

## RESEARCH ARTICLE

## POSTTERM PREGNANCY: MATERNAL AND FETAL OUTCOMES

Rina Ali Al-Genedy\* and Entesar Mohammed Qushash

*Dept. of Obstetrics & Gynecology, Faculty of Medicine & Health Sciences, University of Aden, Yemen.*\*Corresponding author: *Rina Ali*; E-mail: [rinagenedi@gmail.com](mailto:rinagenedi@gmail.com)

Received: 26 November 2023 / Accepted: 18 December 2023 / Published online: 31 December 2023

## Abstract

Postterm Pregnancy is one of the commonest obstetric conditions which associated with an increased risk of fetal and neonatal mortality and morbidity as well as an increased maternal morbidity. The aim of the present study is to determine the maternal and fetal outcomes of postterm pregnancy at Al-Sadaqa Teaching Hospital. A prospective case-control study was conducted at Al-Sadaqa Teaching Hospital, Aden from January 1<sup>st</sup> to December 31<sup>th</sup> 2020. Cases were considered postterm pregnancy ( $\geq 42$  weeks) while control term pregnancy (37 weeks - 41 weeks and 6 days). Significant association between gestational age and the studied variables of postterm and term pregnancy were analyzed using appropriate statistical methods. A total of 185 cases of postterm pregnancy and 370 control group of term birth, the frequency of postterm pregnancy was (2.78%), we found statistically significant association between some of socio-demographic factors and postterm pregnancy, cesarean section was higher in postterm group (OR 2.80) with the indications were cephalopelvic disproportion (OR 12.38). Maternal complications were significantly association to postterm birth like prolonged labor (OR 12.99) and postpartum hemorrhage (OR 8.32). Regarding to fetal outcomes, Postterm pregnancy has showed a significant association with neonatal low Apgar score ( $p=0.000$ ), Oligohydramnios (OR 42.24) asphyxia (OR 2.86), meconium aspiration (OR 9.41) and Perinatal death ( $p$  value 0.012). This study concluded that postterm pregnancy is associated with adverse maternal outcomes such as, prolonged labor and postpartum hemorrhage, and associated with adverse fetal outcomes like oligohydramnios, asphyxia and meconium aspiration syndrome. The outcome of prolonged pregnancy can be improved by proper counselling for follow up during pregnancy and proper monitoring and appropriate management during labor.

**Keywords:** Postterm pregnancy, Prolonged pregnancy, Outcome.

## Introduction

Smooth expectation of labor is the cherished dream of every pregnant woman, to be expelled timely from the uterus is almost as important as to be nourished perfectly in it. To be born too late is likely to be disastrous. [1] Postterm pregnancy is defined by the World Health Organization as pregnancy that has extended to or beyond 294 days after the first day of last menstrual period [2] ( $\geq 42$  0/7 weeks' gestation). The length of the pregnancy is considered normal between 37 full gestational weeks to 41 gestational weeks plus 6 days, i.e. 260-294 days. [3,4] Prevalence of postterm pregnancy ranges from 1–10% worldwide, but large differences exist between and within countries depending on the diversity of the populations studied and variations in obstetric practices. [5,6] The current international guidelines recommend pregnancy dating based on a first-trimester ultrasound examination and

preferably at 11–14 weeks, based on the crown-rump length (CRL), [7] which is the most precise method for determining gestational age. The most frequent cause of an apparently postterm pregnancy is an error in dating.[8] When postterm pregnancy truly exists the cause usually is unknown, but some risk factors are associated with postterm pregnancy like parity, maternal age and past history of postterm pregnancy. Postterm pregnancy is one of the commonest obstetric conditions which associated with an increased risk of fetal and neonatal mortality and morbidity, [9,10] including meconium aspiration syndrome, oligohydramnios, macrosomia, fetal birth injuries and fetal distress as well as an increased maternal morbidity [11] such as increased C.S rate, cephalopelvic disproportion, dystocia and postpartum hemorrhage. [12] However, there is no consensus regarding the optimal timing of induction of labor nor about the frequency and content of

consultations. International guidelines and literature suggest that both an induction of labor during week 41 and expectant management until 42 weeks with or without any antenatal surveillance could be considered. [13,14] Guidelines from the Royal College of Obstetricians and gynecologists, National Institute for Health and Care Excellence recommend that women should be offered induction between 41 and 42 weeks. [15] The World Health Organization and various guidelines throughout the world therefore recommend induction of labor after 42 weeks. [10]

## Methods

This is a prospective case-control study for 1 year from 1<sup>st</sup> January to 31<sup>st</sup> December 2020 at the Al-Sadaqa Teaching Hospital – Aden, cases were 185 women with the postterm pregnancy ( $\geq 42$  weeks or  $\geq 294$  days) from last menstrual period (LMP). Some cases who were not sure about the LMP we depend on early ultrasound in a first trimester, the control were 370 women with gestational age (between 37 complete weeks to 41 weeks and 6 days) from LMP or early ultrasound.

