An-Najah National University

Faculty of Graduate Studies

ASSESSING THE EFFICACY OF INTRAVENOUS DEXAMETHASONE IN REDUCING THE INCIDENCE OF SPINAL ANESTHESIA-INDUCED HYPOTENSION, NAUSEA, AND VOMITING IN PARTURIENT UNDERGOING CESAREAN SURGERY AT RAFEDIA HOSPITAL, PALESTINE: AN OBSERVATIONAL STUDY"

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Dedication

Praise be to God who honored me by completing this work. To my family, my father and mother.

To my small family, my dear husband and my son Khaled (my beating heart).

To my teachers whose guidance and wisdom shaped my journey.

To my supervisors, Dr. Eman Al-Shawish and Dr. Nour El-Din Al-Masri, for your constant support and trust in me.

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Declaration

I, the undersigned, declare that I submitted the thesis entitled:

ASSESSING THE EFFICACY OF INTRAVENOUS DEXAMETHASONE IN REDUCING THE INCIDENCE OF SPINAL ANESTHESIA-INDUCED HYPOTENSION, NAUSEA, AND VOMITING IN PARTURIENT UNDERGOING CESAREAN SURGERY AT RAFEDIA HOSPITAL, PALESTINE: AN OBSERVATIONAL STUDY"

I declare that the work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

Student's Name: **Ayala T. Abdallah**

Signature: 

Date: **02/10/2024**

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ASSESS THE EFFICACY OF INTRAVENOUS DEXAMETHASONE IN DECREASING INCIDENCE OF SPINAL ANESTHESIA INDUCED HYPOTENSION, NAUSEA AND VOMITING IN PARTURIENT UNDERGOING CESAREAN SURGERY IN RAFEDIA HOSPITAL IN PALESTINE: OBSERVATIONAL STUDY

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Abstract

Spinal anesthesia is the method most commonly used for caesarean sections because of its rapid onset and provides better analgesia, but it may lead to hypotension, nausea, and vomiting, as well as compromise maternal and fetal outcomes. The aim of this observational study was to evaluate the effectiveness of intravenous dexamethasone in preventing hypotension, nausea, and vomiting, secondary to spinal anesthesia among women undergoing cesarean section at Rafidia Palestine Hospital. Standardized procedures for administering dexamethasone to patients undergoing spinal anesthesia during cesarean section should be established and implemented. And to be included in treatment plans A total of 100 parturient were included in the study, with one group receiving a standard dose of intravenous dexamethasone prior to spinal anesthesia and the control group receiving a placebo. The primary endpoints studied were the incidence of spinal anesthesia-induced hypotension, intraoperative nausea, and vomiting associated with its use as well as after surgery The results were analyzed using SPSS v22, and to describe the sample, descriptive analysis (mean and standard deviation) was used. A parametric statistical test called Repeated measures ANOVA was applied. For multivariate analyzes of variance (MANOVA), a parametric test statistic (Wilks' lambda) was used, and in order to determine the effect size, the partial eta² test (η^2) was used. According to the findings, administering dexamethasone both before and after a caesarean section prevented blood pressure from dropping. The results also indicated a statistical significance for placebo at $p \leq 0.01$ on hemodynamic markers including systolic blood

pressure, DBP, and MAP during cesarean section. In contrast, there were no statistically significant effects of placebo at $p \leq 0.05$ on heart rate, RR, SpO2, and body temperature during cesarean section. The size of the placebo effect on systolic blood pressure and MAP was moderate, with partial eta square values (0.60 and 0.59), respectively. Regarding DBP, SpO2 and body temperature, the effect size of placebo was small, with partial squared values (0.40, 0.22, 0.22), respectively. This study highlights the potential of dexamethasone as a beneficial adjunct in the management of spinal anesthesia-related complications, thereby improving the safety and comfort of parturient undergoing cesarean sections. future research should focus on, such as exploring different doses or comparing with other medications is recommended to confirm these findings and establish standardized protocols for the use of dexamethasone in this context.

Keywords: Intravenous Dexamethasone, Spinal Anesthesia, Hypotension, Nausea, Vomiting, Cesarean Surgery, Women Undergoing Cesarean Surgery, Rafedia Hospital, Palestine, Observational Study, Efficacy.

Chapter One

Introduction and Theoretical Background

The subject of this study has been fully addressed in this chapter. It is divided into three sections: the aim and importance of the study, the research questions, a statement of the study problem, an introduction to the study, and a discussion of the importance of the study. Definitions and operational definitions are addressed in part tow. The third part presented previous studies related to the research problem.

1.1 Introduction

The healthcare system in Palestine has difficult challenges due to the geopolitical backdrop, limited resources, and divided government between the West Bank and Gaza Strip. The system consists of public, private, and non-governmental sectors, all of which work together to deliver health care in the face of persistent problems (MOHP, Palestine Health Annual Repor, 2022). The protocols and drugs used in Palestinian hospitals adhere to international criteria, including WHO recommendations, which have been tailored to the local environment. The Ministry of Health works with international organizations to update and standardize medical practices. (Ministry of Health, 2024). Follow standard surgical techniques and anesthesia protocols, especially for common procedures such as cesarean sections. Recent studies, such as the use of intravenous dexamethasone to treat hypotension caused by spinal anesthesia, demonstrate efforts to improve surgical procedures (Hasanin, Mokhtar, Badawy, & Fouad, 2017). Spinal anesthesia is the most commonly used anesthesia method for women undergoing cesarean sections. Maternal hypotension is a common consequence of spinal anesthesia, leading to poor maternal and fetal outcomes (Hasanin, Mokhtar, Badawy, & Fouad, 2017). Prevention and treatment of post-spinal hypotension (PSH) is the subject of ongoing research (Zimmo et al., 2018). Worldwide, caesarean section rates are steadily increasing, making it one of the most common surgical procedures. One in five pregnant women undergoes a caesarean section. Caesarean section rates are often used to assess the quality of health care (Zimmo et al., 2018). The World Health Organization recommends a caesarean section rate between 10% and 15%. In order to study the underlying processes behind the global increase in caesarean section rates, it is important to identify the categories of women who are most

likely to undergo a caesarean section (Zimmo et al., 2018). Both the International Federation of Gynecology and Obstetrics and the World Health Organization support the Ten Group Robson Classification System (TGCS) as a global standard for grading, monitoring and comparing caesarean sections (Zimmo et al., 2018). During a cesarean section, a baby is delivered through an incision in the abdomen (laparotomy) and an incision in the uterus (hysterotomy). The procedure was first described in 1020 and has evolved significantly since then, especially in the United States, where it now accounts for more than 1 million births each year (Sung & Mahdy, 2023). Another survey showed that cesarean sections increased from 30% to 40% of all births (Gerbershagen & Baagil, 2024). The Palestinian Ministry of Health recently released its 2020 annual report, which stated that 25.8% of births in Palestine were by cesarean section (Alshawish & Zaidan, 2021). Recent data from the Palestinian Ministry of Health indicates that 27% of births in Palestine occurred by cesarean section in 2023, showing a slight increase from previous years (MOH, 2023). A caesarean section may be performed under either local or general anesthesia. General anesthesia includes downsides, such as the possibility of aspiration pneumonia, inadequate anesthesia that makes the woman asleep during the surgery, and respiratory difficulties that affect both the mother and the infant. (Sung, Young , Hwang, & Choon, 2021). The mother and child's best interests—or the possibility of saving their lives—are the main factors considered when deciding whether to undergo a caesarean section. As a result, there are two categories of indications for caesarean sections: absolute and relative. A different indication is an elective caesarean section carried out just at the mother's request and without a medical necessity. Absolute indications: extreme disproportion, a small mother's pelvis HELLP syndrome and eclampsia, fetal acidosis or hypoxia, and uterine rupture. Comparative signal prior caesarean delivery Not making progress during labor (long labor) (Mylonas et al , 2015).

