

Surgery-Related Outcomes for Iraqi Women of Childbearing Age

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Abstract: This study shed light on the types of non-obstetric surgeries performed on Iraqi women of childbearing age, as a cross-sectional study was created and distributed to 70 female patients to determine the negative effects that non-obstetric surgeries with a duration from one full year from March 2, 2022, to February 3, 2023. A randomly distributed cross-sectional study was designed, where patients were collected from several different hospitals in Iraq. The statistical analysis program, IBM SOFT SPSS 22, in addition to Microsoft Excel 2013, was relied upon to analyze the data and statistical differences in this study. The results found in this study were Age (Mean±SD) 26±4.4, Pre-operation weight (kg) 98.1±8.8, Pre-operation BMI 33.8±2.6. In our current study, it was found that surgery for dental caries was the most common in this study of 40 patients and. It was also evaluated outcomes delivery in female Iraqi patients. Prematurity was found for ten patients with 14.2%, Cesarean section for 30 patients with 42.8%, and Antepartum hemorrhage for five patients with 7.14 %, where in our current study, the quality of life for Iraqi patients was assessed between postoperative and pre-operative. Surgery during pregnancy is accompanied by an increased risk of complications during childbirth, but the risk of the surgery itself is relatively small. We conclude that surgeries not related to childbirth increase the risk of miscarriage by a percentage, the risk of giving birth to a stillborn child by a percentage, the risk of premature birth by a percentage, and the risk of lower-than-normal birth weight by a percentage. They also increase the risk of undergoing a caesarean section by a percentage and the mother's death during childbirth by a very small percentage.

Keywords: Childbearing, age, aspect, patients, hemorrhage, Surgery, Prematurity, Iraqi women.

INTRODUCTION

Non-obstetric surgeries, both related to pregnancy and not, account for 0.75-2.0% of all pregnancy cases worldwide. Surgeries related to pregnancy are associated with a high incidence of postoperative adverse events.

The Committee of Obstetricians and Gynecologists of the American College of Obstetricians and Gynecologists endorses surgical procedures for pregnant women, recommending conservative treatment for certain conditions such as acute appendicitis.

Most scientific literature on non-obstetric surgery during pregnancy focuses on diagnosis, surgical management, and maternal complications. However, few studies have reported on miscarriage, fetal outcomes, and birth outcomes. Additionally, important obstetric adverse outcomes such as antepartum hemorrhage, premature membrane rupture, and fetal distress have not been adequately reported.

This study assesses the risk of miscarriage and adverse pregnancy outcomes following non-obstetric surgery in Iraq using a national

population-based database. No similar studies have been conducted among Iraqi populations.

Non-obstetric surgery is not uncommon during pregnancy, with conditions such as appendicitis, cholecystitis, and gynecological disorders being common. While scheduled surgery should be postponed, emergent surgeries are still necessary. It is recommended that scheduled surgery be performed during the second trimester after organogenesis.

Non-obstetric surgery during pregnancy can increase the risk of adverse birth outcomes, such as miscarriage, stillbirth, preterm birth, low birth weight, and low Apgar score. Surgical diseases and procedures expose pregnant women and fetuses to risks, such as surgical stress, anesthetics, and postoperative pain. It is important to carefully weigh the risks and benefits of surgery during pregnancy and to consider alternative treatments when possible. Longer anesthesia duration may cause fetal neuronal injury and impaired learning. Additionally, untreated surgical conditions can pose risks to the pregnant woman, pregnancy, and fetus.

This study assesses the effects of non-obstetric surgery on pregnancy and the outcomes for both the fetus and the mother. It emphasizes the improved safety and diagnostic accuracy of surgical procedures over the last two decades and highlights the need for updated guidelines.

MATERIAL AND METHOD

Data Collection

A cross-sectional study was conducted in different hospitals in Iraq on pregnant women who underwent non-obstetric surgery, as the period for these patients ranged from one full year, from March 2, 2022, to February 3, 2023. This study aimed to find out the complications resulting from non-obstetric surgeries in pregnant women.

Study Design

Initial information about the patients was collected, which included height and weight, age, in addition to age at surgery, body mass index, concomitant diseases that the patients suffer from, types of surgical procedures, and postoperative weight change and body mass index. In this study, patients who they were over 35 years old and patients suffering from fatal heart diseases were excluded.

In this study, the harmful factors and adverse aspects for patients were evaluated in Figure 2. Achieving results in patients from Iraq In addition, patient outcomes in Table 2 were evaluated according to hospital stay (days). As shown in Table 2. The results showed that obese patients were the most frequently hospitalized patients, and the study utilized SPSS 23.0 for data analysis, replacing missing data with non-zero medians. Fisher's exact test was used for counting data, while Student's t-test and nonparametric test were used for measuring data.

Aim of Study

- This study aims to find out the complications resulting from non-obstetric surgeries in pregnant women.
- Assessing the quality of life of patients
- Identify and known risk factors in this study

Where the study assessed the risk of adverse pregnancy outcomes from non-obstetric surgery using odds ratios and the Pearson correlation coefficient, statistical significance was indicated by a p-value of less than 0.05.