### Inclusion criteria

- The patients with regular menstrual cycle with known last menstrual period, or with first trimester ultrasonography.
- Patients admitted to the hospital at or beyond 42 weeks gestation.
- Singleton pregnancy with vertex presentation.
- EDD was calculated as per Naegles formula or early ultrasound

### Exclusion criteria

- Unknown gestational age.
- Irregular menstrual period.
- Recent use of combined oral contraceptive pills (COCP), or conception during lactation amenorrhea
- Multiple (twins) pregnancy, Preexisting or gestation diabetes, Antepartum hemorrhage and Pregnancy induced hypertension.
- Non vertex presentation

### Data collection

The data was collected directly by the author through personal interview with the patient. Specifically designed questionnaire was filled by the researcher and other resident doctors who work in emergency department after training them.

### Data analysis

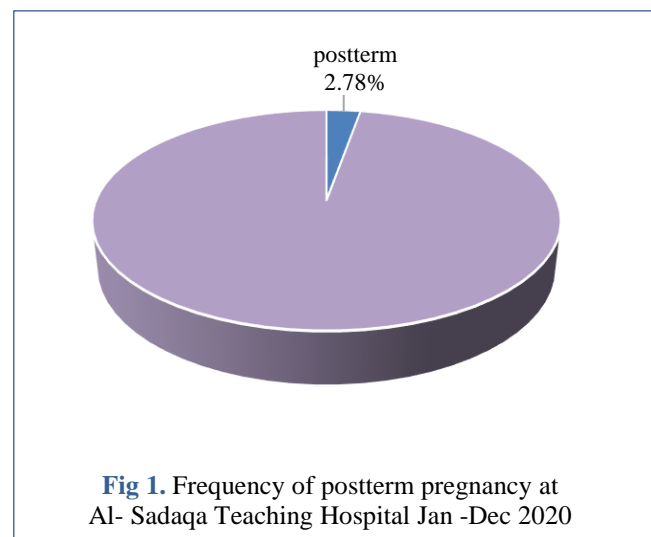
Data was analyzed using SPSS version 25.

### Ethical consideration

This study was taken into the consideration the most common ethical principles that should be applied to every step of scientific research involving human being. Oral Informed consent was obtained from all subjects voluntarily participating in the study after explanation of the research objectives and the purpose of this study. Respondents were informed they could withdraw from the study without affecting their care. The relatives were also told that all the information obtained would be confidentially handled and used only for research purposes.

## Results

There were 6637 births during the study period reported in the obstetric department of the hospital. The total number of the studied cases were 185 postterm mothers and 370 as a control term mother, they were selected in a ratio of 2: 1 (2 controls for each 1 postterm mother). The frequency of postterm during the study period was 2.78 per 100 births.



**Fig 1.** Frequency of postterm pregnancy at Al- Sadaqa Teaching Hospital Jan -Dec 2020

Table 1. Concerning the maternal age, the results showed that no statistically significant difference between postterm and term gestations according to maternal age ( $p$  value  $> 0.05$ ), despite 70.8% of cases and 67.6% of controls were from age group 20-30 years. Nulliparity in this study was less likely to have postterm pregnancy (OR: 0.62), while multiparity showed a significant association with postterm gestation (OR: 1.86). With regarding to education level, higher percentage of postterm mothers (47.6%) were had primary education than term groups (31.4%), with statistically significant association with postterm (OR: 1.99).

**Table 1.** Socio-demographic characteristics of postterm and term gestations

Socio-demographic Characteristics	Gestational age				Statistics		
	Postterm (n=185)		Term (n=370)		P	OR	95% CI
	N <sub>o</sub>	%	N <sub>o</sub>	%			
<b>Maternal age group (years):</b>							
≤19	14	7.6	48	13.0	0.057	0.55	0.29-1.03
20 – 30	131	70.8	250	67.6	0.438	1.16	0.79-1.71
31-40	40	21.6	72	19.5	0.550	1.142	0.74-1.76
<b>Parity:</b>							
Nullipara	73	39.5	190	51.4	0.008	0.62	0.43-0.88
Pluripara	83	44.9	142	38.4	0.142	1.31	0.91-1.87
Multipara	22	11.9	25	6.8	0.041	1.86	1.02- 3.40
Grand multipara	7	3.8	13	3.5	0.872	1.08	0.42-2.75
<b>Education level:</b>							
Illiterate	8	4.3	8	2.2	0.151	2.05	0.76-5.54
Primary school	88	47.6	116	31.4	0.000	1.99	1.38-2.86
Secondary school	80	43.2	211	57.0	0.002	0.57	0.40-0.82
University	9	4.9	35	9.5	0.059	0.49	0.23-1.04
OR: odds ratio CI: confidence interval p-value < 0.05 is statistically significant * Calculated by student t-test p-values were calculated by Chi square test							