Spinal anesthesia and epidural anesthesia are the two forms of local anesthetic used during caesarean deliveries. Spinal Anesthesia: This procedure includes injecting anesthetic directly into the cerebrospinal fluid in the lower back, resulting in fast numbness and motor paralysis. It is frequently used for shorter operations since it gives a rapid and full anesthetic effect but has a limited duration, generally lasting 1-3 hours depending on the medication administered (DW, TR, & JG, 2024). Research has demonstrated that ultrasound guiding can increase the accuracy of spinal anesthesia, particularly for

individuals who are obese or have aberrant spinal anatomy (Zhang, et al., 2023). Unlike spinal anesthesia, epidural anesthesia involves injecting the anesthetic into the epidural space (the area outside the membrane that surrounds the spinal cord). This approach allows for continuous anesthesia delivery, which is useful for prolonged surgeries or labor because the dose may be regulated (Hewson, Tedore, & Hardman, 2024). Epidural anesthesia gives more progressive and customizable control over pain relief; nevertheless, it may take longer to set in than spinal anesthesia (Hewson, Tedore, & Hardman, 2024). Recent research has demonstrated that ultrasound-guided procedures can enhance both spinal and epidural anesthesia results, lowering the number of tries necessary for needle insertion and boosting patient comfort (Hewson, Tedore, & Hardman, 2024) . as shown figure (1) . The benefits of local anesthesia include fewer problems from general anesthesia and improved mother-child attachment during the early stages of the baby's life. Spinal anesthesia has lately replaced epidural anesthesia in caesarean sections due to its speedy onset, efficacy, and reduced requirement for local anesthesia. However, arterial hypotension is associated with a greater incidence of it.

(Sung, Young, Hwang, & Choon, 2021). After a caesarean delivery, poorly managed pain can raise the likelihood of chronic pain development and be a major cause of morbidity for many women in the early postoperative phase (Kainu, Halmesmäki, Korttila, & Sarvela, 2016). Undoubtedly, patients who do not manage their postoperative pain well may find it difficult to move, which increases the risk of complications like pneumonia, venous thromboembolism, and atelectasis (Gong, Jian-Shi , & Dong-Mei , 2020). In addition to impairing mother-infant bonding, severe pain can shorten a woman's breastfeeding sessions and increase her risk of postpartum depression. These outcomes could have long-term effects on the mother's and baby's health (Tan & Sng, 2022).

These days, one of the most popular procedures around the world, is caesarean section (CS). For cesarean section, the high risk of anesthesia-related maternal mortality has led to a decline in the use of general anesthesia over the past few decades (Fakherpour, Ghaem, Fattahi, & Samaneh , 2018). As a result, the current preferred course of action is spinal anesthesia (SA). Although SA is well associated with side effects, Low blood pressure is one of the most common side effects, which can put the mother and fetus at risk (Fakherpour, Ghaem, Fattahi, & Samaneh, 2018). In the perioperative phase, the spinal anesthesia technique is frequently utilized to provide anesthesia and analgesia for

patients undergoing caesarean sections. Additionally, it plays a significant part in enabling ambulatory anesthesia. lowering discomfort following surgery right away (Shalu & Ghodki, 2017). However, easing pain makes recovery more difficult and prolongs the illness. In the end, hospital stays raise medical expenses. With a single subarachnoid injection block, sensory block and analgesia last for comparatively short periods of time. Thus, auxiliary drugs including fentanyl, morphine, clonidine, ephedrine, pethidine, and dexmedetomidine are used in conjunction with local anesthetics (Shalu & Ghodki, 2017). Analgesia is usually sought after because drugs can have short- and long-term adverse effects, such as nausea, vomiting, itching, low blood pressure, and psychological impacts (Fakherpour, Ghaem, Fattahi, & Samaneh, 2018). The choice of painkillers after caesarean delivery would vary depending on the patient's level of pain and whether they were under general, spinal, or epidural anesthesia (Abebe et al., 2024). Management of acute surgical pain has expanded to include strategies for better recovery from cesarean sections and reduced opioid use by combining multiple analgesic medications (Nanji, Guo, Riley, & Carvalho, 2020). This strategy, referred to as balanced analgesia, aims to maximize analgesic benefits while lowering the dose of opioids needed to minimize side effects. This helps facilitate faster recovery from anesthesia and surgery (Abebe et al., 2024). While numerous studies have examined the use of spinal anesthesia in cesarean sections, there is limited research on effective strategies to mitigate anesthesia-induced hypotension, nausea, and vomiting, especially in low-resource settings like Palestine. This study aims to address this gap by evaluating the use of intravenous dexamethasone as a potential solution This is especially true for caesarean sections. One typical side-effect of neuraxial anesthesia is hypotension, which is commonly defined as a fall of more than 20% in the patient's baseline blood pressure or a systolic blood pressure of less than 100 mm Hg (Bajwa, Kulshrestha, & Jindal, 2013). Every obstetric anesthesiologist faces a challenge while managing intraoperative nausea and vomiting after a caesarean section performed under spinal anesthesia, primarily because to the multiple a etiology of this condition (Dutta, Mishra, & Ghosh, 2019).

Nausea and vomiting are frequent and evident indicators of maternal hypotension. The pathophysiology of this condition has been the subject of several theories. These include the possibility of cerebral hypoperfusion leading to ischemia of the vomiting center in the brain stem, as well as gastrointestinal ischemia caused by decreased splanchnic perfusion,

which would then cause the release of pro-emetic substances like serotonin. Untreated hypotension increases the chance of severe fetal outcomes, such as aspiration and ultimately loss of consciousness, and is also a major risk factor for mothers (Massoth, Töpel, & Wenk, 2020).

A corticosteroid with strong anti-inflammatory and immunosuppressive qualities is dexamethasone. It is used as an analgesic to manage pain and swelling among other health issues (Ashoor et al, 2021). The ability of dexamethasone to enhance postoperative pain relief and reduce opioid usage is being studied in the context of spinal anesthesia for cesarean deliveries (Tkachenko & Pyasetska, 2019). Along with minimizing nausea and shivering in the timing of perioperative phases, giving 4 mg of intrathecal dexamethasone as an additional medication for spinal anesthesia can sharply lessen a much more frequent and visible symptom of arterial low blood pressure and nausea as illustrated by figure (1). The standard is not the same when 8 mg of intravenous dexamethasone is included (Pyasetska, 2020). When taken via the spinal route, dexmedetomidine (DEX), a very selectively alpha-2 adrenoreceptor agonist, might have some advantageous effects like inducing sleep, analgesia, anxiolytic effects, and increased tremor threshold (Miao, Shi, Zou, & Wang, 2018). Some randomized controlled trials or RCTs have been conducted to measure how intrathecal DEX affects tremor. However, the effect of intrathecal DEX on tremor after spinal anesthesia for cesarean section remains controversial (Miao, Shi, Zou, & Wang, 2018).

High-dose (more than 0.2 mg/kg) dexamethasone given intraoperatively can reduce postoperative pain and save opioids. A safe, minimally invasive, multimodal approach to pain management after surgery is to use moderate-dose dexamethasone (0.11 to 0.2 mg/kg) (Abebe et al., 2024). 0.1 mg/kg dexamethasone given intravenously one hour after surgery significantly improves pain relief and reduces the need for systemic analgesics. High-dose (more than 0.2 mg/kg) dexamethasone given intraoperatively can reduce postoperative discomfort and opioid use. A safe, minimally invasive use of moderate-dose dexamethasone (0.11 to 0.2 mg/kg) is an effective multimodal strategy for postoperative pain management (Abebe et al., 2024).

Giving dexamethasone before surgery has a better execute on sting management afterwards cesarean allotment. Moreover, there is a decline in the infection rate Rebound

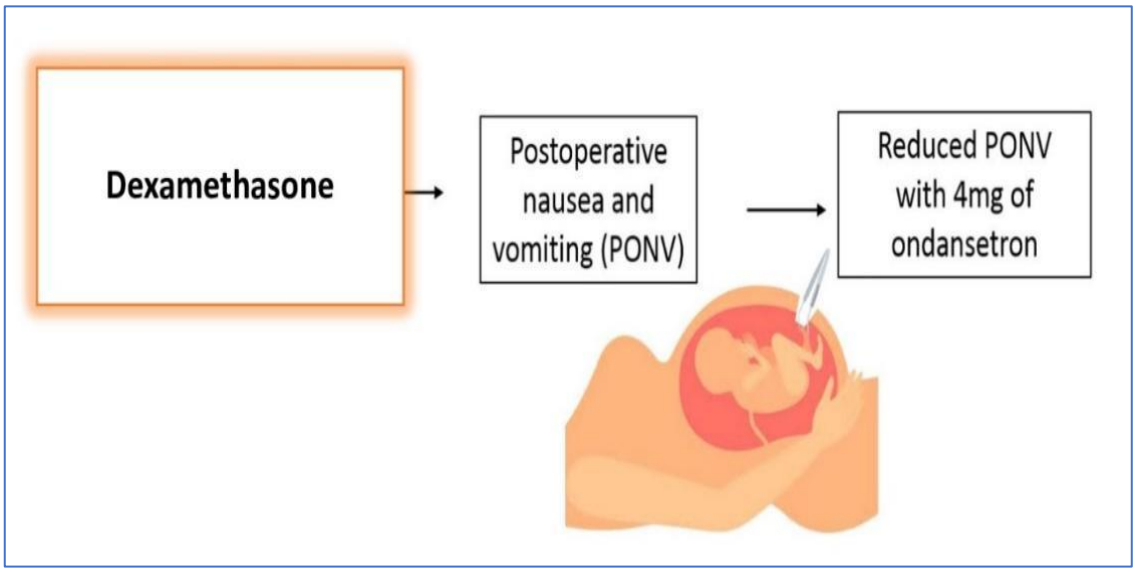
discomfort afterwards intraoperative dexamethasone administration. A single intraoperative dose of 0 . 1 mg/kg dexamethasone remarkably enhaces hurt comfort in the beforetime postoperative phase, consequently cutting down the need for systemic analgesics (Abebe et al., 2024).