RESULTS

Table 1: General characteristics of patients

Variable	Value
Age (mean \pm SD)	26 \pm 4.4
Pre-operation weight (kg)	98.1 \pm 8.8
Pre-operation BMI	33.8 \pm 2.6
Age at the time of operation (years)	28.9 \pm 5.2
Education f(p)	
Primary	10 (14.2)
Secondary	27 (38.5)
College	29 (41.4)
High	4 (94.2)
BMI, WEIGHT CHANGES	
BMI Changes after surgery	29.8 \pm 2.1
Weight post operation (kg)	82.2 \pm 4.4
Comorbidities	
Diabetes mellitus	20
Hypertension	22
Ischemic heart disease	9
Renal disease	8
Parity	
Primiparous ,N	40
Multiparous, N	30
Charlson score	
0, N	62
1, N	8

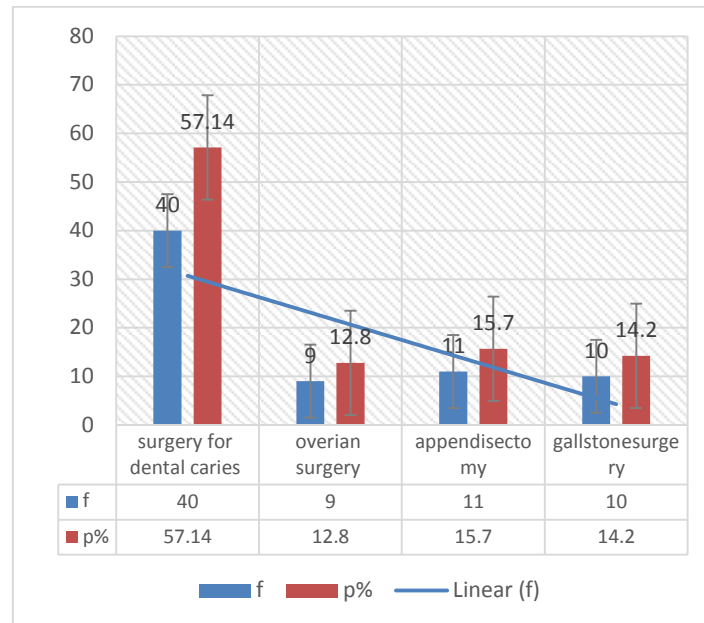


Fig 1: Distribution of patients according to the type of surgery

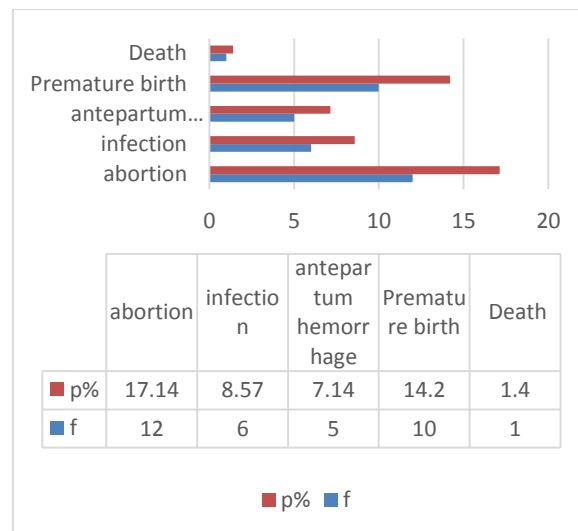


Fig 2: pregnancy outcome in female Iraqi women

Table 2: Patient outcomes according to hospital stay (days)

Variable	F
Gastrointestinal surgery	6±2.9
Acute appendicitis	4.5±1.6
Ovarian surgeries	4.5±1.1

Table 3: Results of Iraqi females according to Duration for delivery from DoS (months) in relation to age of patients

	DoS (months)	CS (OI)%	P value
20-24	22±2.4	0.872-1.3 (1.1)	0.939
25-29	30±2.54	2.1-3.3 (2.9)	0.02
30-34	33±1.9	3.62-4.4 (4.1)	<0.01

Table 4: Load characteristics according to Mode of delivery, Average gestational weeks of delivery

Variable	Value	CS (OI)	P VALUE
Duration from operation to pregnancy			
Age range			
20-24	30-37 week	1.2 (0.77-1.4)	0.087
25-29	34-40 week	1.9 (1.4-3.3)	0.0767
30-34	35-42 week	2.2 (1.781-22.9)	0.044
Mode of delivery, n (%)			
Cesarean section	30	1.8 (1.33-2.1)	0.05
Vaginal	40	2.87 (1.66-4.4)	<0.084
gestational weeks of delivery (weeks)	39.1 ± 1.32	1.43 (1.1-1.9)	0.01

Table 5: Assessment of quality of life for Iraqi patients between postoperative and pre-operative

	pre-operative	postoperative	P value
Social side	55±4.4	34.3±2.9	0.01
Depression	60.1±5.2	40.2±3.3	0.002
Anxiety	58.8±3.77	39.9±3.11	<0.001

DISCUSSION

This study presents an analysis of the likelihood of negative outcomes after childbirth following non-obstetric surgeries performed during pregnancy in several hospitals in Iraq. We collected data from around 70 female patients in Iraq between March 2, 2022, and February 3, 2023.

