

# Complications of Anesthesia for Cesarean Delivery at Alzahraa Maternity Teaching Hospital in Alnajaf AL Ashraf City

Fatimal Fadil AL-Hissnawiy<sup>1</sup>, Shukriya Shadhan Chyad AL-Ogaili<sup>2</sup>

<sup>1</sup>PHD student, department Maternal and Neonate Health Nursing, Faculty of Nursing, University of Babylon/Iraq. Email: [alizeead57@yahoo.com](mailto:alizeead57@yahoo.com)

<sup>2</sup>Maternity nursing, instate of Kufa/AL Furat AL Awsat Technical University. Iraq. Email: [drshalq@yahoo.com](mailto:drshalq@yahoo.com)

## Abstract

Background general anesthesia and regional anesthetic are preferred for cesarean birth. These anesthetic treatments affect both the mother and the fetus. The choice of anesthesia for cesarean birth is influenced by the patient's physiological state, the practitioner's experience, medication availability, and equipment. Regardless, the procedure is selected for its safety and value to both mother and baby. Methodology A descriptive and analytic study for women during and after (CS) attending to AL Zahraa Maternity Teaching Hospital in AL Najaf AL Ashraf city was conducted to identify the complications during and after CS. During period from 15th July to 28th December, 2021. The purpose of study to assessment Complications of Anesthesia for Cesarean Delivery Results the result showed, the mothers had high percentage 49% in the age group (30-39 years old), Institute and above it was 53%. Also. The results showed that 75% of the CS were emergency and 25% were Elective. Regard type of CS, as it showed that Spinal blockade was the anesthesia type for 77% of the mothers, and General anesthesia for 23%. However, complications of spinal anesthesia, the result were Post spinal Back Pain 23%, headache 8% Constipation were 6%, and hypotension during spinal anesthesia were 5% of mother have complications related spinal anesthesia and Mother and General anesthesia, the findings were, Sore throat with larynx pain occurred in the highest proportion of mothers 43%, nausea & Vomiting was 39%, and constipation 26%. Conclusion: the study found complications with general anesthesia less than spinal anesthesia. Recommendation: larger studies would be required to assess whether the mode of anesthesia influences the incidence maternal complications outcomes.

**Keywords:** General Anesthesia; Spinal Anesthesia, maternal complications

## 1. Introduction

Cesarean delivery may be elective or emergency. In both rich and developing nations, women are having more cesarean deliveries, either at their own desire or due to problems (Ghaffari et al. 2018).

Maternal mortality is a serious health issue in underdeveloped nations, accounting for almost 98 percent of worldwide maternal fatalities.

Various types of general anesthesia (GA) and regional anesthesia (RA) which is the most often used, like as spinal anesthesia (SA) and epidural anesthesia, are used in various types of procedures (EA), or combination spinal-epidural anesthesia can be used to achieve anesthesia during cesarean birth. (Sumikura et al., 2016)

Regional anesthetic, Elective uncomplicated cesarean births benefit from spinal anesthesia since it avoids airway obstruction, reduces the risk of stomach aspiration, and is very simple to administer (Shibli & Ruossell 2000 & Kim & et al, 2019).

However, there are several dangers associated with regional anesthesia such as low blood pressure, anesthetic poisoning, post-dural puncture headache (PDP H), also damage to the nerves (Baakri & et al. 2015 Bloom & et al. 2005; Afolabi & Lesii 2012; Aregaawi & et al. 2018).

However, general anaesthetic continues to be used. Utilized in some cases, particularly when regional anaesthetic is contraindicated or fails. General anesthesia has several advantages, including a patent airway, regulated breathing, and reduced cardiovascular depression (Devroe & et al, 2015).

GA is prone to complications such as failure intubation, failed breathing, and aspiration of stomach contents, as well as consciousness, discomfort, and fetal depression. (Yehuda & et al., 2013)

There was There is no change in the Apgar score at the 5-minute mark between regional and general anesthesia. However, the researcher's exposure to limitation that there is insufficient data to indicate that regional anesthesia is preferable to anesthetic in general (Afolabi and Lesi, 2012; Kim et al., 2019).

## 2. Methodology

A descriptive and analytic study for women during and after (CS) attending to AL Zahraa Maternity Teaching Hospital in AL Najaf AL Ashraf city was carried out to identify the complications during and after birth (CS). During period from 15th July to 28th December, 2021

### Study sample

A purposive sample of (200) women have CS.