**Table 2.** Distribution of postterm and term gestations according to the mode of delivery

Mode of delivery	Gestational age				Statistics		
	Postterm (n=185)		Term (n=370)		P	OR	95% CI
	N <sub>o</sub>	%	N <sub>o</sub>	%			
Vaginal	126	68.1	317	85.7	0.000	0.36	0.23-0.55
Cesarean section	59	31.9	53	14.3	0.000	2.80	1.83-4.28

In this table, the rate of cesarean section was higher in postterm group than in the term group (31.9% vs. 14.3% respectively) with OR: 2.80.

**Table 3.** Indications of caesarean section in postterm and term gestations

Indication of cesarean section	Gestational age				Statistics		
	Postterm (n=185)		Term (n=370)		P	OR	95% CI
	N <sub>o</sub>	%	N <sub>o</sub>	%			
failure of progress	24	13.0	34	9.2	0.170	1.47	0.85-2.57
CPD	17	9.2	3	0.8	0.000*	12.38	3.58-42.82
Fetal distress	14	7.6	16	4.3	0.111	1.811	0.86-3.80
Failed induction	2	1.1	0	0.0	0.111*		–
Others (rupture uterus-obstructed labor)	2	1.1	0	0.0	0.111*		–
CPD: cephalopelvic disproportion p-value < 0.05 is statistically significant * Calculated by Fisher Exact test, while others by Chi square test							

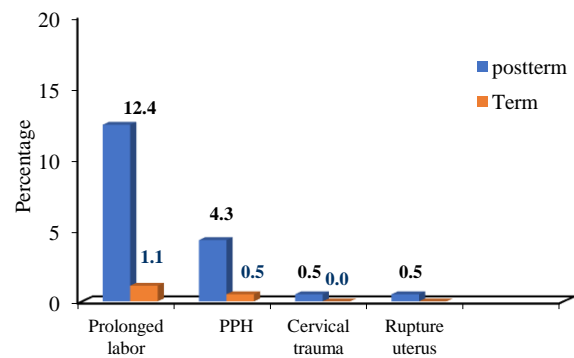
**Table 4.** Obstetric complications in postterm and term gestation

Maternal complications	Gestational age				Statistics		
	Postterm (n=185)		Term (n=370)				
	N <sub>e</sub>	%	N <sub>e</sub>	%	P	OR	95% CI
<b>Prolonged labor</b>	23	12.4	4	1.1	0.000	12.99	<b>4.42-38.17</b>
<b>PPH</b>	8	4.3	2	0.5	0.003	8.32	<b>1.75-39.57</b>
<b>Cervical trauma</b>	1	0.5	0	0.0	0.333		—
<b>Rupture uterus</b>	1	0.5	0	0.0	0.333		—

OR: odds ratio      CI: confidence interval      PPH: Post partum hemorrhage  
 \*p-value was Calculated by Chi square test while others by Fisher Exact test.      - p-value < 0.05 is statistically significant

The most common indication of cesarean section which had statistically significant association with postterm pregnancy was CPD (OR:12.38), there were no statistically significant difference between postterm and term pregnancy regarding failure of progress and fetal distress p value >0.05

Postterm pregnancy was associated with higher rate of prolonged labor (12.4%) and PPH (4.3%) When compared to term pregnancy (1.1% for prolonged labor,0.5% for PPH). Postterm mothers were 12.99 times more likely to have prolonged labor as compared to term mothers (OR:12.99), and 8.32 times more likely to have postpartum hemorrhage (OR:8.3).