A current randomized, doubleblind survey was carried out to assess the efficiency of intravenous dexamethasone in spinal anesthesia (Shalu & Ghodki, 2017). The survey outcomes disclosed essential alterations in the VAS attain in the postoperative period 1 60 minutes afterwards surgery in the SD group and the SN group. consequently, administering dexamethasone 8 mg intravenously extends the duration of postoperative analgesia and sensory block in patients undergoing cesarean allotment below spinal anesthesia (Shalu & Ghodki, 2017). as per current study, dexamethasone can greatly improve postoperative twinge management in the course of caesarean sections when taken in conjunction with spinal anesthesia. In addition to maybe enhacing mom satisfaction with tenderness management, this may consequence in a declined need for in addition to analgesics. The postoperative hurt scores and the number of opioids required were remarkably reduced, as per the outcomes (Mehdiratta J. E., et al., 2021).

The application of dexamethasone as a functional adjuvant for the counseling of postoperative sting in patients having spinal caesarean sections is supported by there are numerous studies. Doctors have to consult to the most current guidelines and study as accurate protocols and dosages may vary.

Figure 1

execute of dexamethasone on the reduction of postoperative nausea and vomiting



Source: Nejadi, Shamseh, Ronasi, Birjandi, & Karimi, 2021

1.2 Theoretical framework

The survey enquires numerous hypotheses on the pharmacological and physiological effects of dexamethasone, mainly as they advise to spinal anesthesia. when having a caesarean allotment. The following are several relevant theories that is able to be covered in the survey

- Dexamethasone's immunosuppressive and anti-inflammatory effects:

  A corticosteroid with healthy anti-inflammatory and immunosuppressive qualities is dexamethasone. According to this explanation, dexamethasone lessens cytokine launch and inflammation, which may help to lessen the body's stress reaction to anesthesia and surgery. Dexamethasone reduces inflammation, that can drop the incidence of nausea and vomiting connected with spinal anesthesia (Castro-Alves et al, 2013).

- Mechanisms of Spinal Anesthesia-Induced Hypotension

  Vasodilation and hypotension are carried on by sympathetic obstructing, that is carried on by spinal anesthesia. The explanation behind this is that dexamethasone could aid in governing how the body reacts to this sympathetic blockage. By maintaining vessels attitude and limiting the amount of vasodilation, dexamethasone may stabilize

hemodynamic limits and lower the danger of hypotension (Šklebar, Bujas, & Habek, 2019).

- Pharmacokinetics and Pharmacodynamics of Dexamethasone:
  Understanding the pharmacokinetics (absorption, distribution, body's chemical processes, and excretion) and pharmacodynamics (mechanism of action) of dexamethasone is an important component of rehabilitation. Examining the body's chemical processes of dexamethasone, its duration of action, and its interactions with other drugs utilized for spinal anesthesia and caesarean sections are all component of this explanation. Insights out of that explanation can assist optimize dosing regimens to accomplish highest efficiency with minimal adverse effects.
  Based on a mixture of pharmacological principles, physiological mechanisms, and clinical study, the exhibit survey inspects the efficiency of intravenous dexamethasone in lowering the incidence of spinal anesthesia-induced hypotension, nausea, and vomiting in parturient undergoing caesarean surgery at Rafedia Hospital, Palestine.

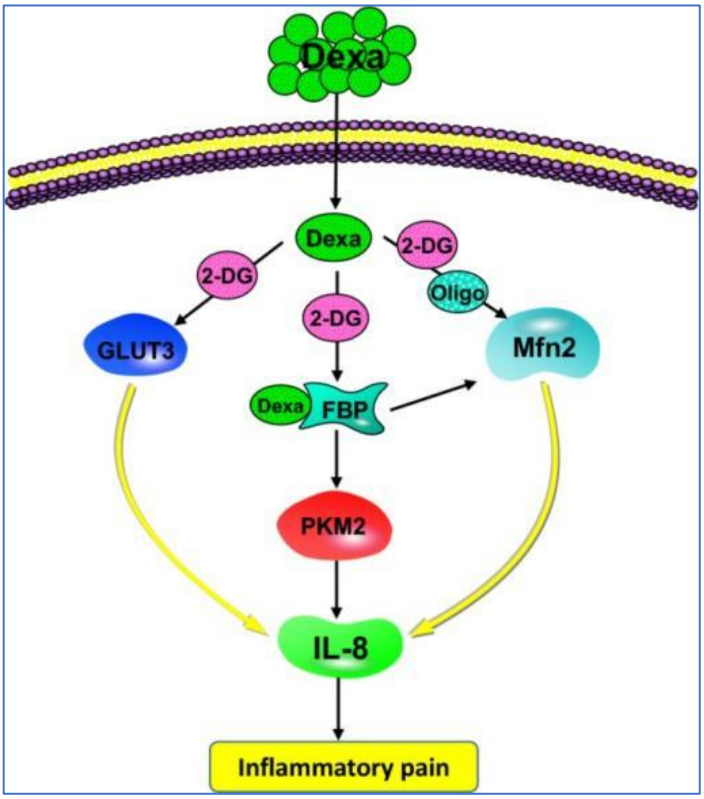
- Pharmacological Basis Dexamethasone and its Mechanism of Action:
  Strong glucocorticoids with immunosuppressive and anti-inflammatory qualities include dexamethasone. Its mode of action involves stabilizing cellular membranes, decreasing prostaglandin synthesis, and suppressing inflammatory cytokines. These qualities indicate its capabilities efficiency in decreasing the physiological disturbances and inflammatory reactions that might cause hypotension, nausea, and vomiting after spinal anesthesia (Czock, Keller, Rasche, & Häussler, 2005).

Dexamethasone is a healthy artificial corticosteroid that reduces inflammation and suppresses the resistant scheme. It is mainly utilized to address a variety of medical disorders, such as allergic responses, autoimmune illnesses, cancer, and several respiratory diseases like COVID-19. Dexamethasone is utilized to decrease nausea and vomiting whilst surgery, as an example spinal anesthesia for caesarean sections, that is pertinent to this survey on its efficiency in lowering spinal anesthesia-induced hypotension, nausea, and vomiting (Matthay & Thompson, 2020) Dexamethasone works largely via attaching to intracellular glucocorticoid receptors. Once attached, the receptor-drug complex moves into the nucleus and controls gene expression by interacting with glucocorticoid response regions on DNA (Matthay & Thompson, 2020) as shown in

figure (2). This process leads to, Dexamethasone exerts anti-inflammatory effects by inhibiting the production of pro-inflammatory cytokines and mediators, including IL-1, IL-6, and TNF-α. It also reduces the migration of immune cells (such as neutrophils and macrophages) to damaged tissues, resulting in less damage and inflammation (Corcoran, et al., 2020).

Figure 2

Dexamethasone and its Mechanism of Action



Source: He, et al., 2023

- **Physiological Processes**

  The Complications of Spinal Anesthesia Local anesthetics are injected into the subarachnoid space during spinal anesthesia, which is frequently used for caesarean deliveries. This causes a transient blockage of the sensory and motor systems. However, because of sympathetic inhibition and the ensuing vasodilation, it can also result in substantial hemodynamic alterations, most notably hypotension. Furthermore, nausea and vomiting may result from changes in homeostasis and physiological stress.

1.3 Problem Statement

Spinal anesthesia is extensively used in caesarean procedures due to its ability to provide anesthesia with minimum medication exposure to the fetus. However, it is frequently linked with side effects like as hypotension, nausea, and vomiting, which can cause severe discomfort to the parturient and complicate the surgical operation. Hypotension, the most common consequence, affects up to 80% of parturient following caesarean sections under spinal anesthesia. This might cause reduced uteroplacental blood flow, thereby jeopardizing fetal health. While dexamethasone has shown promise in other surgical settings, its specific role in managing spinal anesthesia-induced hypotension during cesarean sections remains underexplored, particularly in low-resource settings like Rafedia Hospital in Palestine

A corticosteroid with strong anti-inflammatory and anti-emetic qualities, dexamethasone, has demonstrated potential in a number of surgical contexts for lowering postoperative nausea and vomiting. Its potential advantages in mitigating the symptoms of hypotension brought on by spinal anesthesia in parturient undergoing caesarean sections have not been thoroughly evaluated in parturient undergoing caesarean surgery at hospital, Rafedia Hospital is one of the largest and busiest hospitals in the West Bank, Palestine, with a high volume of deliveries, particularly caesarean sections. This guarantees that the study has an acceptable sample size, increasing the statistical power and dependability of the results. the purpose of this study is to evaluate the effectiveness of intravenous dexamethasone in reducing the incidence of hypotension, nausea, and vomiting caused by spinal anesthesia.