### 3. 5. Inclusion Criteria

1. Mother have caesarean section.
2. Agree to participate in the current study

### 3. 6. Exclusion criteria

- Mother have caesarean section
- Have chronic and hemolytic disease
- Bad past obstetric disease history.
- Disagree to participate in the current study
- Instrument of study
- At Tools used to collect data by using questionnaire format

#### Part one of Questioner

The demographic variables include the following: Current age, educational level, residency, occupation.

#### Part two of the questionnaire

Ask women about complications in sub items, followed by questions about type of anesthesia, complications during and after anesthesia in addition, take information of women from case sheet.

## 3. Results

### Demographical and health variables

| Variables         |                     | CS n=100  |     |
|-------------------|---------------------|-----------|-----|
|                   |                     | Frequency | %   |
| Age (years)       | Less than 20        | 8         | 8   |
|                   | 20-29               | 34        | 34  |
|                   | 30-39               | 49        | 49  |
|                   | 40 & above          | 9         | 9   |
|                   | Total               | 100       | 100 |
| Educational level | Illiterate          | 21        | 21  |
|                   | Primary             | 12        | 12  |
|                   | Secondary           | 14        | 14  |
|                   | Institute and above | 53        | 53  |
|                   | Total               | 100       | 100 |
| Residence         | Urban               | 88        | 88  |
|                   | Rural               | 12        | 12  |
|                   | Total               | 100       | 100 |
| Occupation status | Housewife           | 72        | 72  |
|                   | Employee            | 28        | 28  |
|                   | Total               | 100       | 100 |

CS: Cesarean section. NVD: Normal Vaginal Deliver

Table (1) shows that the distribution of mothers with two modes of delivery according to their Demographical Variables, as it showed, the mothers with CS had high percentage 49% in the age group (30-39 years old). In item of educational level, Institute and above it was 53%, The residence for The Rural the had high percentage of mothers (88% CS). While the Occupation show the housewife have percentage of mothers (72% CS).

**Table (2) distribution of the mothers according to their type of delivery & the Indications of CS.**

| items                     | N= 100    |       |
|---------------------------|-----------|-------|
|                           | N         | %     |
| type of caesarean section | Elective  | 25 25 |
|                           | Emergency | 75 75 |

Table (2) shows that distribution of samples according to their type of delivery and the Indications of CS, as it showed that three-quarters 75% of the CS were emergency and the remaining quarter 25% were Elective.

### Anesthesia & complications related anesthesia

**Table (3) distribution of mothers according to their type anesthesia type and Complications during and after it.**

| variables                                   | n= 100             |        |
|---|--------------------|--------|
|   | n                  | %      |
| The type of anesthesia                      | Spinal blockade    | 77 77  |
|   | General anesthesia | 23 23  |
| Complications with spinal anesthesia n=77   | yes                | 34 44% |
|   | no                 | 43 66% |
| Complications with general anesthesia. N=23 | yes                | 21 91% |
|   | no                 | 2 8%   |

Table (3): shows showed that Spinal blockade was the anesthesia type for 77% of the mothers, General anesthesia for 23%. It also showed that 21% of the mothers Have Complications related to spinal anesthesia, while 34 % of mothers have complications related general anesthesia.

**Table (4) distribution of mothers according to complications of general anesthesia**

| complications related to general anesthesia n=23 | frequency | %  |
|--|-----------|----|
| Sore throat with pain larynx                     | 10        | 43 |
| Post-operative Nausea & Vomiting                 | 9         | 39 |
| Constipation                                     | 6         | 26 |
| * There is more than one answer for each choose  |           |    |

Table (4) revealed revealed number of cases related to general anesthesia, the findings were, Sore throat with larynx pain occurred in the highest proportion of mothers 43%, nausea& Vomiting was 39%, and constipation 26% .

**Table (5) distribution of mothers according to complications of spinal anesthesia**

| complications related to spinal anesthesia n=77  | frequency | %  |
|--|-----------|----|
| Post spinal Back Pain                            | 18        | 23 |
| Headache   | 6         | 8  |
| Constipation                                     | 5         | 6  |
| hypotension during spinal anesthesia             | 4         | 5  |
| * There are more than one answer for each choose |           |    |

Table (5) revealed number of cases related to spinal anesthesia, the result was Post spinal Back Pain 23%, headache 8% Constipation were 6%, and hypotension during spinal anesthesia were 5% of mother have complications related spinal anesthesia and Mother

## 4. Discussion

### 1- Anesthesia type and Complications during and after cesarean section

Concerning type anesthesia whereas it showed that Spinal blockade was the anesthesia type for 77% of the mothers, General anesthesia for 23% this corresponds to [Wiskott et al \(2020\)](#).