**Fig 2.** Maternal complications in postterm compared to term gestations

**Table 5.** Fetal outcomes of postterm and term gestations

Fetal outcome	Gestational age				Statistics		
	Postterm (n=185)		Term (n=370)				
	N <sub>e</sub>	%	N <sub>e</sub>	%	P	OR	95% CI
<b>Weight of baby (gm):</b>							
<2500g	4	2.2	3	0.8	0.229**	2.70	<b>0.59-12.21</b>
2500-3999g	159	85.9	359	97.0	0.000	0.19	<b>0.09-0.39</b>
≥4000g	22	11.9	8	2.2	0.000	6.11	<b>2.66-14.01</b>
<b>Fetal sex:</b>							
Male	106	57.3	186	50.3	0.118	1.33	<b>0.93-1.89</b>
Female	79	42.7	184	49.7		0.75	<b>0.53-1.08</b>
<b>Apgar score:</b>							
In 1 <sup>st</sup> minute <7	29	15.7	6	1.6	0.000	11.28	<b>4.59-27.71</b>
In 5 <sup>th</sup> minute <7	7	3.8	0	0.0	0.000**		—
<b>Perinatal death</b>	4	2.2	0	0.0	0.012**		—

p-value < 0.05 is statistically significant      -OR: odds ratio      -CL: confidence interval  
 \*\*Calculated by Fisher Exact test, while others by Chi square test

In this table, the birth weights of 4000 gm or more were statistically significant observed with higher percentage among postterm gestations than in term gestations (11.9% vs. 2.2%, with p value 0.0000). Neonates born postterm were 6.11 times more likely to be macrosomia as compared to term deliveries.

Regarding the sex of the babies, there was no statistically significant difference between postterm and term groups (p=0.118).

The first minute and the fifth minute Apgar score < 7 was found in some of the delivered babies of mothers with postterm and term gestations. Score less than 7 was noted in of postterm (15.7%), and term (1.6%) pregnancies at 1 minute. After neonatal resuscitative measures we noted 5-minute Apgar Score less than 7 in postterm (3.8%), and term (0.0%) pregnancies. Postterm pregnancy has showed a significant association with neonatal low Apgar score (p=0.000).

Postterm pregnancy is associated with significant perinatal death (2.2%, p-value 0.012) when compared to term gestation. There were four deaths represented 3 stillbirths

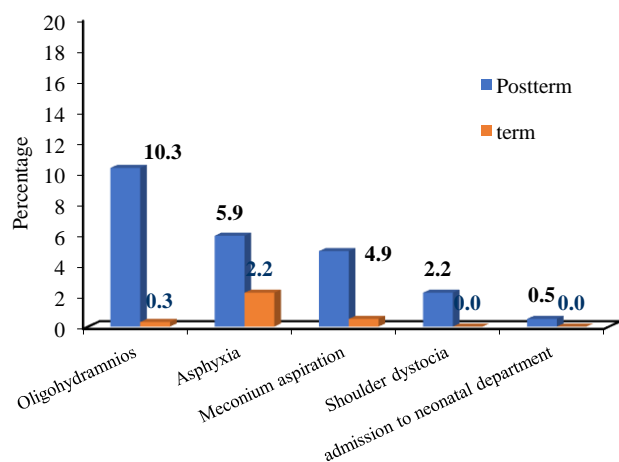
(1.6%) and one (0.5%) was an early neonatal death, there was no perinatal death associated with the control (term gestations)

**Table 6.** Fetal complications of postterm and term gestations

Fetal complications	Gestational age				Statistics		
	Postterm (n=185)		Term (n=370)		P	OR	95% CI
	No	%	No	%			
No Complications	135	73.0	359	97.0	0.000*	0.08	0.04-0.16
Complications	50	27.0	11	3.0	0.000*	12.09	6.11-23.91
<b>Types of complications:</b>							
Oligohydramnios	19	10.3	1	0.3	0.000	42.24	5.61-318.13
Asphyxia	11	5.9	8	2.2	0.021*	2.86	1.13-7.24
Meconium aspiration	9	4.9	2	0.5	0.001	9.41	2.01-44.01
Shoulder dystocia	4	2.2	0	0.0	0.012	-	-
admission to neonatal department	3	0.5	0	0.0	0.037	-	-
Stillbirth	3	1.6	0	0.0	0.037	-	-
Early neonatal death	1	0.5	0	0.0	0.333	-	-

OR: odds ratio                      CI: confidence interval                      p-value < 0.05 is statistically significant.                      \*Calculated by Chi square test, while others by Fisher Exact test

This table showed that women with a postterm pregnancy were more at risk for composite adverse perinatal outcome than women with a term pregnancy (27.0% vs3.0% respectively), with OR:12.09. Among fetal complications, encountered oligohydramnios was higher among postterm group than in term with a statistically significant (p value=0.000, OR:42.24) followed by asphyxia and meconium aspiration (OR: 2.86, OR: 9.41 respectively). There was statistically significant difference between groups (postterm and term) in terms of shoulder dystocia, admission to the neonatal department and stillbirth p<0.05. Regarding to early neonatal death there was no statistically significant difference between postterm and term groups p>0.05.



