RESEARCH ARTICLE

PREVALENCE OF PREGNANT WOMEN WITH OLIGOHYDRAMNIOS AND ITS EFFECT ON MATERNAL AND FETAL OUTCOME

Fatima Kassim Abdullah* and Huda Abood Ahmed

Dept. of Gynecology and Obstetrics, Faculty of Medicine and Health Sciences, University of Aden, Yemen.

*Corresponding author: Fatima Kassim Abdullah; E-mail: am.omer0000@gmail.com

Received: 26 November 2023 / Accepted: 24 December 2023 / Published online: 31 December 2023

Abstract

Oligohydramnios is a pregnancy condition characterized by low volume of amniotic fluid. Based on ultrasound measurement, it is defined as an amniotic fluid index (AFI) ≤ 5cm and associated with adverse fetal and maternal outcomes. To study the prevalence of oligohydramnios and its effect on maternal and fetal outcome in third trimester (≥ 28 weeks) of pregnant women admitted at AL-Sadaqa Teaching Hospital in the period of study from 1st January to 31st December 2020. This study is a prospective descriptive study was performed at AL-Sadaqa Teaching Hospital, Gynecology and Obstetrics Department among 100 pregnant women in third trimester diagnosed as oligohydramnios by ultrasound (AFI ≤ 5cm). The results were analyzed by using the statistical package social software (SPSS), version 25. The study showed the prevalence of oligohydramnios during study period was (1.5%), and the mean age of the affected women was 27.72 ± 6.8 years. The half of the cases were in age group between 20-29 years (50%) and the gestational age were between 37-40 weeks (50%), and slightly more than half of the women were nulliparous (58%). The rate of caesarean section was (56%), and the most indication for cesarean section was fetal distress (42.9%). The fetal complications showed in this study were low birth weight (40%), preterm birth (27%) and meconium aspiration (11%). The Apgar score <7 in 5th minutes was (17%) of the newborns and the rate of perinatal mortality was (7%).

The prevalence of oligohydramnios in this study was (1.5%) which is within the normal limit worldwide. The study showed that the oligohydramnios in a pregnant woman has many complications for the fetus as well as the mother, but it more dangerous for the fetus. For mother there is increase intervention in the form of induction of labor and cesarean delivery. An early detection of oligohydramnios, identification of the risk factors and its management may help in reduction of these complications.

Keywords: Oligohydramnios, Amniotic fluid index, Cesarean section, Perinatal outcomes.

Introduction

The amniotic fluid is clear watery fluid that is surrounded by sac called the amnion. The possible sources of amniotic fluid in the first trimester include a transudate of maternal plasma through the chorioamnion or from fetal plasma through the permeable fetal skin prior to keratinization. In the second and third trimester of pregnancy amniotic fluid volume is maintained by a balance of fetal fluid production in lung fluid and urine as well as fluid resorption in fetal swallowing and flow across the fetal membranes to the uterus [1].

The volume of amniotic fluid is found to be normally different according to gestational weeks. It is normally increased from 50 ml at 12 weeks and going to be raised to 400 ml at mid pregnancy period and 1000 ml at term and decreased after[2]. As a result, amniotic fluid volume (AFV) evaluation is a component of every standard sonogram or obstetric scan and one component of antepartum fetal surveillance[3, 4].

Oligohydramnios is one of the common clinical conditions in which plays an important role in obstetrics field by direct relation of maternal and fetal outcome. It might be seen among pregnant mothers during routine follow up or discovered accidently in whom not been attending regularly in antenatal care clinics during pregnancy period.

The terminology of oligohydramnios is referring to be reduction of amniotic fluid volume less than expected for gestational age (GA). Otherwise, when AFV is much more than expected for GA, it is called polyhydramnios. According to sonographic criteria, oligohydramnios
defined as an amniotic fluid index (AFI) less than 5th centile for gestation[5], or AFI ≤ 5 cm [6], or the single deepest pocket (SDP) is less than 2 cm [7]. The American College of Obstetricians and Gynecologists practice bulletins have defined an AFI of greater than 5.0 cm and less than 24 cm as consistent with a normal AFV[8].

Oligohydramnios is prevalent in approximately 1% to 5% of all pregnancies. However, the prevalence of it can be increased much more after 41 weeks and in post term pregnancies in approximately 12-14% and 30% respectively[9-11].

The etiology of oligohydramnios may be idiopathic or maternal cause (such as preeclampsia, chronic hypertension) or fetal cause (such as congenital abnormalities, post-term pregnancy, Rupture of membranes and IUGR associated with placental insufficiency) or placental cause (such as Abruptio placenta and twin-twin transfusion) [12].