[Iddrisu & Khan \(2021\)](#) reported as indicated by superior fetal and maternal outcomes, regional anesthetic appears as a preferable alternative. For cesarean deliveries, however, both regional and general anaesthetic are still utilized.

This finding disagreement with studying conducted by [Abdissa et al., \(2013\)](#).

The high rate of present study concerning Spinal blockade as type of anesthesia agreement to studies [Idris et al \(2020\)](#) showed In Eritrean moms, the total satisfaction percentage with spinal anesthesia services for caesarean section was 87.9 percent, in Ethiopian 62% ([Belay, 2015](#)), Kenyan studies 85% ([Senghor & Morema, 2017](#)).

Regarding complication during and after anesthesia, it found have complications related anesthesia, this is high compared to study was conducted by [Tesfaye et al \(2017\)](#) that revealed the overall maternal complication rate was 30.1%, This variance might be owing to the type of obstetric emergencies, such as unintentional internal organ injury and blood transfusion, as well as the services offered for the majority of referred patients or complex births, which result in a high rate of maternal complications.

### 2- Maternal Complications related general anesthesia

[DAVARINIA et al., 2013](#) in Iran found the rate of Larynx pain, sore throat, after surgery is higher after general anesthesia than spinal anesthesia. That compatible with current study. Also, [Gemechu et al., \(2017\)](#) conducted study how explain the prevalence of postoperative sore throat within 48 hours after operation was 59.6%.

In the recent study, it was the rate of Post-operative Nausea & Vomiting inconsistency with the study by [Voigt et al., \(2013\)](#), were Postoperative events of nausea and vomiting were low but other study by [Semiz et al., \(2017\)](#) how found the number of patients with nausea/vomiting was (28.2%) which the percent more than the percent of current study.

Regarding constipation have this result agree with result of study done by [Tilahun & Gudina, 2021](#) and study done by [Alegbeleye. \(2018\)](#).

### 3- Mother's complications according to spinal anesthesia

The result related Post spinal Back Pain this agreement with finding of studies by [Zelege & et al., \(2021\)](#), ([Lee & Heo, 2020](#)), [Forozeshfard & et al., \(2020\)](#) and study by [Duits et al \(2016\)](#).

Back pain is prevalent among the general population. Back discomfort is significantly

associated with the body mass index, the size of the spinal needle, the number of attempts, and the number of bone contacts during spinal anesthesia. As a result, it is recommended to restrict lumbar puncture attempts and bone contacts while under spinal anesthetic to avoid post-spinal back discomfort. Additionally, it is prudent to use a spinal needle with a smaller diameter.

In regard headache this related spinal anesthesia, this result agreement with studies conducted by [Syed & et al., \(2017\)](#). [Jabbari & et al., \(2013\)](#).

Regarding postpartum Constipation after spinal anesthesia which is agreement with the studies by [Kuronen, \(2021\)](#) and by [Kuronen et al., \(2021\)](#) how those found Constipation was most prevalent in the first few days following delivery; a few days after a caesarean section. however this result disagree with the study ([Yoshida ET al., \(2018\)](#)).

Concerning the hypotension during spinal anesthesia the result correspond with study by [Šklebar & et al., \(2019\)](#) that reported the Spinal block leads to vasodilatation and consequently causes maternal hypotension, also, study done by [Nigussie, A. \(2016\)](#) which correspond with the present result, who showed During cesarean section, hypotension occurs between five and fifteen minutes and between fifteen and twenty-five minutes. Other study support current result, a study conducted by [Shitemaw et al \(2020\)](#) where ladies who had a cesarean section while under spinal anesthesia suffered hypotension.

Inexperience, a lack of understanding, poor treatment, and poor patient circumstances were all important contributing causes. Most of them could have been avoided or corrected.

## 5. Conclusions

About three-quarters of the CS were emergency and the remaining quarter were Elective. While women have Spinal blockade more than those women have General anesthesia, and more than half women participant in this study have Complications related to the anesthesia.

Complications related to general anesthesia, Sore throat with larynx pain occurred in the highest proportion of mothers, flowed by nausea& Vomiting was and constipation. And Complications related to spinal anesthesia were headache, Constipation and hypotension.