After non-obstetric surgeries, infections in pregnant women may present with fever, pain, and swelling. Finding can be trying because of restrictions in analytic tests, so medical care suppliers depend on clinical judgment, research center tests, and harmless imaging to direct analysis and the executives.

Pregnant women's anticipation for non-obstetric medical procedure diseases relies upon opportune conclusions and the executives, with postpones prompting serious entanglements like sepsis.

Pregnancy-Related Infection Rates from Non-Obstetric Procedures:

The amount of infections that occur in pregnant women after non-obstetric surgeries is not well-documented in the literature. In any case, a few examinations have shown that pregnant ladies going through a medical procedure are at an expanded gamble of creating contaminations contrasted with non-pregnant people. This increased risk is exacerbated by the physiological changes that occur during pregnancy, such as changes in the immune system and an increased susceptibility to particular pathogens. Pregnant women's susceptibility to postoperative infections can also be affected by the type of surgery they undergo, their comorbidities, and the amount of time they spend in the hospital recovering.

Our study found a lower incidence of non-obstetric surgery during pregnancy (0.39%) compared to previous studies from Sweden and Britain, possibly due to lifestyle and socioeconomic factors.

Our findings revealed that the leading types of non-obstetric surgeries during pregnancy were dental caries surgery for dental caries for 40 patients with 57.14%, followed by appendectomy for 11 patients with 15.7%, gallstone surgery for ten patients with 14.2%, ovarian surgery for nine patients with 12.8%. However, some have excluded surgical procedures on the fetus during pregnancy only from non-obstetric surgeries.

The miscarriage rate in pregnancies with non-obstetric procedures during pregnancy was found to be 5.76% in a meta-analysis of 60 research conducted in the past; however, this figure is difficult to interpret because the study lacked matched controls. Another study found that patients had a greater risk of spontaneous abortion (6.6 vs. 5.8%) in a large-scale Swedish investigation, even though the study only included miscarriages that occurred during hospitalization. Who have had non-obstetric surgery performed?

Previous studies estimate prematurity after non-obstetric surgery at 3.5-8.2%. This study analyzed risk factors and found that surgeries in the third trimester increase the risk of preterm birth compared to the first and second trimesters, consistent with a 2001 study.

In addition to loss and preterm delivery, we discovered a higher chance of cesarean section and extended hospital stays. The prevalent and most

trustworthy findings in the body of research to far include the higher rates of miscarriage, preterm delivery, cesarean section rates, and longer hospital stays, and these findings were consistent with earlier publications where Improved anesthesia, perioperative care, and surgical techniques reduced maternal mortality to 0.004-0.025%. However, single-patient mortality rates were low, particularly in non-obstetric surgery patients, indicating limited analysis [Erekson, E. A. *et al.*, 2012; Gilo, N. B. *et al.*, 2009].

The study found that women who underwent abdominal surgery had a higher risk of miscarriage and premature birth compared to those who did not. The risk was particularly high for laparoscopic and open abdominal surgery, possibly due to doctors being reluctant to perform surgery after 26-28 weeks of gestation. The predicted risk of laparoscopic surgery may be affected by the scheduling of procedures in relation to open procedures, which could introduce bias. The figure displays outcome estimates that indicate a progressively higher risk over each consecutive three-month period. This may suggest that the severity of the problem requiring surgical intervention is higher. There is a natural hesitation to intervene in women who are in a late stage of pregnancy.

Hospitalization is rarely linked to miscarriage, accounting for only 1.8% of cases. This may be due to increased risks associated with pregnancy surgery. However, caution is advised when interpreting this risk due to potential bias and unknown factors.

The problem of diagnosis, differential diagnosis, and timely treatment of acute surgical diseases of pregnant women (ASD) remains relevant to this day since unsatisfactory treatment results for patients in this category lead to an increase in maternal and perinatal mortality[Balinskaite, V. *et al.*, 2017; Bureau of National Health Insurance, 2018]

Acute appendicitis (OA) is the most common acute appendicitis, occurring in 1 in 500-2000 pregnancies; Appendectomy (AE) represents 25% of surgical interventions in the structure of non-obstetric operations during pregnancy. The prevalence of the disease in the first three months of pregnancy ranges from 19 to 36%. And in the second trimester, this figure is higher - from 27 to 60%. Although the prevalence of OA decreases to 15-33% in the third trimester of pregnancy, some studies indicate 59% in this period of pregnancy.

CONCLUSION

The study reports a lower rate of adverse birth outcomes in women who underwent non-obstetric surgery during pregnancy compared to those who did not. However, it cannot distinguish the risk of the underlying condition from surgery and does not adequately identify miscarriages or maternal deaths in the hospital. The findings may assist women and surgeons in making better decisions.

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