



RESEARCH ARTICLE

Assessment of Health Complications of Cesarean Sections among Pregnant Women at Governmental and Private Hospitals in Sulaimani City, Iraq.....

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ABSTRACT

Caesarean Section is commonly known as Caesarean birth or C-section, it is a life-saving medical surgery in which the fetus is delivered through an incision in the abdominal wall and womb of the mother for health of both the mother and her embryo. The aim of this study is to evaluate post-Caesarean sections complications among pregnant women who attending the governmental and private hospitals in Sulaimani city. It is a cross-sectional study that conducted in Sulaimani city, Kurdistan Region of Iraq. The samples were collected from 1st October 2021 to 1st February 2022, which involved a convenient sample of 474 pregnant women who admitted to the maternity wards of Sulaimani Maternity Teaching Hospital, Baxshin and Harem Private Hospitals who delivered by Caesarean Section. The data were collected by using a validated questionnaire form that filled in by the researcher with each participant who was agreed for the participation, and after 10-21 days, the researcher asked the delivered women for the post Caesarean section complications if they had through their contact numbers. The findings showed that 428(90.2%) of the participants had no complications. However, 46(9.8%) of the women have had post-Caesarean section complications, and the most frequent complications were wound infection 31(67.5%), followed by bleeding 8(17.3%) and womb lining infection 7(15.2%). In the conclusion, despite of being aware of the post-Caesarean section complications, but most of them are still preferred Caesarean section without any medical reasons, due to influences by the social factors such as relatives or friends, and peer pressure.

Keywords: Cesarean sections, Complications of Cesarean section, Sulaimani city.



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INTRODUCTION

Caesarean section (CS) is a life-saving procedure for both the mother and the baby. It prevents maternal and perinatal morbidity and mortality when medically or obstetrically indicated (Villar et al., 2007, Organization, 2015). CS is indicated when maternal and fetal abnormal conditions (for example; fetal distress, cord prolapsed, placenta previa and abruption, dystocia, among others complicated labor, threatening the health of the mother and the baby. This operation saves the mother and the baby and improves maternal and perinatal outcome (Fraser and Cooper, 2003, Parkes, 2016). However, CS rates above World Health Organization's (WHO) recommended rate does not reduce maternal and neonatal mortality at the population level (WHO) (Parkes, 2016). Caesarean section as a major surgery that is associated with short and long term risk or complications, which is high in current and subsequent pregnancies (Cunningham et al., 2014, Fraser and Cooper, 2003). These complications are significant in settings that lack the facilities to conduct safe surgeries and treat surgical complications (Organization, 2015). However, maternal short-term complications are either related to the anaesthesia (drug overdose, hypoxia, apnea, and aspiration of gastric content), the surgical operation (haemorrhage, damage to the bladder or bowel), infections (abdominal wall, uterus, urinary tract, chest, and wound), venous thromboembolism, or post-partum cardiac arrest. Long term complications include uterine rapture in subsequent pregnancy, adhesion formation, placenta previa and accrete, ectopic pregnancies, and infertility (Armson, 2007, Udy, 2008). Furthermore, the frequency of maternal complications are increased in CS compared to vaginal delivery (VD) (Cunningham et al., 2014). CS as compared with VD is associated with the increased risk of maternal and neonatal morbidity and mortality (Organization, 2015).

The WHO recommends that the women only undergo CSs when there is a medical necessity. Despite this recommendation, some Cesarean deliveries are carried out on the request of the mother without medical reason (Sandall et al., 2018). Non-medical CSs, when compared to natural vaginal delivery (NVD) might cause several complications for each of the mother and her fetus (Dalton and Castillo, 2014).

Some of the negative health outcomes in infants delivered by Cesarean delivery consist of childhood obesity, respiratory disorders, type 1 Diabetes mellitus, acute lymphoblastic leukemia, impaired cognitive development, higher rates of autism, and an increased risk

of neurodevelopmental disorders (Petrou et al., 2016, Kuhle et al., 2015, Keag et al., 2018, Thavagnanam et al., 2008, Cardwell et al., 2008, Curran et al., 2015, Delaney et al., 2016, Polidano et al., 2017). Cesarean delivery has been reported to be associated with an approximately 3-fold increase in the risk of maternal death. In addition, unnecessary cesarean deliveries may be associated with higher health care costs in many low-income settings (Gilbert et al., 2013). Also, some studies conducted in the United Kingdom have demonstrated that the risk of death of the mother caused by CS is three times more than that of the normal delivery (van Dillen et al., 2010). Moreover, the risk of fetal death that is caused by CS delivery is four times greater than that of newborns delivered by normal delivery (Bezares et al., 2009). So, the aim of the current study is to assess the post-Caesarean section complications.