### Recommendation

Using different types of mass media to stimulate public awareness about complications of CS particular in PHCc. also, Larger studies would be required to assess whether the mode of anesthesia influences the incidence maternal complications outcomes.

### Acknowledgement

First, I would like to thank Allah who gave me health and strength to accomplish this work. I would like to extend my thanks and gratitude for everyone who

encourage and assist me in conducted and complete this study.

Ethical Clearance: The Research Ethical Committee at sciatic research by ethical approval of both MOH and MOHSE in Iraq

### Conflict Of Interest

None

### Funding

Self-funding

### References

- Ghaffari S, Dehghanpishah L, Tavakkoli F, Mahmoudi H (2018) The effect of spinal versus general anesthesia on quality of life in women undergoing cesarean delivery on maternal request. *Cureus*. 10(12): e3715
- Sumikura H, Niwa H, Sato M, Nakamoto T, Asai T, Hagihira S (2016) Rethinking general anesthesia for cesarean section. *J Anesth* 30(2):268–273
- Shibli, K. U., & Russell, I. F. (2000). A survey of anaesthetic techniques used for caesarean section in the UK in 1997. *International Journal of Obstetric Anesthesia*, 9(3), 160-167.
- Semiz, A., Akpak, Y. K., Yılanlıoğlu, N. C., Babacan, A., Gönen, G., Çam Gönen, C., ... & Karaküçük, S. (2017). Prediction of intraoperative nausea and vomiting in caesarean delivery under regional anaesthesia. *Journal of International Medical Research*, 45(1), 332-339.
- Senghor, M. S., & Morema, E. N. (2017). Determinants of maternal satisfaction with spinal anaesthesia care for caesarian delivery at the Kisumu County Hospital
- Šklebar, I., Bujas, T., & Habek, D. (2019). Spinal anaesthesia-induced hypotension in obstetrics: prevention and therapy. *Acta Clinica Croatica*, 58(Suppl 1), 90.
- Shitemaw, T., Jemal, B., Mamo, T., & Akalu, L. (2020). Incidence and associated factors for hypotension after spinal anesthesia during cesarean section at Gandhi Memorial Hospital Addis Ababa, Ethiopia. *PloS one*, 15(8), e0236755
- Kim WH, Hur M, Park SK, Yoo S, Lim T, Yoon HK et al (2019) Comparison between general, spinal, epidural, and combined spinal-epidural anesthesia for cesarean delivery: a network meta-analysis. *Int J Obstet Anesth* 37:5–15
- Kuronen, M. (2021). Constipation and pain management after spine surgery and in pregnancy and postpartum (Doctoral dissertation, Itä-Suomen yliopisto).
- Kuronen, M., Hantunen, S., Alanne, L., Kokki, H., Saukko, C., Sjövall, S., ... & Kokki, M. (2021). Pregnancy, puerperium and perinatal constipation—an observational hybrid survey on pregnant and postpartum women and their age-matched non-pregnant controls. *BJOG: An International Journal of Obstetrics & Gynaecology*, 128(6), 1057-1064.
- Bari MH, Ismail EA, Ghanem G, Shokry M (2015) Spinal versus general anesthesia for cesarean section in patients with sickle cell anemia. *Korean J Anesthesiol* 68(5):469
- Belay, D. (2015). Maternal Satisfaction after Spinal Anesthesia for Cesarean Delivery (Doctoral dissertation, Addis Ababa University).
- Afolabi BB, Lesi FEA (2012) Regional versus general anesthesia for caesarean section. *Cochrane Database Syst Rev* 10:89.
- Aregawi A, Terefe T, Admasu W, Akalu L (2018) Comparing the effect of spinal and general anaesthesia for pre-eclamptic mothers who underwent caesarean delivery in a tertiary, Addis Ababa, Ethiopia. *Ethiop J Health Sci* 28(4):443–450.
- Abdissa, Z., Awoke, T., Belayneh, T., & Tefera, Y. (2013). Birth outcome after caesarean section among mothers who delivered by caesarean section under general and spinal anesthesia at Gondar University teaching hospital north-west Ethiopia.
- Alegbeleye, B. J. (2018). Sudden cardiac arrest under spinal anesthesia in a mission hospital: a case report and review of the literature. *Journal of Medical Case Reports*, 12(1), 1-5.
- Devroe S, Van de Velde M, Rex S (2015) General anesthesia for caesarean section. *Curr Opin Anaesthesiol* 28(3):240–246
- Dharmalingam, T. K., & Zainuddin, N. A. A. (2013). Survey on maternal satisfaction in receiving spinal anaesthesia for caesarean section. *The Malaysian journal of medical sciences: MJMS*, 20(3), 51.
- Davarinia, m. G. A., zamanian, G. F., Hamzei, A., Nazemi, S. H., & TOLIDEIE, H. (2013). Comparison of Complications of General and Spinal Anesthesia after Cesarean
- Duits, F. H., Martinez-Lage, P., Paquet, C., Engelborghs, S., Lleo, A., Hausner, L., ... & Blennow, K. (2016). Performance and complications of lumbar puncture in memory clinics: results of the multicenter lumbar puncture feasibility study. *Alzheimer's & Dementia*, 12(2), 154-163.
- Yehuda Ginosar FR, Halpern S, Carl Weiner P (2013) Anesthesia and the fetus. Blackwell Publishing Ltd, United Kingdom, p 405
- Yehuda Ginosar FR, Halpern S, Carl Weiner P (2013) Anesthesia and the fetus. Blackwell Publishing Ltd, United Kingdom, p 405
- Wiskott, K., Jebrin, R., Ioscovich, D., Grisaru-Granovsky, S., Tevet, A., Shatalin, D., & Ioscovich, A. (2020). General versus regional anesthesia for emergency cesarean delivery in a high-volume high-resource referral center: A retrospective cohort study. *Romanian journal of anaesthesia and intensive care*, 27(2), 6-10.
- Tilahun, T., Merdassa, E., & Tesema, D. (2021). Indications, Outcome and Risk Factors of Cesarean Delivery Among Pregnant Women Utilizing Delivery Services at Selected Public Health Institutions, Oromia Region, Southwest Ethiopia. *Patient Related Outcome Measures*, 12, 227.
- Tesfaye, T., Hailu, D., Mekonnen, N., & Tesfaye, R. (2017). Magnitude of maternal complication and associated factors among mothers undergone cesarean section at Yirgalem general hospital, SNNPR, Ethiopia. *risk*, 100(11).
- Zelege, T. G., Mersha, A. T., Endalew, N. S., & Ferede, Y. A. (2021). Prevalence and Factors Associated with Back Pain among Patients Undergoing Spinal Anesthesia at the University of Gondar Comprehensive and Specialized Hospital, Northwest Ethiopia: An Institutional Based Cross-