Oligohydramnios is a threatening condition to fetal health and is associated with increased risk of intrauterine growth retardation, meconium stained liquor, non-reassuring fetal heart rate, increase rate of C/S and increase perinatal morbidity and mortality [13]. In both developed and developing countries, cesarean deliveries have chosen in oligohydramnios cases ranging from 42.0% – 83.6%[11,14-16].

Management of oligohydramnios is facing a difficult decision making for both maternal and fetal health especially in set-ups without continuous fetal monitoring[10]. However, making a rational decision between vaginal delivery and C/S should be done and balancing between advantages and disadvantages must be considered, so that unnecessary maternal morbidity is prevented and perinatal morbidity and mortality are reduced [10, 11].

The objective of this study was to study the prevalence of oligohydramnios during third trimester and its effect on maternal and fetal outcome in third trimester of pregnant admitted at AL-Sadaqa Teaching Hospital.

Materials and Methods

This is a prospective descriptive study involved all pregnant women admitted at AL-Sadaqa Teaching Hospital, Gynecology and Obstetrics Department in third trimester of pregnancy (≥28 weeks) diagnosed as oligohydramnios by US (AFI≤ 5cm) during the period from 1st January to 31st December 2020.

**Inclusion criteria:**
1. All pregnant women ≥ 28 weeks with oligohydramnios.
2. AFI ≤ 5cm by transabdominal US.
3. Intact membrane.
5. We include if there are fetal anomalies.
6. Vertex presentation.
7. We include the obstetric complication (pregnancy induced hypertension (PIH), diabetes mellitus (DM) and intrauterine growth restriction (IUGR).

**Exclusion criteria:**
1. All pregnant women < 28 weeks with oligohydramnios.
2. AFI >5cm by transabdominal US.
3. Rupture membranes.
4. Malpresentation.
5. Multiple gestation.
6. Intrauterine fetal death.

**Data collection**

Information was collected using specifically designed closed questionnaire, through direct personal interview with the patients by the researcher and other resident doctors who received the cases during their duties in labor ward. A detailed history, complete examination and routine laboratory investigation was done. Information on socio-demographic and obstetric history including (maternal age, GA, parity). Maternal and fetal outcome were recorded which included the mode of delivery, indication of caesarean section, Apgar score at 5th minutes, birth weight, perinatal morbidity and mortality.

The study protocol was approved by institution ethical committee, and informed consent of all those patients, who were involved in the study was obtained after providing them detailed explanation of the objectives, importance and benefits of the study and confidentiality of information was maintained.

**Statistical Analysis**

Data analysis was performed using SPSS version 25 (IBM Inc., Chicago, USA). Categorical data were expressed as frequencies (numbers and percentage) and numerical data as mean ± standard deviation for normally distributed data. Quantitative data were compared using T- test or One-way analysis of variance (ANOVA) in parametric data. The 95% confidence interval was determined and p- value of less than 0.05 as statistically significant (p< 0.05).

**Results**

Among the total of 6637 deliveries occurred during the study period, 100 women were in the third trimester (≥28wks) of pregnancy diagnosed with oligohydramnios and the prevalence of oligohydramnios was (1.5%) (95% CI=1.2% -1.8%) (Figure 1).
Half of the cases were in age group between 20-29 years (50%) and the mean age of the affected women was 27.72 ± 6.8 years with no significant association between the maternal age and AFI (p=0.47). The mean of gestational age was 38.13 ± 2.9 weeks and (50%) of cases were in the gestational age between 37-40 weeks with a statistically significant association between gestational age and AFI (P=0.04). Slightly more than half of the women were nulliparous (58%) with no significant association between parity and AFI (p= 0.18) (Table 1).

Among oligohydramnios pregnant women about (56%) were highly terminated by cesarean section in comparison to vaginal delivery (44%). In women with vaginal delivery, about 24% of them were induced, while others 20% had spontaneous vaginal delivery with a statistically significant relationship between mode of delivery and AFI (P=0.03) (Table 2).

The main indication for cesarean section in pregnant women with oligohydramnios was fetal distress (42.9 %) (Table 3).

Out of total deliveries (40%) of newborns recorded with low birth weight (LBW) (<2500 gm) in comparison to newborns with normal birth weight ≥2500 gm (60%). There was a highly statistically significant relationship between the birth weight and the AFI (p=0.000). About (17%) of newborns had Apgar score <7 in comparison to newborns who had Apgar score ≥ 7 (80%). There was a statistically significant relationship between the Apgar score and the AFI (p= 0.004). The fetal complications mainly due to LBW, preterm births and meconium aspiration were (40%), (27%) and (11%) respectively. There was a statistically significant relationship between the perinatal morbidity and the AFI (P=0.01).