1.4 The Significance of Study

The study's significance is in its potential to improve maternal health out comes due to its benefits, as an example its aptitude to efficiently alleviate twinge and its low drug transfer to the fetus, spinal anesthesia is frequently used whilst caesarean sections . The study's importance was damaged below into two categories: theoretical importance and applied importance.

1.4.1 Theoretical Significance

- The study contributes to creating more effective preventive measures, through a clearer understanding of the mechanisms by which spinal anesthesia lowers blood pressure
- Studying the effectiveness of intravenous dexamethasone could enhance its application as a preventive treatment against problems associated with spinal anesthesia.
- The findings of this study may contribute to the creation of uniform guidelines for the administration of dexamethasone during caesarean sections, guaranteeing uniformity in the treatment and monitoring of patients.
- Although the study was conducted at Rafedia Hospital in Palestine, the findings may have broader implications for obstetric anesthesia procedures around the world, especially in similar medical settings.
- Dexamethasone's effectiveness can also help with cost-effective spinal anesthesia problems management, which is important in resource-constrained situations.
- The findings may provide as a starting point for more research into several possible pharmaceutical drugs that could lessen the negative effects of spinal anesthesia.
- This study is a valuable resource for educating anesthesiologists, obstetricians, and medical students about the management of complications resulting from spinal anesthesia.
- assist in the creation of training courses and modules for continuing education that are intended to enhance the abilities and expertise of medical professionals working in the field of obstetric anesthesia.

- **Summary**

  this study adds to the body of information on anesthetic management, enhances clinical procedures, informs pharmacological strategies, and directs future research in the field of obstetric anesthesia, all of which contribute to its theoretical value.

1.4.2 Applied Significance

- Better Maternal Health Outcomes: Examining how well intravenous dexamethasone works to lower the frequency of hypotension, nausea, and vomiting brought on by spinal anesthesia might improve the health of mothers after caesarean sections. If left untreated, hypotension and its accompanying symptoms are widespread and can cause serious morbidity in mothers.
- Enhanced Patient Comfort: This research has the potential to greatly enhance the comfort and overall experience of parturient having caesarean surgery by minimizing nausea and vomiting. Vomiting and nausea can be upsetting and add to a bad surgery experience.
- Improving anesthesia protocols: If the use of dexamethasone is effective, it will be incorporated into standard anesthesia protocols for caesarean sections. This can simplify management of side effects of spinal anesthesia, leading to more consistent and predictable results.
- Decreased Requirement for Extra Drugs: If hypotension and nausea/vomiting are effectively prevented, fewer drugs may be required to treat these side effects, which lowers the possibility of drug interactions and polypharmacy's negative consequences.
- Economic Impact: Research has shown that reducing intraoperative complications like hypotension can significantly decrease hospital costs due to shorter recovery times (Smith et al., 2023).
- Resource Allocation: By enabling healthcare professionals to devote their time and energy to more urgent cases or operations, better side effect management can free up medical resources and increase overall hospital efficiency.
- Contribution to Scientific Knowledge Evidence-Based Practice: This study would enhance evidence-based practice and direct future anesthesiology and obstetrics research by adding to the body of knowledge on the use of dexamethasone in treating adverse effects of spinal anesthesia.
- Innovation in Anesthesia Management: Investigating the use of dexamethasone for this purpose might spur more study into other cutting-edge anesthetic applications of corticosteroids or related drugs, which could result in more significant advancements in the discipline.

- The successful study helps Rafedia Hospital become known as a center for clinical innovation and quality, which may attract more patients and financial resources for future studies.
- Rafedia Hospital's reputation as a hub for clinical innovation and excellence is enhanced by the successful study, and this might draw in more patients and funding for more research.

- **Summary**

  Research on the efficiency of intravenous dexamethasone in this specific setting can remarkably affect clinical exercise, medical care costs, public vitality, scientific grasp, and institutional advancement.

1.5 Aim of study

To assess the efficiency of IV dexamethasone in decreasing the incidence and severity of spinal anesthesia-induced hypotension, nausea, and vomiting in parturient undergoing cesarean surgery at Rafedia Hospital in Palestine, in comparison with classic concern without dexamethasone.

1.6 Objectives

- To appraise the impact of intravenous dexamethasone at $p \leq 0.01$ on all hemodynamic subscribes associated with spinal anesthesia in parturient whilst caesarean surgery.
- To evaluate the impact of intravenous dexamethasone at $p \leq 0.01$ on all hemodynamic subscribes associated with spinal anesthesia in parturient afterwards caesarean surgery.
- To settle the impact of placebo at $p \leq 0.01$ on hemodynamic subscribes such as SBP, DBP, and MAP because of spinal anesthesia in parturient whilst caesarean surgery.
- To assess the impact of placebo at $p \leq 0.01$ on hemodynamic subscribes such as SBP, DBP, and MAP because of spinal anesthesia in parturient afterwards caesarean surgery.
- To investigate the effect of intravenous dexamethasone during caesarean surgery on their bradycardia heart rate < 50, pain, pruritus, vomiting, respiratory depression, and respiratory rate < 10.

- To evaluate the effect of intravenous dexamethasone after caesarean surgery on their bradycardia heart rate < 50, pain, pruritus, vomiting, respiratory depression, and respiratory rate < 10.
- To investigate the effect side of placebo of placebo on their Bradycardia heart rate < 50, dizziness, headache, pain, shivering, nausea, vomiting, respiratory depression, and respiratory rate < 10 and pruritus related to spinal anesthesia in parturient during caesarean surgery.
- To investigate the effect side of placebo on their intravenous fluids and SBP<100 mm Hg, and pruritus related to spinal anesthesia in parturient during caesarean surgery.
- To evaluate the effect of placebo on the vital signs related to spinal anesthesia in parturient after caesarean surgery.
- To investigate the satisfaction degree at $p \leq 0.05$ of parturient undergoing caesarean surgery between the experimental and control groups.

1.7 Study hypothesis

H0: There were no statistically significant effects of intravenous dexamethasone at $p \leq 0.01$ on all hemodynamic signs related to spinal anesthesia in parturient during caesarean surgery.

H0: There were no statistically significant effects of intravenous dexamethasone at $p \leq 0.01$ on all hemodynamic signs related to spinal anesthesia in parturient after caesarean surgery.

H0: There were no statistically significant effects of placebo at $p \leq 0.01$ on hemodynamic signs including SBP, DBP, and MAP due to spinal anesthesia in parturient during caesarean surgery.

H0: There were no statistically significant effects of placebo at $p \leq 0.01$ on hemodynamic signs including SBP, DBP, and MAP due to spinal anesthesia in parturient after caesarean surgery.

H0: There were no side effect of intravenous dexamethasone during caesarean surgery on their bradycardia heart rate < 50, pain, pruritus, vomiting, respiratory depression, and respiratory rate < 10.

H0: There were no side effect of intravenous dexamethasone after caesarean surgery on their bradycardia heart rate < 50, pain, pruritus, vomiting, respiratory depression, and respiratory rate < 10.

H0: There were no effect side of placebo of placebo on their Bradycardia heart rate < 50, dizziness, headache, pain, shivering, nausea, vomiting, respiratory depression, and respiratory rate < 10 and pruritus related to spinal anesthesia in parturient during caesarean surgery.

H0: There were no effect side of placebo on their intravenous fluids and SBP<100 mm Hg, and pruritus related to spinal anesthesia in parturient during caesarean surgery.

H0: There are no side effect of placebo on the vital signs related to spinal anesthesia in parturient after caesarean surgery.

H0: There were no statistically significant differences at $p \leq 0.05$ in the satisfaction degree of parturient undergoing caesarean surgery between the experimental and control groups.

1.8 Concepts and Operational Definition

In this section, the conceptual definitions and operational definitions, related to this study are defined. Conceptual definitions for (Efficacy, Intravenous Dexamethasone, Spinal Anesthesia Induced Hypotension, Nausea and Vomiting, Parturient & Cesarean Surgery). While the operational definitions is (Basic vital signs during and post Dexamethasone injection& Measuring vomiting and nausea through NPS).