METHOD

The current study included 474 pregnant women were delivered by CSs, who agreed for the participation in the current study. Participation was restricted to aforementioned hospitals in Sulaimani city. A cross-sectional method was used for the study, which is conducted in three hospitals (Maternity Teaching Hospital (MTH), Baxshin Private Hospital (BPH) and Harem Private Hospital (HPH) in Sulaimani city, and these hospitals work under the supervision of Ministry of Health/ Kurdistan Regional Government. The duration of study was over a period of four months started from 1st October, 2021, to 1st February, 2022.

An expert panel verified and affirmed the questionnaire form for validity, Cronbach's alpha coefficient test was used to measure reliability and it was 0.81 (which is statistically adequate). Also, a pilot study was done on 15 participants who were admitted to the maternity wards of Maternity Teaching Hospital, and they met the selection criteria between September 22nd and October 1st, 2021. In the aim of relevance, and applicability of the study tools.

The author was constructed questionnaire form, modified/ adapted it according to the context and goals of the study, and filled in by the researcher, each participant was interviewed for about 10-15 minutes. Which has been composed of socio demographic questions such as age, residency, level of education, occupation, economic status. Finally, regarding the complications it concentrated on the wound infections, womb infection, bleeding, deep vein thrombosis, and damage to the bladder.

Statistical analysis

For the statistical data analysis, (IBM, SPSS version 20) was used. In which frequencies and percentages were used to express categorical variables, (means ± standard deviation) was used to represent continuous variables. Chi-square was used to determine the association between two categorical variables. A p-value ($p \leq 0.05$) was considered statistically significant.

RESULTS

The finding demonstrated that among the studied populations, the high frequency 428(90.2%) of them showed no any complications after CS; whereas, a low frequency 46(9.8%) of them was manifested with post-Caesarean section complications (Table 1).

For post-Caesarean section complications, the result showed that a high frequency recorded with wound infections 31(67.5%), and relatively low frequencies were revealed 8(17.3%) and 7(15.2%) for bleeding and womb lining infection respectively (Table 2). Furthermore, for the treatment of post-Caesarean section complications, the finding revealed that all cases of wound infections 31(67.5%), and womb lining infections 7(17.3%) are treated by medication; However, only one case of them 1(2.17%) required a surgical intervention (Table 3).

Regarding the medical management for bleeding complications of CSs, the result revealed that medical management for bleeding complication was blood transfusion 7(87.5%), and surgical intervention 1(12.5%) (Figure 1).

Table 1: Distribution of post-Caesarean section complications of study population (N=474).

Variables	Frequency	Percentage %
History of complications of Cesarean sections		
Present	46	9.8
Absent	428	90.2
Total	474	100

Table 2: Distribution of post-Caesarean section complications types of study population (N=46).

Variables	Frequency	Percentage %
Types of complications of cesarean sections		
Wound infections	31	67.5
Bleeding	8	17.3
Womb lining infections	7	15.2
Total	46	100
Treatment of wound infections		
Medically treated	31	100
Total	31	100
Treatment of womb lining infections		
Medically treated	7	100
Total	7	100
Treatment of bleeding		
Medically treated	7	87.5
Surgically treated	1	12.5
Total	8	100

Table 3: Treatment of post-Caesarean section complications types of study population (N=46).

Variables	Frequency	Percentage %
Redness at the site of wound		
No	467	98.5
Yes	7	1.5
Total	474	100
Swelling at the site of wound		
No	472	99.6
Yes	2	0.4
Total	474	100
Pain at the site of wound		
No	457	95.6
Yes	21	4.4
Total	474	100
Discharge from the wound		
No	473	99.8
Yes	1	0.2
Total	474	100