The majority of fetuses from oligohydramnios cases (97%) were born alive, while fresh stillbirths were only (3%). Among the alive neonates 97%, about (4%) were dead in an early neonatal period.

The total perinatal mortality observed in our study was (7%), in comparison to alive neonate (93%) with a statistically significant relationship between the perinatal mortality and the AFI (p=0.02) (Table 4).

Discussion
In the present study the prevalence of oligohydramnios in the third trimester was (1.5%), this result is concurred to that reported studies in Pakistan [17], India [18], Sudan [19] and Northern Ethiopia [20] which the prevalence of oligohydramnios were 1.5%, 2.17%, 2.6% and 3.2% respectively.

Alchalabi HA et al [21] and Ghimire S et al [22] reported that the maternal age between 20-29 years were at 71.2% and 68% respectively. These results were more than our finding which (50%) of women were in the age group between (20-29 years), this reflects that the childbearing age of women was more common in this study.

The mean maternal age was (27.7 ± 6.8 years), which is in agreement with previous studies done by Musthaq et al[23] and Yenigul et al [24] found that the mean maternal age were 27.6 ± 4.2 years and 27.1 ± 5.6 years respectively.

Alnakash AH et al in Iraq reported that there was no significant relationship between the amniotic fluid disorder and maternal age[25]. Cakmak Celik F et al in Turkey observed that the maternal age has no effect on perinatal and neonatal outcomes[26]. These findings correspond to our result which showed no significant association between the oligohydramnios and maternal age (p=0.47).

The mean gestational age in this study was (38.1 ± 2.9 weeks) which is similar to previous studies obtained by Figueroa et al [17], Hamed A et al [27] and Biradar KD et al [28] were 37.7 ± 2.9 weeks, , 38.9 ± 1.3 weeks, and 38.5 ± 2.1 weeks respectively. These findings indicate that the problem of oligohydramnios was more common in later part of pregnancy. It is mainly due to the physiological or pathological cause of reduced placental perfusion near term.

In this study (50%) of oligohydramnios cases in gestational age between (37-40 weeks) with a statistically significant association between GA and AFI (p= 0.04). In a study by Gurung SD et al [29] reported that the oligohydramnios cases were mostly developed with term GA between 37-40 weeks (52%) with a statistically significant association between GA and AFI (p= 0.05). Minwuye T et al [30] found that oligohydramnios were more developed in GA between 37-40 weeks (61.2%) with a statistically significant association between GA and AFI (p= 0.01).

In current study most of the nulliparous (58%) had oligohydramnios with no significant relationship between oligohydramnios and parity (p= 0.18). This finding is similar to study by Gehlot N et al [31] in India showed that most of oligohydramnios cases were nulliparous (54%) and there were no significant relationship between oligohydramnios and parity (p= 0.080).

The intrapartum oligohydramnios was associated with an increased risk of C/S for fetal distress due to umbilical cord compressed which results in impaired blood flow to fetus [30].

In our study the rate of cesarean section was (56%) in oligohydramnios cases with a significant association between mode of delivery and AFI(P=0.03). This is similar to study done by Niamrat T et al[32] in Thailand reported that the rate of C/S was( 55.6%) with a statistically significant value ( p=0.001).

The present study showed the most common indication for C/S was fetal distress (42.9%) which is similar to the studies conducted by Molla M et al[33] showed that the most common indication for C/S was fetal distress in pregnant women with oligohydramnios ( 40.3%) and Amin A et al
significant

- 3% were still births and 4% early neonatal deaths. There

The perinatal mortality in this study was 7%, out of which

agreement with other studies

association with oligohydramnios, this result is in

vaginally, for that reason the MSAF is one of the indicators

aspiration 4%. While other 3 babies were stillbirth who delivered

In our study, 16 of babies with meconium stained amniotic

aspiration 4%.

In our study, 16 of babies with meconium stained amniotic

fluid (MSAF) 11 of them developed meconium aspiration and 8 were delivered by C/S due to fetal distress, while other 3 babies were stillbirth who delivered vaginally, for that reason the MSAF is one of the indicators of fetal distress[42].

In present study the perinatal morbidity significant association with oligohydramnios, this result is in agreement with other studies [43,44].

The perinatal mortality in this study was 7%, out of which 3% were still births and 4% early neonatal deaths. There was a statistically significant association between the perinatal mortality and oligohydramnios (p=0.02), this finding is similar to study done by Morris R et al [45] found that the strong association between oligohydramnios and fetal mortality. Ghimire S et al [22] showed that the perinatal mortality was a statistically significant with oligohydramnios \( p=0.03 \).