1.8.1 Concepts Definition

Efficacy: An intervention's or treatment's efficacy is its capacity, under ideal and controlled circumstances, to yield the intended therapeutic result. This study examines the effectiveness of intravenous dexamethasone in lowering the incidence of hypotension, nausea, and vomiting in parturient having caesarean sections (Mandal, 2021).

Intravenous Dexamethasone: A corticosteroid drug called intravenous dexamethasone is injected into the veins to lower inflammation and weaken the immune system. It is frequently used to lessen inflammation in a number of medical disorders and to halt postoperative nausea and vomiting (Abebe, et al., 2024).

Spinal Anesthesia Induced Hypotension:–Spinal Anesthesia Induced Hypotension is a significant drop in blood pressure following spinal anesthesia due to sympathetic nerve blockade, leading to vasodilation and reduced cardiac output (Ferré et al., 2020).

Nausea and Vomiting: Vomiting is the act of forcing stomach contents out of one's mouth, whereas nausea is the feeling of disquiet and discomfort in the stomach accompanied by the desire to throw up. These are typical postoperative problems, particularly for individuals having spinal anesthesia after caesarean sections (Library, 2023)**.**

Parturient: A lady who has recently given birth or is in labor is referred to as a parturient. It particularly refers to women having caesarean deliveries in this study (Mirsadeghi, Madani, Boostan, & Massoudifar, 2022)**.**

Cesarean Surgery: A baby is delivered via incisions made in the mother's belly and uterus during a caesarean operation, often known as a caesarean section. When a vaginal delivery might endanger the woman or the child, it is frequently done (Staff, 2022)**.**

1.8.2 Operational Definition

These operational definitions give the study a tangible and quantifiable structure, guaranteeing that every idea is precisely specified and can be assessed consistently all the way through the investigation**.**

Efficacy: The effectiveness of the intervention will be assessed by comparing the incidence of hypotension, nausea, and vomiting in parturient receiving intravenous dexamethasone to a control group that does not receive the treatment. Within the first 24 hours following surgery, clinical observations and patient reports will be used to quantify this.

Intravenous Dexamethasone: About half an hour before to the injection of spinal anesthesia, an intravenous dosage of 8 mg of dexamethasone (or a regular amount in accordance with hospital procedure) will be given. The patient's medical file will have a record of the administration.

Spinal Anesthesia Induced Hypotension: A drop in systolic blood pressure to less than 90 mmHg or a drop of more than 20% from the pre-spinal anesthesia baseline blood pressure

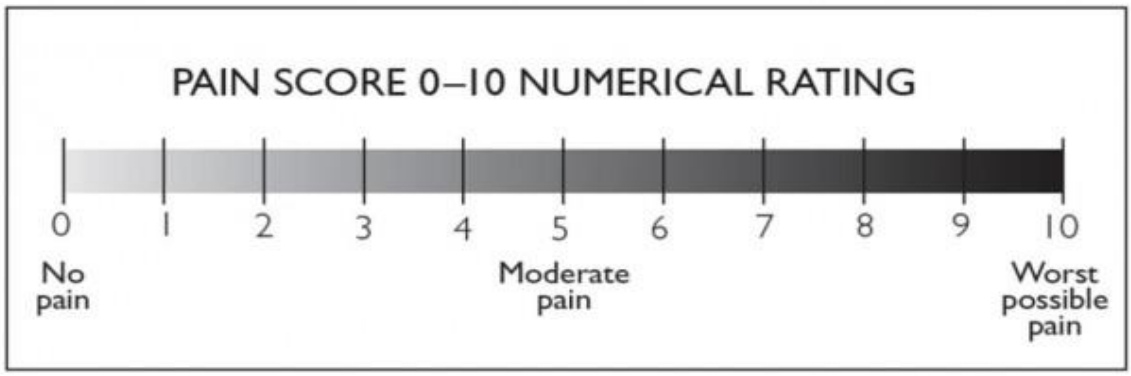
measurement would be referred to as hypotension. Throughout the procedure, blood pressure will be continually monitored and recorded at 5-minute intervals for the first half-hour following spinal anesthesia, followed by 15-minute intervals for the following ninety minutes.

Nausea and Vomiting: a Numeric Pain Rating Scale (NPRS) figure (3), for Post anesthesia Nausea and Vomiting (PONV) is a tool for determining the intensity of a patient's nausea and vomiting following anesthesia. The NPRS is widely used in clinical and research contexts to quantify subjective sensations such as pain, nausea, and vomiting in a straightforward and accurate manner. The score is then calculated by measuring the distance (in millimeters) between the zero point and the patient's mark. The farther the mark is from the zero point, the worse the nausea or vomiting.

- 0 indicates no nausea or vomiting.
- 10 out of 100: The greatest nausea or vomiting.

Figure 3

Numeric Pain Rating Scale (NPRS) during & post Dexamethasone injection



Source: Jensen & McFarland, 1993

Parturient: Any woman hospitalized to one of the participating hospitals for a planned caesarean section throughout the research period is referred to as a parturient. Being over eighteen, being a singleton pregnant woman, and giving informed consent are inclusion requirements.

Cesarean Surgery: in this study, caesarean surgery refers to a typical operating technique in which the mother's abdomen and uterus are cut in order to deliver the baby. Only elective cesarean sections performed under spinal anesthesia will be included.

1.9 Previous Studies and Theoretical Background

Introduction

A review of all previous published papers, articles and books that discussed the same title, objectives and keywords was used for this study. This gives us access to a robust database for study. In this study the keywords were used “Efficacy, Intravenous Dexamethasone, Spinal Anesthesia Induced Hypotension, Nausea and Vomiting, Parturient & Cesarean Surgery”. A set of keywords related to the study title and study objectives were selected a priori. Reviewing scientific research literature is the basis for clarifying the researchers’ approach to topics related to the research topic. Previous studies are considered the nucleus for drawing up scientific frameworks for research, as no scientific research can be conducted without previous studies. The following is a presentation of the most important studies available to researchers from the previous studies that were discussed. The subject of this study, some of which are directly related to the current study and others are partially related to its components. The focus was on the main objectives of the studies and the most important results reached so that we can compare them with the results of the current research. The studies were presented in the form of international studies, regional studies, Arab studies, and local studies.

1.9.1 International Studies

in a study carried out in Ethiopia by (Abebe, et al., 2024) The purpose of this systematic review was to investigate if a single intravenous dexamethasone injection might effectively extend the course of therapy. In elective caesarean sections, spinal anesthesia is used to relieve postoperative discomfort. The findings showed that 25,384 publications in all were located from various electronic databases using various search strategies. 438 articles were chosen for screening after duplicates were eliminated using the EndNote Reference Manager. 57 of these were contained.49 were eliminated for critical review with a rationale. The effect of intravenous dexamethasone on the lengthening of the spine Eight 628 randomized controlled trials examines sedation and postoperative analgesia in women following caesarean sections. birth that is discussed in a few chosen international press stories. On the other wise, carried out a double-blind, randomized research in India by (Shalu & Ghodki, 2017) to assess the efficacy of injecting dexamethasone intravenously for spinal anesthesia. A total of sixty individuals were selected for lower

back caesarean sections. Two groups of thirty patients each—the SD group and the SN group—were randomly assigned to receive anesthesia. He accepted every patient. injection of 10 mg of strong (0.5%) bupivacaine under spinal anesthesia. Following spinal anesthesia, the SN group got a 2cc injection of normal saline (NS) while the SD group received an 8 mg intravenous injection of dexamethasone. The length of the sensory and motor blocks, the postoperative pain, the visual analogue scale (VAS) score, the time needed for rescue analgesia, the total amount of analgesics needed in the first 24 hours. While, In Australia the study was conducted by (Corcoran et al., 2020), In this prespecified sub study of the randomized Perioperative Administration of Dexamethasone and Infection (PADDI) experiment, patients having non-urgent non-cardiac surgery were given dexamethasone 8 mg or placebo intravenously following anesthesia induction. a total of 1466 individuals were involved, with 733 assigned to the dexamethasone group and 733 assigned to a corresponding placebo. The results suggested that feeding the group dexamethasone caused blood pressure to stabilize, which decreased nausea and vomiting. On the other wise, the study was carried out in Ukraine by (Pyasetska, 2020).-to investigate the efficacy of intrathecal or intravenous dexamethasone to avoid several early problems of spinal anesthesia, such as hypotension, nausea, vomiting, bradycardia, tremors, etc. 154 healthy, non-obese, ASA I–II, 18–36 years old, 36–40 weeks pregnant, undergoing an elective caesarean delivery under spinal anesthesia were evaluated. For the purpose of the randomized, prospective, double-blind, placebo-controlled clinical study, all patients were split into three equal groups. Each group's female members got intrathecal hyperbaric bupivacaine at a dose of 0.5% to 10%. In addition, Group B (n = 51) got 1 mL of normal saline (placebo) intrathecally; Group BD (n = 52) received 4 mg (1 mL) of intrathecal dexamethasone; and Group D (n = 51) received 8 mg of intravenous dexamethasone immediately following spinal puncture. During the intra- or postoperative phase (24 hours), the patients were assessed for blood pressure, heart rate, nausea, vomiting, shivering, and other problems. The problems that needed to be treated with medication were identified and resolved. The findings showed that intrathecal dexamethasone significantly reduced frequency and symptoms in group BD compared to group B. Spinal anesthesia for elective caesarean sections is associated with arterial hypotension and nausea (Pearson $\chi2 = 0.486$ and $\chi2 = 0.479$, $p<0.05$) in the pre- and postoperative periods. Intrathecal dexamethasone did not substantially influence vomiting or bradycardia, but it did considerably reduce tremor (Pearson's $\chi2=0.316$,