**Fig 3.** Types of fetal complications in postterm compared to term gestations

**Discussion**

Pregnancy is a time when women’s health is placed at risk; however, health professionals providing prenatal care can reduce that risk by monitoring women’s health regularly and offering preventive services. [16] Postterm pregnancy remains constantly a difficult and controversial problem in modern obstetrics and has many complications for both fetus and mother. The present study was conducted to find out the incidence, maternal complications, perinatal mortality and morbidity in postterm pregnancies. Total cases were 185 and control were 370 which were enrolled based on inclusion and exclusion criteria The incidence of postterm pregnancy was 2.78% which was almost similar to studies done by Karande et al. [17] and Linder et al. [18] who reported the incidence of postterm pregnancy was (2.6%, 3.2% respectively). In contrast with our result, Ingemarsson et al. [19] and Marahatta et al. [20] reported 8.3%,4.6% respectively.

Regarding to maternal age Our results were corresponded with the results of other studies by Dobariya et al. [21] El-Sokkary et al. [22] who found that, there was no statistically significant difference between women with postterm and their controls in regard with their age (P>0.05).

Multiparity had significant association with postterm (OR=1.86, p value=0.014). Similar results were reported in many studies by Marahatta et al. [20] and Akhter S et al. [23] which found more multigravida was delivered postterm. While in our study nulliparity have less likely risk of postterm pregnancy, the opposite was found in studies by Kandalgaonkar VP et al. [24] Shinge et al. [25] where Nulliparity increases risk of postterm pregnancy.

In regarding to education, in our study the nearly half of postterm women were in the primary education levels which had a significant risk with postterm (OR:1.99), our result was corresponded with a study done in China by Guo et al. [26] which revealed that the women who had primary school education had higher postterm incidence than women who received others higher school education levels, ( $p < 0.001$ ). In contrast to our results, the study performed by Oberg et al. [27] showed that a higher the education level of the mother makes her pregnancy more likely go longer.

The present results revealed that the proportion of women who had CS was significantly higher among postterm cases compared to term control  $p = 0.000$ . This result was corresponded with Elsayed et al. [28] Kumar et al. [29]

regarding indications for cesarean section, we found CPD with statistically significant association with postterm pregnancy ( $p$  value 0.000) while failure of labor progress and fetal distress not showed any significant association with postterm pregnancy. Similar results were corresponded to us founded by Caughey et al. [30] which found the indication of caesarian section was CPD and fetal distress, and Elsayed et al. [28] reported CPD

The results of current study revealed that there was a significant association between the presence of postterm pregnancy and the occurrence of prolonged labor and primary postpartum hemorrhage (PPH), ( $P < 0.05$ ). These results were in agreement with Heimstad et al. [31] and Elsayed et al. [28] who found that incidence of prolonged labor and postpartum hemorrhage were significantly higher in the postterm gestation group compared to the control. In study conducted by Patel et al, [32] maximum morbidity was because of perineal tears/cervical tears which not founded in our results.

In relation to fetal outcome, the present study revealed that postterm group was more likely to have babies with high birth weights than those in the control group, and statistically was significant ( $p = 0.000$ ). A similar finding was reported by Shahgheibi et al. [33] and Marahatta et al. [20] who reported that the neonates of the postterm gestation were significantly larger than those in the control group ( $p < 0.001$ ).

Regarding to gender of the baby our study showed slightly high male gender in postterm compared to control (57.3% vs. 50.3%), but statistically insignificant  $p = 0.118$ . In contrast to our result, study by Kumar et al. [29] revealed high numbers of postterm gender were females and showed statistically significant  $p < 0.001$ .

Regarding to Apgar score, the Apgar scores at the first minutes was significantly low ( $< 7$ ) among 15.7% of the newborns of the postterm pregnant women than those in term group ( $p = 0.000$ ), these results were agreed with Song et al. [34] and Elsayed. [28] but not in agreement with Shahgheibi et al. [33] and Sobhy et al. [35] who indicated that there was no statistically significant difference between

the two groups (postterm and term) was found ( $P > 0.05$ ) for low Apgar score. The reason for such difference in the results of different studies can be related to differences in health care during pregnancy, services provided to the patients and racial characteristic.

Regarding to Apgar score at 5 minutes, (3.8%) of postterm babies had Apgar score of  $< 7$  and statistically significant ( $p = 0.000$ ). This was similar with other studies by Ajori et, [36] and Elsayed et al. [28] In contrast to our results, studies were done by Patel et al, [32] and Dobariya et al. [21] who found in spite of there were babies of postterm and term with low Apgar score after 5 minutes but statistically insignificant  $p > 0.05$ .