Overall, the perinatal mortality is markedly increased in women with oligohydramnios, so that the lack of amniotic fluid allows compression of fetal abdomen, which limits the movement of diaphragm. Although, Chate P et al[46] from India demonstrated higher neonatal mortality in oligohydramnios cases, but there was no statistically significant difference between perinatal mortality and decrease amniotic volume.

Limitations

1-This study is conducted at a hospital-based which made it rather difficult to generalize the findings to all population.

2- The diagnosis of fetal distress was made depending on FHR tracings because other methods like CTG and biophysical profile non- available for all sample sizes.

3-We only had information about immediate perinatal morbidity and mortality until time of discharge from the hospital, and therefore, some outcomes might be underestimated.

Conclusions

The prevalence of oligohydramnios in the third trimester at AL- Sadaqa Teaching Hospital is (1.5%) which is considered within the range quoted throughout most global studies.

Oligohydramnios is the most common case found in childbearing age (20-29 years), in nulliparous and in term gestational age (37-40 weeks). Also it is associated with an increased pregnancy intervention in the form of induction of labor and caesarean delivery, and the common indication for caesarean delivery was the fetal distress.

Oligohydramnios is associated with an increase in perinatal morbidity as in preterm births, low birth weight and meconium aspiration which are the commonest perinatal morbidity as in preterm births, low birth weight and meconium aspiration which are the commonest perinatal morbidity. The present study showed that lower amniotic fluid index is associated with higher rate of cesarean section, low birth weight, low 5 minutes Apgar score and increased rate of perinatal mortality.
Tables and Figures

Fig 1. prevalence of oligohydramnios

Table 1: Distribution of oligohydramnios women according to socio-demographic, obstetric characteristics and association with AFI

<table>
<thead>
<tr>
<th>Socio-demographic and obstetric characteristics</th>
<th>NO.</th>
<th>%</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age (Mean ± SD)</td>
<td></td>
<td>(27.72 ± 6.8)</td>
<td></td>
</tr>
<tr>
<td>&lt; 20 years</td>
<td>10</td>
<td>10%</td>
<td>0.47</td>
</tr>
<tr>
<td>20-29 years</td>
<td>50</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>30-39 years</td>
<td>34</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>≥ 40 years</td>
<td>6</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Gestational age (Mean ± SD)</td>
<td></td>
<td>(38.13 ± 2.9)</td>
<td>0.04</td>
</tr>
<tr>
<td>28-33 weeks</td>
<td>5</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>34-36 weeks</td>
<td>22</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>37-40 weeks</td>
<td>50</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>≥ 41 weeks</td>
<td>23</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Parity</td>
<td></td>
<td></td>
<td>0.18</td>
</tr>
<tr>
<td>Nulliparous</td>
<td>58</td>
<td>58%</td>
<td></td>
</tr>
<tr>
<td>Pluripara</td>
<td>20</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Multipara</td>
<td>9</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Grand multipara</td>
<td>13</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

One-way a nova test

Table 2: Distribution of oligohydramnios women according to mode of delivery and association with AFI

<table>
<thead>
<tr>
<th>Mode of delivery</th>
<th>NO.</th>
<th>%</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal delivery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spontaneous vag. delivery</td>
<td>20</td>
<td>20%</td>
<td>0.03</td>
</tr>
<tr>
<td>Induced vag. delivery</td>
<td>24</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>44%</td>
<td></td>
</tr>
<tr>
<td>Cesarean section</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency C/S</td>
<td>39</td>
<td>39%</td>
<td></td>
</tr>
<tr>
<td>Elective C/S</td>
<td>17</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Independent T- test

Table 3: Distribution of oligohydramnios women according to indication of cesarean section (n=56)

<table>
<thead>
<tr>
<th>Indication of cesarean section</th>
<th>NO.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fetal distress</td>
<td>24</td>
<td>42.9%</td>
</tr>
<tr>
<td>Oligohydramnios with previous scare</td>
<td>12</td>
<td>21.4%</td>
</tr>
<tr>
<td>CPD</td>
<td>6</td>
<td>10.7%</td>
</tr>
<tr>
<td>Fetal macrosomia</td>
<td>6</td>
<td>10.7%</td>
</tr>
<tr>
<td>Poor BPP score</td>
<td>4</td>
<td>7.1%</td>
</tr>
<tr>
<td>Failed induction</td>
<td>3</td>
<td>5.4%</td>
</tr>
<tr>
<td>Placenta Previa (Antepartum hemorrhage)</td>
<td>1</td>
<td>1.8%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 4: Perinatal outcome among oligohydramnios women and association with AFI