p<0.05) in groups BD vs. B following surgery on the other hand, A research on the effects of dexamethasone on women having spinal anesthesia for caesarean sections was carried out in the USA by (Mehdiratta J. E., et al., 2021)Before skin incision, eight milligrams of intravenous dexamethasone or a placebo was randomly allocated to two groups of women undergoing elective caesarean sections under spinal anesthesia. Standardized spinal anesthesia and a postoperative multimodal analgesic regimen were given to both groups. The cumulative opioid use over a 24-hour period was the main result. The time to initially request an analgesic, the total amount of opioids used after 48 hours, and the pain ratings both at rest and during rest were among the outcomes. Changes at two, four, and eight hours. outcomes. Of the 47 patients examined, 23 and 24 got dexamethasone, respectively. There was no difference between the dexamethasone group ({15 (7.5, 20.0) mg}) and the placebo group ({13.75 (2.5, 31.25) mg}) in the mean cumulative opioid consumption (Q1 and Q3) in the first 24 hours following the caesarean section (P = 0.740). The two groups did not vary in terms of pain grades, time to initial analgesic request, or cumulative opioid usage at 48 hours. Additionally, the goal of a study carried out in the USA by (Nanji, Guo, Riley, & Carvalho, 2020) was to assess whether regular intraoperative dexamethasone treatment enhanced pain relief and reduced postoperative nausea and vomiting following a planned caesarean operation. Data from electronic medical records for planned caesarean sections carried out both before and after neuraxial anesthesia A shift in procedure brought in the regular administration of 4 mg of dexamethasone intravenously. The following factors were used to analyze the patients: if they were given dexamethasone in addition to usual treatment (n = 182) or not (n = 187). The primary outcome was time to first time.

use of opioids. Secondary outcomes included pain ratings, postoperative opioid usage, and postoperative incidence and management. nausea, vomiting, level of satisfaction, and length of stay. The outcomes showed There was no statistically significant difference in the median time to initiate postoperative opioid administration (15.8[-3.4]) between the groups. Compared to 14.7 [3.2–38.8] hours of routine care alone, regular care with dexamethasone for 48.0 hours was more effective (P=0.08). Notable differences were found in any of the secondary outcomes.

1.9.2 Regional studies

Nejadi, Shamseh, Ronasi, Birjandi, & Karimi, (2021) carried out research in Iran. Investigating the functions of ondansetron and dexamethasone was the goal of this investigation. for the purpose of treating PONV in patients having spinal anesthesia during caesarian section Between 2016 and 2017, a double-blind clinical pilot research was carried out on patients who were sent to the Haj Karim Asali Hospital in Khorramabad for elective caesarean sections. When the inclusion conditions are met There were two groups of patients n=60 Group A got 8 milligrams of dexamethasone. Group B was given spinal anesthesia and then 4 mg of ondansetron. Analogous visual Both the Depression, Anxiety, and Stress Scale (DASS) and the VAS were utilized. for examination. The results indicated that there was no difference in the demographic data of the two groups. Average severity Nausea in group A was significantly higher than in group B. The individual share of PONV was 20.67, Which was found to be statistically significant, p = 0.018. Regarding the type of delivery with Frequency of nausea: The results showed that the frequency of nausea in group A was 3.24 times higher than in group B, however, this difference was not statistically significant, p = 0.106. In the same context, a study was conducted in Iran by (Kalani, et al., 2017) on the effect of spinal anesthesia on nausea and vomiting in relation to ondansetron and dexamethasone. Twenty patients aged between 15 and 35 years who were in ASA classes I and II were included. Before ondansetron or dexamethasone administration, patients' blood pressure and heart rate were recorded. Patients were given 70 mg of 5% lidocaine for spinal anesthesia. Group A individuals received 6 mg of ondansetron, while group B individuals received 8 mg dexamethasone. Every five minutes throughout the recovery period, blood pressure, heart rate, respiratory rate, and level of nausea and vomiting were recorded for each patient, this information were gathered at 1, 5, 10, 15, and 30 minutes afterwards spinal anesthesia. The conclusions showed that following spinal anesthesia, there was a considerable disagreement in the two groups' rates of nausea and vomiting between the first and fifth minutes. At 10, 15, and 30 minutes, as well as during recovery at 5, 10, 15, and 30 minutes, there was no discernible difference in the groups' rates of nausea and vomiting.

1.9.3 Arab studies

In a comprehensive review survey conducted in Egypt by Abdelmonem (2021), The effectiveness and protectiveness of dexamethasone in lowering soreness following caesarean sections, nausea, vomiting, pruritus, postoperative analgesia has to have, postoperative antiemetic demands, and headaches was enquired. The target audience consisted of female patients having voluntary caesarean sections. Dexamethasone was administered subcutaneously (SC) or intravenously (IV) at distinct dosages as the treatment. the essential outcomes perceptions as measured by soreness ratings; frequency of nausea; and frequency of vomiting. Itching, the requirement for postoperative tenderness management, the need for antiemetic drugs following surgery, and headaches were amongst the secondary results. According to the conclusions, dexamethasone appeared to significantly lower the incidence of nausea ($P < 0.001$) and vomiting ($P < 0.001$) along with the ratings for having a rest hurt ($P < 0.001$). Other secondary outcomes, such as the requirement for postoperative analgesia ($P < 0.001$) and postoperative antiemetic medicine ($P < 0.001$), also shown a substantial decrease in adverse events with the therapy. Nevertheless, the medication did not significantly improve motor pain or lessen headache or itching. However, a study was also conducted in Egypt by (El-Shourbagy, Mammdouh, Shawky, & Mohamed, 2019) to evaluate whether increased duration and effect of spinal anesthesia in women undergoing cesarean sections could be achieved by mixing dexamethasone with bupivacaine. More than 100 caesarean sections will be performed on pregnant women who have completed their pregnancy. Under spinal anesthesia, caesarean sections were performed for each patient. A 10-cm visual analogue scale (VAS) was used to measure pain at 0,15, 30 minutes, 2,4, and 6 hours after surgery, or until the mother required analgesic medication. Both the length of sensory block and postoperative analgesia were calculated. The study sample was split into two groups at random: Fifty women ($n = 50$) in Group I (C) received intrathecal dexamethasone in addition to bupivacaine. 50 women in Group B ($n = 50$) got intrathecal bupivacaine in addition to a placebo. The length of sensory block in spinal anesthesia was significantly longer in the study group (122 + 7.9 minutes) than in the control group (91.8 + 10.8 minutes), indicating that intrathecal dexamethasone added to bupivacaine improved this duration. F is less than 0.001. Furthermore, since the study group's pain-free duration was 434.3 + 43.8 minutes while the control group's was 423.8 + 43.8 minutes, the case group's

time to get VAS > 6 and prescription of the first analgesic dosage was substantially longer than that of the control group (P < 0.001). 215.3 + 40.3 minutes made up the set. In comparison to the control group, the research group's motor block lasted much longer (P<0.01), The two groups did not differ in terms of onset time, and there were no side effects from the addition of dexamethasone.