In this study, the rate of fetal complication was identified in 27.0% of postterm and 3.0% of term neonates. postterm neonates were significantly more likely to have complications OR=12.09. The present study revealed that oligohydramnios, asphyxia, meconium aspiration syndrome, shoulder dystocia and admission to neonatal ward were higher among neonates in the postterm group than those in the control group ( $P = 0.000$ ). Our results were similar to many results were reported by other studies by Kumar et al. [29] Golait et al. [1] and Bishnoi et al, [37]

Regarding the rate of stillbirth, Britt Clausson et al. [38] found significant increase in the risk of stillbirth in pregnancies that continued after 41 completed gestational weeks. In our study we found 1.6% of postterm neonates were stillbirth and statistically significant ( $p < 0.05$ ). Similar results were reported by studies done by Kumar et al. [29] and Marahatta et al. [20]

Our result of perinatal death was 2.2% in postterm pregnancy while it was not occurred in control group with statistically significant ( $P = 0.012$ ), which was similar to a result revealed by Akhter et al. [23]

## Conclusion

This study concluded that postterm pregnancy is associated with adverse fetal outcomes like Oligohydramnios, Asphyxia, meconium aspiration syndrome and more neonatal ICU admissions. There is increased number of cesarean sections in cases of prolonged pregnancy. The adverse outcomes can be reduced by counselling for antenatal checkup and follow up during pregnancy and proper monitoring during labor. Postterm pregnancy requires early detection, proper planning regarding evaluation and termination of pregnancy. Pregnancy must not be allowed to progress to postterm, due to high association of perinatal mortality and maternal morbidity. Women with postterm gestations much be offered induction of labor before 42 weeks for a better fetal and maternal outcome.

