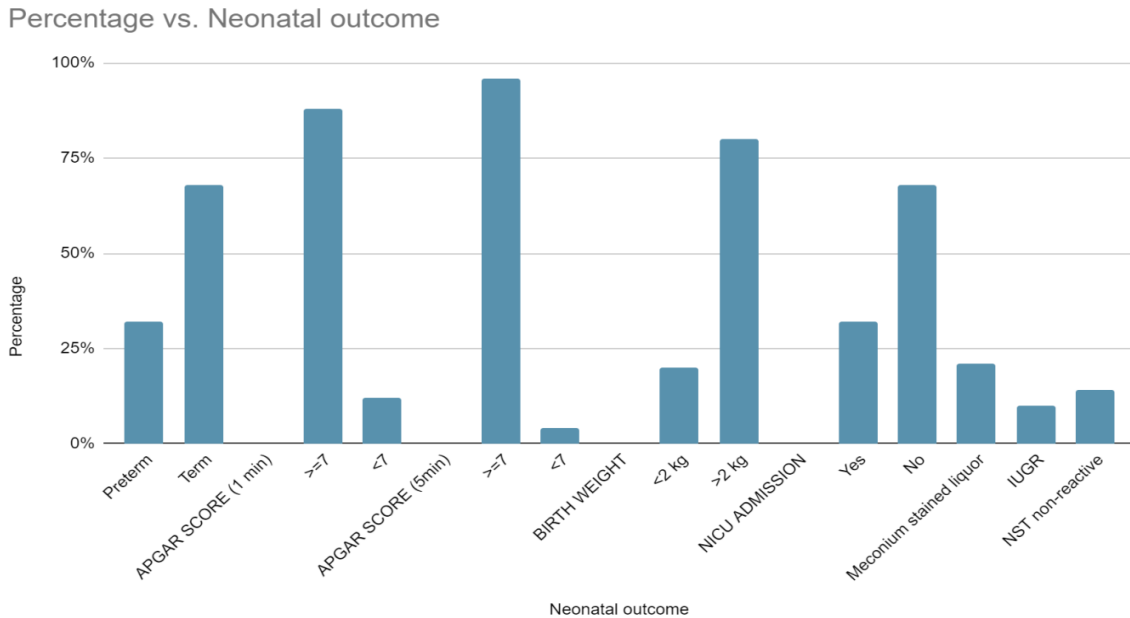
It is well known that oligohydramnios is linked to a significant risk of negative perinatal outcomes. Oligohydramnios, on the other hand, is a poor predictor of negative consequences. However, oligohydramnios is frequently utilised as a delivery indicator. As a result, predicting who is at risk for a possibly bad perinatal outcome during the antenatal period can be aided by measuring amniotic fluid content [4].

In the current study, LSCS was performed in 78 percent of the patients, while Chate P et al. [5] found that 64 percent of the patients had LSCS. Obstetricians usually choose caesarean sections because of the possibility of oligohydramnios being associated with umbilical cord compression and foetal distress in the presence of uterine contractions [5].

Table 6. Neonatal outcomes

Neonatal outcome	Percentage
Preterm	32%
Term	68%
<b>APGAR SCORE (1 min)</b>	
>=7	88%
<7	12%
<b>APGAR SCORE (5min)</b>	
>=7	96%
<7	4%
<b>BIRTH WEIGHT</b>	
<2 kg	20%
>2 kg	80%
<b>NICU ADMISSION</b>	
Yes	32%
No	68%
<b>Meconium stained liquor</b>	21%
<b>IUGR</b>	10%
<b>NST non-reactive</b>	14%

In a study by Bhat S, the most common causes of oligohydramnios were idiopathic 56 percent and PIH 24 percent, respectively. In this study, idiopathic 50 percent and PIH 40 percent were the most common causes of oligohydramnios [6].



**Fig. 2. Histogram**

The baby's birth weight was 20% higher in this study. Similarly, Chiniwar MA et al found that 18% of oligohydramnios babies are born with a birth weight of less than 2 kg. Purvi K Patel percentage was 5%. The incidence of low birth weight is high especially when there are associated high risk factors like severe preeclampsia, congenital anomalies, severe oligohydramnios AFI < 2 cm or anhydramnios [7].

In a study conducted by Ahmar R et al, 20% of babies required NICU admission, whereas in this study, 32% of babies required NICU admission. The high rate of NICU admission in this study could be attributed to low birth weight, preterm babies, meconium stained liquor, pregnancy-induced hypertension, and post-dated pregnancy [3].

## 5. CONCLUSION

Oligohydramnios is now being identified more frequently in regular USG examinations. Oligohydramnios is linked to a higher likelihood of pregnancy problems, as well as a higher rate of death and morbidity. Due to maternal and foetal variables, oligohydramnios was linked to an increased caesarean birth in this study. As a result, each case of oligohydramnios must be carefully evaluated, and risk factors must be identified. Obstetric risk factors can be treated appropriately in the future, resulting in improved perinatal outcomes.

## CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

## ETHICAL APPROVAL

We conducted our research after obtaining proper IEC approval.

## ACKNOWLEDGEMENTS

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Dutta D, Konar H. DC Dutta's textbook of obstetrics. 9th ed. Jaypee Brothers Medical Publishers. 2019;203.
2. Jeyamani B, Anurekha JP, Arun Daniel J. Maternal and Perinatal outcomes of oligohydramnios in a tertiary care hospital in Salem, Tamil Nadu, India. Int J Reprod Contracept Obstet Gynecol. 2019;8:1939-42.

3. Ahmar R, Parween S, Kumari S, Kumar M. Neonatal and maternal outcome in oligohydramnios: a prospective study. *Int J Contemp Pediatr*. 2018;5:1409-13.
4. Nazlima N, Fatima B. Oligohydramnios at third trimester and perinatal outcome. *Bangladesh Journal of medical science*. 2012;11(1):33-6.
5. Chate P, Khatri M, Hariharan C. Pregnancy outcome after diagnosis of oligohydramnios at term. *Int J Reprod Contracept Obstet Gynecol*. 2013;2(1): 23-6.
6. Bhat S. Study of effect of oligohydramnios on maternal and fetal outcome. *International Journal of Medical and Dental Sciences*. 2015 Jan 1;4(1):582-8.
7. Chiniwar MA, Kaushik JM, Menasinkai SB. Maternal and fetal outcome in oligohydramnios after 34 weeks of gestation. *Int J Reprod Contracept Obstet Gynecol* 2018;7:4604-8.

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