1.9.4 Local studies

A study was carried out in Palestine by (AL Shawish & Zaidan, 2021), In order to assess the prevalent non-obstetric and non-obstetric risk factors for CS among Palestinian women. Using a standardized questionnaire, a cross-sectional descriptive analysis was conducted to find independent risk variables for caesarean section (CS) as opposed to vaginal delivery (NVD). Three hospitals in Palestine were used to identify the 300 participants (150 CS cases and 150 NVD cases), who had in-person interviews. Weight gain before and during pregnancy, the presence of edema, anemia, bleeding, or hypertension during pregnancy, the village, a history of preeclampsia, delayed pregnancy, newborn head circumference, and the use of pregnancy support products were found to have a significant association (P < 0.05) with an increased risk of CS. Increase the frequency of prenatal visits, exercise before to pregnancy, prevent caesarean sections, utilize safe medical herbs, and use intrauterine contraception. On the other hand, in a prospective, randomized, double-blind trial, the study was conducted by (Salahat, Abu Taha, Almasri, Sweity, & Zyoud, 2022) examined the impact of the serotonin receptor antagonist ondansetron on the incidence of spinal anesthesia-induced shivering, hypotension, nausea, vomiting, and other possible complications following elective caesarean sections. This study was carried out at the post-anesthesia care unit at Rafidia Governmental Hospital and in caesarean section operating rooms in Palestine, the West Bank, and the city of Nablus. Eighty full-term elective caesarean births (aged 18 to 50) with ASA 1 or 2 were enlisted, and they were randomized into two groups: a 0.9% placebo control group and a preventive intravenous ondansetron group. The incidence of shivering and hypotension brought on by spinal anesthesia were the major outcomes; perioperative bradycardia, nausea, vomiting, headaches, discomfort, pruritus, disorientation, respiratory depression, and satisfaction with delivery were the secondary events. The study found that patients receiving ondansetron had significantly lower rates of intraoperative hypotension and dizziness compared to the control group (P ≤ 0.001).

In comparison to the control group, the ondansetron group experienced less severe intraoperative nausea (P = 0.049). Following surgery, the ondansetron group experienced a reduced incidence of postoperative nausea (5% vs. 37.5%, respectively; P = 0.001), as well as a lower incidence and intensity of postoperative shivering (12.5% vs. 37.5%, respectively; P = 0.01). Both the incidence and severity of postoperative nausea (17.5% vs. 40%, respectively; P = 0.026) and postoperative vomiting (25.5% vs. 2.5%, respectively; P = 0.014) were lower in the ondansetron group than in the control group.

1.10 Gap of literature

Reducing hypotension, or low blood pressure, and reducing vomiting and nausea, which are frequent side effects of spinal anesthesia during caesarean sections, are the main objectives of the current study on the efficacy of dexamethasone in spinal anesthesia for caesarean sections. In contrast to previous published trials, this one focuses on the efficacy of dexamethasone in reducing postoperative nausea and vomiting (PONV) and hypotension following caesarean operations. Different primary goals or a wider variety of outcomes may be the subject of another research. In certain research, dexamethasone may be compared against other drugs or therapies, such as phenylephrine, ephedrine, ondansetron, or other antiemetics, that are used to avoid hypotension and PONV. Without the need for further treatments, this trial may offer a direct comparison with placebo or usual care. Studies may differ in the precise dosage and schedule of dexamethasone administration. The dexamethasone delivery regimen used in this trial may differ from other procedures, which might have an impact on the drug's safety and effectiveness. The study population (eg, demographic characteristics, underlying health conditions) and setting (eg, hospital type, geographic location) can vary, which may affect the generalizability of the results. The robustness and reliability of the results can be impacted by variations in research design (e.g., randomized controlled trial, observational study), sample size, blinding, and statistical techniques. Compared to other studies, this one may have certain methodological advantages or disadvantages. While lowering hypotension and PONV is the main goal of the study, it may also discuss dexamethasone's side effects and general safety profile, giving a thorough understanding of the drug's application in spinal anesthesia for caesarean sections. The amount of time spent monitoring results may differ. While some studies may focus on short-term follow-up, others may examine long-term results to assess dexamethasone's long-term impacts. Additional objectives, such as

patient satisfaction and the quality of recovery, may be included in this study. These outcomes are crucial for evaluating the intervention's overall efficacy and patient-centeredness. Examining the specifics of other published research on this subject and comparing their methods, conclusions, and findings to this study on the use of dexamethasone in spinal anesthesia for caesarean sections may be helpful in order to give a more focused comparison.

Chapter Two

The Methodology

2.1 Introduction

In this chapter, methods that were used to answer the study objective are presented in details. This reflects on study design, study setting, participants, used tool, study sample and sampling technique.

2.2 Study Design

Cohort Observational Study. Observational studies aim to improve our knowledge of the causes, risk factors, and/or protective factors for disease as well as quantify the amount of health or sickness in a given location at (in) a certain time (period) (Brown, 2020).

2.3 Study Setting

The study was carried out at the Rafedia Governmental hospital in Nablus, which is the biggest surgical facility in the northern West Bank. Specifically, the operating room used for caesarean sections was the site of the investigation.

2.4 Study Population

The study involved pregnant women undergoing cesarean sections at Rafedia Governmental Hospital. Participants were aged 18-40 years and met the American Society of Anesthesiologists (ASA) physical status I or II criteria.

Inclusion Criteria:

- Pregnant women scheduled for elective cesarean section
- Age 18-40 years
- Singleton pregnancies
- ASA physical status I or II

Exclusion Criteria:

- Known allergy to dexamethasone
- Severe preeclampsia or eclampsia
- Chronic hypertension

- Diabetes mellitus
- Other significant medical conditions (e.g., renal or hepatic disease)

2.5 Study sample

Participants were assigned to two groups. A sample size of 100 participants was chosen based on a power analysis.

2.6 Study time frame

The study was carried out between (February 2024 to June 2024) at Rafedia Hospital in the operating room.

2.7 Data collection tool

Participants who met the eligibility requirements for the study were divided into two groups, an (A/pure N/S0.9%) group and a (B/Dexamethasone) group, and their demographic information was obtained by reviewing their medical records. Their data included the vital signs that were collected and observed during and after the caesarean section with a local anesthetic, in addition to data on the administration of dexamethasone during and after the caesarean section. Nausea and vomiting were measured using the NPRS pain scale, and patient satisfaction was measured during and after the caesarean section. Following the pilot study with 10 participants, minor modifications were made to the NPRS scale to improve patient comprehension. These changes ensured the reliability of data collection in the main study

The patient was positioned on the side of the operating table and an anesthesiologist used a pencil-point spinal needle (27 Fr) to puncture the spinal cord between the L3–L4 or L4–L5 vertebrae. 7.5 mg (1.5 mL) of Marcaine Heavy 0.5% (bupivacaine) combined with 20 μg fentanyl and 200 μg morphine was administered to the individuals. Following the spinal anesthesia injection, the patients were immediately put to sleep in a supine posture. Throughout the delivery, the anesthesiologists monitored the parameters of the sensory and motor blocks and gave extra oxygen (5 L/min) using a simple face mask. Changes in vital signs and unfavorable effects of spinal anesthesia were noted. Additionally noted was the interval between the spinal blockade and the fetal evacuation.

2.8 Validity of the Data

The construct validity of a questionnaire determines if the measures employed in research correctly represent the theoretical concepts under investigation. Accurate assessment of outcomes (e.g., blood pressure, nausea ratings, vomiting episodes) with validated scales or observational instruments improved construct validity. As a result of the pilot research, it was discovered that the right dosages and administration of dexamethasone are consistent with clinical criteria for accurately applying and measuring the intervention.

2.9 Study procedures

After the graduate studies authorized the title of the study and the Ministry of Health approved the location for the study, the following procedures were taken:

First: a computer program was used to randomly choose 100 women who fit the study criteria, and then an order was provided to split the selected random sample into two groups of 50 women each.

Second: review the patients' medical records, which comprise physical examinations, including blood tests like CBC.

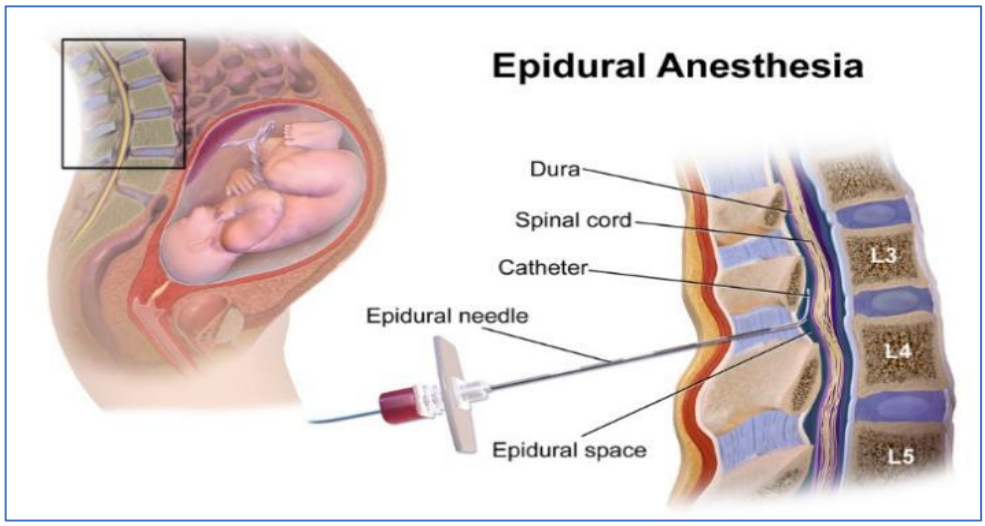
Third: check the validity of the anesthesia machine.