## References

- [1] Golait S, Soni S. Maternal and perinatal outcome in pregnancy beyond expected date of delivery Obsgyn Review: Journal of Obstetrics and Gynecology July - August, 2019/ Vol 5/ Issue 3.
- [2] WHO. (2004). ICD-10: International statistical classification of diseases and related health problems, 10th revision. Volume 2. 2nd ed. Geneva: WHO.
- [3] Salomon LJ, Alfirevic Z, Bilardo CM, et al. ISUOG practice guidelines: performance of first-trimester fetal ultrasound scan. *Ultrasound Obstet Gynecol.* 2013;41(1):102–13
- [4] Oberg, A. S., Frisell, T., Svensson, A. C. & Iliadou, A. N. Maternal and fetal genetic contributions to postterm birth: familial clustering in a population-based sample of 475,429 Swedish births. *American journal of epidemiology* 177, 531–537, (2013)
- [5] Zhu, J. et al. Sociodemographic and obstetric characteristics of stillbirths in China: a census of nearly 4 million health facility births between 2012 and 2014. *The Lancet. Global health* 4, e109–118,
- [6] Cunningham FG, Leveno KJ, Bloom SL, Dashes JS, Hoffman BL, Casey BM, Spong CY. Post-term pregnancy. 25th ed. In: *William's Obstetrics*. New York: McGraw-Hill Companies; 2018. pp. 1851-71.
- [7] Goldenberg RL, McClure EM, Bhutta ZA, Belizan JM, Reddy UM, Rubens CE, et al. Stillbirths: the vision for 2020. *Lancet* 2011 May 21;377(9779):1798-1805.
- [8] Department of Health Government of South Australia. *South Australian Perinatal Practice Guidelines: Prolonged pregnancy*. 2012.
- [9] Vayssiere C, Haumonte JB, Chantry A, Coatleven F, Debord MP, Gomez C, et al. Prolonged and post-term pregnancies: guidelines for clinical practice from the French College of Gynecologists and Obstetricians (CNGOF). *Eur J Obstet Gynecol Reprod Biol.* 2013;169(1):10-6.
- [10] ACOG. (2013). ACOG Committee Opinion No 579: Definition of term pregnancy. *Obstetrics and Gynecology*, 122(5).
- [11] Spong, C. Y. (2013). Defining "term" pregnancy: Recommendations from the defining "term" pregnancy workgroup. *JAMA*, 309(23), 2445-2446
- [12] National Institute for Health and Clinical Excellence: *Guidance: Induction of Labour*. London, 2008. (Clinical Guideline 70) [cited 2016 October 10].
- [13] Nederlandse Vereniging voor Obstetrie en Gynaecologie. *Datering van de Zwangerschap versie 2.0*. 2018.
- [14] Management of late-term and postterm pregnancies. Practice Bulletin No. 146. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2014; 124:390–6 (Reaffirmed 2020)
- [15] International Federation of Gynecology and Obstetrics (FIGO), ICD-10 coding, O48. 2016
- [16] Villar J and Bergsjö P. Scientific basis for the content of routine antenatal care. I. Philosophy, recent studies & power to eliminate or alleviate adverse maternal outcomes. *Acta Obstetrica et Gynecologica Scandinavica* 1997; 76(1): 1-14.
- [17] Karande VC, Deshmukh MA, Virkud AA. Management of post term pregnancy. *J Postgrad Med* 1985; 31: 98-101.
- [18] Linder N, Hirsch L, Fridman E, Klinger G, Lubin D, Kouadio F, Melamed N. Post-term pregnancy is an independent risk factor for neonatal morbidity even in low-risk singleton pregnancies. *Archives of Disease in Childhood-Fetal and Neonatal Edition*. 2017 Jul 1;102(4): F286-90.
- [19] Ingemarsson I, Kallen K. Stillbirths and rate of neonatal deaths in 76,761 post term pregnancies in Sweden, 1982-1991: a register study. *Acta Obstet Gynecol Scand* 1997; 76:658-62.
- [20] Marahatta R, Tuladhar H, Sharma S. Comparative study of post term and term pregnancy in Nepal Medical college teaching hospital. *Nepal Med Coll J.* 2009;11(1):57-60.
- [21] Dobariya PV, Shah PT, Ganatra HK. Feto-maternal outcome in pregnancy beyond 40 weeks. *Int J Reprod Contracept Obstet Gynecol.* 2017;6(2):527- 31.
- [22] El-Sokkary M, Omran M & Ahmed H. Ratio of Middle Cerebral Artery/ Umbilical Artery Doppler Velocimetry and Status of Newborn in Post term Pregnancy. *Journal of American Science* ;7(4): (2011) (542- 549). (ISSN: 1545-1003).
- [23] Akhter P, Sultana M, Hoque M, Sultana S, Khatun MR, Dabee SR. Maternal outcome of prolonged pregnancy. *J Bangladesh Coll Phys Surg.* 2014;32(2):66.
- [24] Kandalgaonkar VP, Kose V. Fetomaternal outcome in postdated pregnancy, *Int J Reprod Contracept Obstet Gynecol.* 2019 May;8(5):1899-1906.
- [25] Shinge N, MM, VK, Prashanth S. Comparative study of maternal and fetal outcome in pregnancies of gestational age 40 completed weeks and beyond. *J Evol Med Dent Sci.* 2013;2(25):4509-16

- [26] Guo L J, Ren AG, Liu YH, Jin L, Liz. Post term pregnancy and associated social factors among pregnancy women in Jiaxing city m China 1993 to 2000 *Zhonghua liu xing bing xue ZA zhi*, 2009;30(60):575-8.
- [27] Oberg, A. S., Frisell, T., Svensson, A. C. & Iliadou, A. N. Maternal and fetal genetic contributions to postterm birth: familial clustering in a population-based sample of 475,429 Swedish births. *American journal of epidemiology* 177, 531–537, (2013).
- [28] Elsayed A M, Mohamed H S, Mohamed S L. maternal and neonatal outcome of postterm pregnancy, *Zagazig nursing journal* January; 2017Vol.13, No.1.
- [29] Anil Kumar G. V., Mahendra G, Bhaskar K. M. A comparative study of the maternal, fetal and early neonatal outcome at term and post-term gestation *Obs gyne Review: Journal of Obstetrics and Gynecology* January - February, 2020/ Vol 6/ Issue 1
- [30] Caughey AB, Nicholson JM, Cheng YW, Lyell DJ, Washington AE. Induction of labor and cesarean delivery by gestational age. *Am J Obstet Gynecol*. 2006; 195(3):700.
- [31] Heimstad R, Skogvoll E, Mattsson LA, Johansen OJ, Eik-Nes SH& Salvesen KA. Induction of labor or serial antenatal fetal monitoring in post term pregnancy. *Obstet Gynecol*.2007;109: (2007) 609–17
- [32] Patel N, Modi P. A Study of maternal and fetal outcome in postdate pregnancy. *Int J Sci Res*. 2017;6(9):2015-8.
- [33] Shahgheibi S, Farhadifar F, Rezaei M, Sayed F &Farhang N: An investigation into the effects of pregnancy duration on maternal and fetal outcomes in nulliparous mothers with a gestational age of between 38-40 weeks and over 40 weeks in Be'sat Hospital, Sanandaj, *Life Science Journal* (2014);11(6s).
- [34] Song JH, Thornburg LL&Glantz JC: Maternal and neonatal morbidity among nulliparous women undergoing elective induction of labor. *J Reprod Med*. JanFeb; 56(1-2): (2011) 25-30.
- [35] Bayomi H M, El-Garhy I M, Mohamad A H: Comparative Study Between Sublingual and Vaginal Misoprostol for Induction of Labor in Post Term Pregnant Patients with Unfavorable Cervix. *The Egyptian Journal of Hospital Medicine* (July 2018) Vol. 72 (6), Page 4707-4711 4707.
- [36] Ajori, L., Masumi M, Rahbari H. Ahmadi K: An investigation of maternal and fetal complications in latent phase in women with long pregnancy duration who referred to Shohaday-e Tajrish Hospital, Tehranb. *Journal of Yazd Medical Sciences University*; 18(1): (2009) 3-7.
- [37] Bishnoi S, Bishnoi RK, Bora S. To Evaluate the Maternal & Fetal Complications and Outcomes in Postterm Pregnancy: An Institutional Based Study. *J Med Sci Clinic Res*. 2018;6(6):650-655.
- [38] Clausson B, Cnattingius S, Axelsson O. Outcomes of post-term births: the role of fetal growth restriction and malformations. *Obstetrics & Gynecology*. 1999 Nov 1;94(5):758-62.