- Sectional Study. *Advances in medicine*, 2021.
- Nigussie, M., Mariam, D. H., & Mitike, G. (2014). Assessment of safe delivery service utilization among women of childbearing age in north Gondar Zone, Northwest Ethiopia. *Ethiopian Journal of health development*, 18(3), 145-152.
- Voigt, M., Fröhlich, C. W., Hüttel, C., Kranke, P., Mennen, J., Boessneck, O., ... & Kerger, H. (2013). Prophylaxis of intra-and postoperative nausea and vomiting in patients during cesarean section in spinal anesthesia. *Medical science monitor: international medical journal of experimental and clinical research*, 19, 993.
- Forozeshfard, M., Jahan, E., Amirsadat, J., & Ghorbani, R. (2020). Incidence and factors contributing to low Back pain in the nonobstetrical patients operated under spinal anesthesia: a prospective 1-year follow-up study. *Journal of PeriAnesthesia Nursing*, 35(1), 34-37.
- Lee, J. H., Yoon, D. H., & Heo, B. H. (2020). Incidence of newly developed postoperative low back pain with median versus paramedian approach for spinal anesthesia. *Korean Journal of Anesthesiology*, 73(6), 518.
- Gemechu, B. M., Gebremedhn, E. G., & Melkie, T. B. (2017). Risk factors for postoperative throat pain after general anaesthesia with endotracheal intubation at the University of Gondar Teaching Hospital, Northwest Ethiopia, 2014. *The Pan African Medical Journal*, 27.
- Iddrisu, M., & Khan, Z. H. (2021). Anesthesia for cesarean delivery: general or regional anesthesia—a systematic review. *Ain-Shams Journal of Anesthesiology*, 13(1), 1-7.
- Idris, I. M., Weldegiorgis, G. G., & Tesfamariam, E. H. (2020). Maternal satisfaction and its associated factors towards spinal anesthesia for caesarean section: a cross-sectional study in two Eritrean hospitals. *Anesthesiology research and practice*, 2020. Islamabad.