<table>
<thead>
<tr>
<th>Perinatal outcome</th>
<th>NO.</th>
<th>%</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth weight (Mean ± SD)</td>
<td></td>
<td>(0.7 ± 2.54)</td>
<td>0.000</td>
</tr>
<tr>
<td>&lt;2500 gm</td>
<td>40</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>≥2500 gm</td>
<td>60</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>Apgar score at 5 minutes</td>
<td></td>
<td></td>
<td>0.004</td>
</tr>
<tr>
<td>&lt;7</td>
<td>17</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>≥7</td>
<td>80</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td>Still births</td>
<td>3</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Perinatal morbidity</td>
<td></td>
<td></td>
<td>0.02</td>
</tr>
<tr>
<td>Preterm birth</td>
<td>27</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>Meconium aspiration</td>
<td>11</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Respiratory distress</td>
<td>4</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Neonatal sepsis</td>
<td>4</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Perinatal mortality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>93</td>
<td>93%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Independent T- test, One-way a nova test

References


انتشار نقص السائل الامنيوسي في النساء الحوامل ونتائجه على الأمهات والمواليد

فاطمة قاسم عبدالله، هدى عبود أحمد

قسم النساء والولادة، كلية الطب والعلوم الصحية، جامعة عدن، اليمن

*باحث المشت: فاطمة قاسم عبدالله
*البريد الإلكتروني: am.omer00000@gmail.com

استلم في: 26 نوفمبر 2023 / قبل في: 24 ديسمبر 2023 / نشر في: 31 ديسمبر 2023

المتخصّص

نقص السائل الامنيوسي هي حالة حمل تتميز بانخفاض حجم السائل الامنيوسي بناءً على القياس بالموجات فوق الصوتية. يرتبط السائل الامنيوسي في الثلث الأخير من الحمل (≤ 28 أسبوعًا) بالحولامات السلبية على مستكشف الصدأة التعليمي خلال فترة الدراسة من يناير إلى 31 ديسمبر 2020. هذه الدراسة هي دراسة وصفية مستقبلية تم إجراؤها في مستشفى الصداقة التعليمي. نصف الحالات في الفئة العمرية بين 20-29 سنة (50%) وعمر الحمل بين 40-49 أسبوعًا (50%). وعمر الحمل بين 30-39 أسبوعًا (50%). وعمر الحمل بين 20-29 سنة (50%). وعمر الحمل بين 30-39 أسبوعًا (50%).

تُعتبر مراقبة السائل الامنيوسي بواسطة الموجات فوق الصوتية (AFI) ≤ 5 سم. تم تسجيل المواضيع في هذه الدراسة بعد تطبيق معايير الاشتهاء والاستبعاد. وتم تحليل النتائج ببرنامج الحزمة الإحصائية الاجتماعية (SPSS). أظهرت الدراسة أن معدل انتشار قلة السائل الامنيوسي خلال فترة الدراسة كان (1.5%), وكان متوسط عمر النساء المصابات 42.7 ± 3.5 سنة. عدد الحالات في الفئة العمرية بين 20-29 سنة (50%) وعمر الحمل بين 30-39 أسبوعًا (50%). وعمر الحمل بين 40-49 أسبوعًا (50%). وعمر الحمل بين 20-29 سنة (50%). وعمر الحمل بين 30-39 أسبوعًا (50%).

كانت مصاعب المواليد التي أظهرتها هذه الدراسة هي انخفاض الوزن عند الولادة (40%), والولادة المبكرة (27%), وانخفاض حجم الرحم (11%). وكانت درجة ابتعاث أقل من 7 في الدقيقة (17%). وعدد وفيات المواليد (7%). كان معدل نشاط قلة السائل الامنيوسي في هذه الدراسة (1.5%). وينظل النتائج في جميع أنحاء العالم. أظهرت الدراسة أن قلة السائل الامنيوسي لدى المرأة الحامل لها العديد من المضاعفات على الجنين والأم، لكنها أكثر خطورة على الجنين. بالنسبة للأم، هناك زيادة في التدخل في شكل تعرية المخاض والولادة القصرية. الكشف المبكر عن قلة السائل الامنيوسي وتحديد عوامل الخطورة ومعالجتها مما قد يساعد في التقليل من هذه المضاعفات.

الكلمات المفتاحية: نقص السائل الامنيوسي، مؤشر السائل الامنيوسي، العملية القصرية، نتائج المواليد.

How to cite this article:

Copyright © 2023 by the Author(s). Licensee EJUA, Aden, Yemen. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY-NC-4.0) license.