## نتائج الحمل المديد بالنسبة للأم والطفل

رينا علي محمد الجنيدى\* و انتصار محمد عبد الله قشاش

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

\* الباحث الممثل: رينا علي محمد الجنيدى؛ البريد الإلكتروني: rinagenedi@gmail.com

استلم في: 26 نوفمبر 2023 / قبل في: 18 ديسمبر 2023 / نشر في 31 ديسمبر 2023

### المُلخَص

يهدف هذا البحث إلى دراسة نتائج الحمل المديد في الأم والطفل في مستشفى الصداقة التعليمي في الفترة ما بين الأول من يناير وحتى الآخر من ديسمبر 2020. تعتبر هذه الدراسة شاهد وحالة تم تحليل النتائج في مستشفى الصداقة التعليمي في فترة الدراسة باستخدام برنامج الإحصاء (SPSS version 25). مجموع حالات الحمل المديد 185 حالة 370 شاهد من الحمل التام، نسبة الحمل المديد (2.78%) من إجمالي النساء اللواتي وضعن أثناء فترة الدراسة. الخصائص الديموغرافية تشمل تعدد الولادات ومستوى التعليم تشكل عوامل خطورة للحمل المديد، بينما عمر الأم لا يشكل عامل خطورة. فيما يخص العمليات القيصرية كانت نسبتها مرتفعة وبمعدل خطورة 2,80 وأكثر دواعي العمليات القيصرية يرتبط باللاتناسب الراسي الحوضي بمعدل خطورة 12.38. المضاعفات المصاحبة للام كالولادة المطولة بمعدل خطورة 12.99 و نزيف ما بعد الولادة بمعدل خطورة 8.32. أما بالنسبة لمضاعفات الأطفال فإننا وجدنا أنهم أكثر عرضة لنقص حرز ابجر (7) في الدقيقة الأولى بمعدل خطورة 11.28 وفي الدقيقة الثانية كانت ذات دلالة إحصائية (0.000)، بالإضافة إلى نقص السائل الامنيوسي بمعدل خطورة 42.24، الاختناق بمعدل خطورة 2.86 استنشاق الصبغ العقي بمعدل خطورة 9.41، كما أن معدل التعسر الكتفي في الأطفال ورعاية الأطفال في وحدة الرعاية المركزة كانت ذات دلالة إحصائية هامة. أما بالنسبة لوفيات الأطفال سجلت أربع حالات في حال أنه لم يتم رصد أي من هذه الحالات في الشاهد. نستخلص من نتائج البحث أن الحمل المديد له مضاعفات على الأم والطفل مقارنة بالحمل التام.

الكلمات المفتاحية: الحمل المديد، الحمل الطويل، حمل النتائج بالنسبة للام والطفل.

### How to cite this article:

R. A. Al-Genedy, E. M. Qushash, "POSTTERM PREGNANCY: MATERNAL AND FETAL OUTCOMES", *Electron. J. Univ. Aden Basic Appl. Sci.*, vol. 4, no. 4, pp. 384-392, December. 2023. DOI: <https://doi.org/10.47372/ejua-ba.2023.4.307>



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.