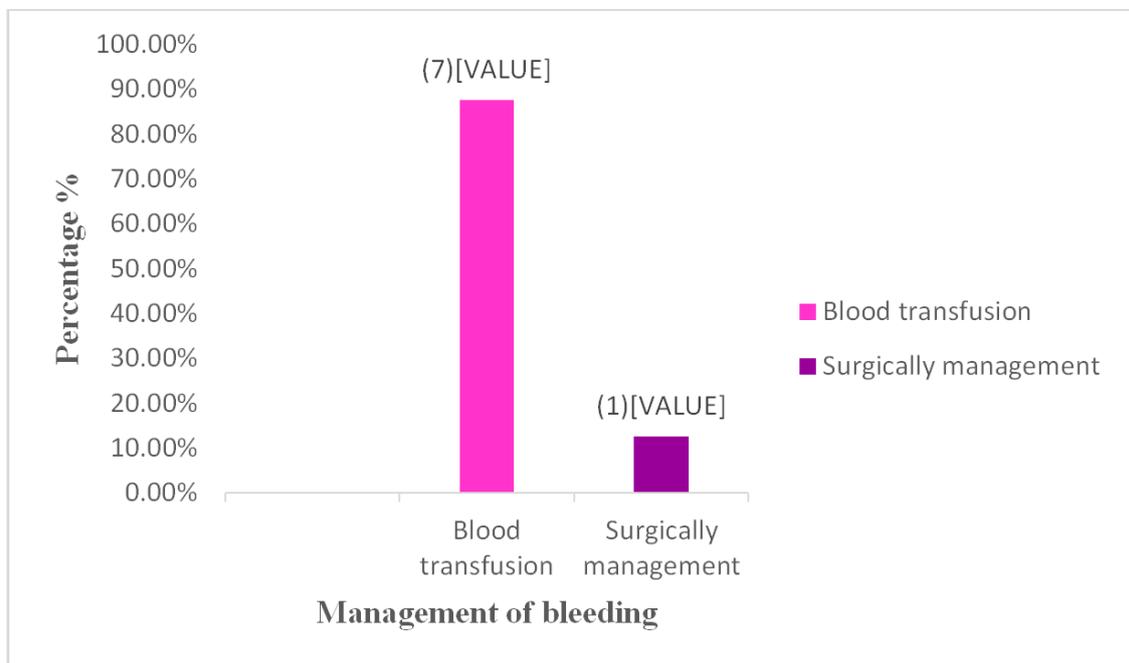


Figure 1: Distribution of patients regarding to medical management of bleeding complications of CSs (N= 8)

DISCUSSION

C-section, is a surgical operation carried out under spinal or general anesthesia, in which one or more fetus is delivered via an incision in the abdominal wall (laparotomy) and uterus (hysterotomy) (Gregory et al., 2012). In addition, the aim of the current study is to assess the post-Caesarean section complications.

In the present investigation, the finding shows that more of the participants 428(90.2%) had no complications and 46(9.8%) of the women had maternal complications. For instance, 31 (67.5%) wound infection was the most prevalent consequence, followed by bleeding 8(17.3%), and endometriosis (womb lining infection) 7(2.17%). This outcome is closer with other studies were conducted in Jeddah, Saudi Arabia's King Abdulaziz Medical City, in which (6.8%) of them had postpartum complications, as well as (93.2%) of them without complications (Aljohani et al., 2021). Bleeding and wound infection were the most common maternal complications, (both of which accounted for a significant portion of maternal problems) (2.1%). The presence of urinary tract injury and uterine atony was discovered (1.1%), furthermore, it is closer to another study in Babylon Governorate, (87.2%) had no complications but (12.8%) of them had complications (Yassir and Al-Rubaey, 2019).

Wound infections account for the vast majority (67.5%) of post CS problems, followed by excessive bleeding (17.3%) and endometritis (15.2%), which was similar to the findings of a previous study in Babylon, which showed wound infection was (65.9%), bleeding (20.5%), and pulmonary embolism (9.1%) (Yassir and Al-Rubaey, 2019). Rupture of the membranes prior to surgery, non-elective surgery, maternal obesity, diabetes, corticosteroid treatment, immunosuppression, anemia, and poor homeostasis with hematoma formation are all risk factors for wound infections (Cunningham, 2005, Schneid-Kofman et al., 2005, Martens et al., 1995).

As complications were linked to both physical and psychological issues, the CS delivery had an impact on women's lifestyles. To avoid the problems of CS delivery, it was critical to provide excellent maternal care.

CONCLUSIONS

This study concludes that the most frequent CS health complication was wound infection especially the pain at site of wound is the most frequent complications followed by hemorrhage and uterine wall infections.

ETHICAL CONSIDERATIONS COMPLIANCE WITH ETHICAL GUIDELINES

The Ethical Research Committee of the College (ERC) of Health and Medical Technology in Sulaimani granted permission and accepted the current study by ethical code (CH00039). In addition, official approvals to conduct this study, were obtained from the General Directorate of Health in Sulaimani, as well as from the administrations of the MTH, Baxshin private, and Harem private hospitals in Sulaimani city. The study participants' verbal consent was gained after the goals and importance of the study were explained to them prior to taking the consent. To emphasize accuracy, utilizing an identification number in the questionnaire form rather than their names to keep data anonymous and confidential.

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AUTHOR'S CONTRIBUTIONS

The writer contributed to the study's concept and design, data collection, analysis, and interpretation, and the original draft of the paper, and all authors contributed to the final version's critical revision and content. The final version to be submitted was approved by all authors.

Conflict of interest

No conflict of interest declared by the authors.

DISCLOSURE STATEMENT: The authors report no conflict of interest.

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Abbreviations

CS; Cesarean Section, CD; Cesarean Delivery, VD; Vaginal Delivery, NVD; Natural Vaginal Delivery, BPH; Baxshin Private Hospital, HPH; Harem Private Hospital, MTH; maternity Teaching Hospital.

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