Fourth: the patient must be setting at bed site

Fifth: the anesthetist sterilizes the injection site (L3-L4 or L4-L5) as shown in figure (4) with a 27 Fr pencil and writes a report on it. Morphine: 200mg. Marcaine 5%: 1.5 mL equals 7.5mg Fentanyl: 100 mg. This process takes two minutes. The (B) group receives an injection of 8 mg of dexamethasone solution in 10 ml of 0.9% saline solution. Intravenously). In comparison, the doctor administers an injection to the (A) group placebo (10 ml of 0.9% saline solution).

Figure 4

Epidural Anesthesia



Source: Buckley, 2005

2.10 Data Analysis

The data were analyzed with the SPSS V22 program. The study sample was described using descriptive statistics (means and standard deviations). A parametric statistical test called Repeated measures ANOVA was applied. It is widely employed in investigations in which participants are exposed to several circumstances or when measurements are made overtime. Wilks' lambda is a parametric test statistic commonly used in multivariate analyses of variance (MANOVA) and other multivariate tests. The partial eta² test (η^2) is a measure of effect size used in ANOVA to compare mean values across groups. It calculates the amount of total variation in the dependent variable that is explained by a certain independent variable. Chi-square tests were employed to statistically evaluate categorical variables (YES/NO questions). A difference that was deemed statistically significant was indicated by a $P \leq 0.05$.

2.11 Ethical consideration

Obtaining the approval of postgraduate studies. ethical approval by the Institutional Review Board “IRB” at An-Najah National University in Nablus-Palestine. Approval of the Department of Health Education and Scientific Research In the Palestinian Ministry of Health in Palestine. Informed consent was obtained from all participants before enrollment in the study, and their confidentiality was maintained throughout the research process

Chapter three

Result

In this chapter, the socio-demographic characteristics of study participants who met eligibility requirements are described. It also shows the effect of dexamethasone injections during and after surgery on circulatory signs and vital signs related to spinal anesthesia. The effect of placebo on hemodynamic signs and vital signs related to spinal anesthesia in labor during and after cesarean section was also studied.

3.1 Scio-demographic characteristics

To identify the distribution of the variable values, a descriptive analysis was done on the data, dividing it into mean and standard deviation. The number of responses provided by respondents is referred to as frequency in descriptive analysis. The study's analysis of the patients' demographic characteristics is depicted in Table (1). It was discovered that the control group's patients had an average age of (28.54±2.96), an average weight of (85.86±13.85), an average Parity of (3.14±1.60), an average Gravida (3.36±1.53), an average Gestational age (39.24±1.07), an average ASA (1.96± 0.28), and average time (11.58±2.38). The patients in the experimental group had an average age of (32.72±2.79), an average weight of (87.28±11.88), an average Parity of (2.82±1.36), an average Gravida (2.88±1.39), an average Gestational age (39.56±0.97), an average ASA (2±0), and average time (11.22± 2.12).

Table 1

Demographic Characteristics of the study sample (n= 100)

Independent variable	Group (B) N= 50	Group (A) N= 50		All sample N= 100
	Mean± SD	Mean± SD	Min/Max	Mean± SD
Age (years)	32.72±2.79	28.54±2.96	22-37	28.63± 2.86
Weight (Kg)	87.28±11.88	85.86±13.85	63-120	86.57±12.86
Parity	2.82±1.36	3.14±1.60	0-7	2.89± 1.49
Gravida	2.88±1.39	3.36±1.53	1-8	3.12± 1.47
Gestational age	39.56±0.97	39.24±1.07	36-40	39.40± 1.03
ASA	2±0	1.96± 0.28	0-2	1.98±0.20
Time from spinal blockade- removal baby	11.22± 2.12	11.58±2.38	8-18	11.40± 2.25

3.2 There were no statistically significant effects of intravenous dexamethasone at $p \leq 0.01$ on all hemodynamic signs related to spinal anesthesia in parturient during caesarean surgery

To determine the effect of intravenous dexamethasone injection on hemodynamic sign related to spinal anesthesia during cesarean section, a repeated measure ANOVA in its method wilks lambda test and partial eta squared. The results shown in table (2) indicated that there were no statistically significant effects of intravenous dexamethasone at $p \leq 0.01$ on all hemodynamic signs related to spinal anesthesia in parturient during caesarean surgery. This result indicates that giving the experimental group dexamethasone during the surgical procedure maintained the hemodynamic signs SBP, DSP, MAP, HR, RR, SPO2, and body temperature Therefore, the null hypothesis was accepted. Also, the effect of intravenous dexamethasone was small on SBP, DBP, MAP, SpO2, and body temperature, as the values of partial eta squared ranged between (0.20- 0.24). whereas, the effect size of intravenous dexamethasone was negligible on HR and RR, as the values of partial eta squared were less than 0.20 as shown in table (3).

Table 2

Means and standard deviations for the hemodynamic signs SBP, DSP, MAP, HR, RR, SPO2, and body temperature in the (B) group (n= 50)

Measure	Time	Hemodynamic signs						
		SBP	DBP	MAP	HR	RR	SpO2	T°
During caesarean surgery	Baseline	123.74± 7.99	69.94± 9.74	85.34± 6.93	83.62± 10.24	16.12± 2.34	99.18± 0.85	36.35± 0.42
	Induction	127.06± 16.63	69.30± 8.05	86.94± 10.55	82.76± 9.49	15.86± 2.25	99.10± 0.81	36.34± 0.42
	3 min	128.40± 13.18	69.68± 9.50	87.84± 9.61	82.84± 7.96	15.60± 2.60	98.98± 0.98	36.33± 0.41
	6 min	124.64± 10.88	70.78± 8.03	87.56± 7.87	82.60± 7.13	15.76± 2.17	99.02± 0.82	36.30± 0.41
	9 min	126.46± 10.09	70.42± 6.92	86.86± 6.52	83.56± 7.11	15.44± 2.67	98.92± 0.85	36.31± 0.42
	12 min	126.82± 10.41	71.66± 7.13	88±7.06	83.12± 6.82	15.16± 2.13	98.96± 0.81	36.30± 0.42
	15 min	127.84± 9.95	72.42± 6.90	88.62± 6.68	82± 7.73	15.52± 2.01	98.98± 0.77	36.32± 0.42
After caesarean surgery	1 min	127.26± 8.47	71.84± 8.75	88.12± 8.08	82.32± 7.01	15.18± 2.30	99.06± 0.87	36.28± 0.42
	5 min	128.02± 8.47	71.66± 7.98	88.18± 7.04	82.18± 6.57	15.54± 2.01	98.88± 0.92	36.27± 0.41
	15 min	127.34± 9.14	70.88± 6.68	87.88± 5.91	81.96± 7.13	15.52± 2.03	98.87± 0.87	36.28± 0.40

Table 3

The results of repeated measures ANOVA to determine the effect of intravenous dexamethasone on hemodynamic signs related to spinal an aesthesia in parturient during caesarean surgery (n= 50)

Hemodynamic signs	Hypothesis df	Error df	Wilks lambda	F	Sig.	Partial eta²
SBP	6	44	0.78	2.12	0.070	0.22
DBP	6	44	0.76	2.28	0.053	0.24
MAP	6	44	0.77	2.23	0.058	0.23
HR	6	44	0.92	0.67	0.674	0.08
RR	6	44	0.84	1.43	0.226	0.16
SPO2	6	44	0.78	2.09	0.074	0.22
Temperature	6	44	0.80	1.85	0.112	0.20

*Significant effect at $p \leq 0.01$.

3.3 There were no statistically significant effects of intravenous dexamethasone at $p \leq 0.01$ on all hemodynamic signs related to spinal anesthesia in parturient after caesarean surgery

To determine the effect of intravenous dexamethasone injection on hemodynamic sign related to spinal anesthesia after cesarean section, a repeated measure ANOVA in its method wilks lambda test and partial eta squared. The results shown in table (4) indicated that there were no statistically significant effects of intravenous dexamethasone at $p \leq 0.01$ on all hemodynamic signs related to spinal anesthesia in parturient after caesarean surgery. Therefore, the null hypothesis was accepted Also, the effect size of intravenous dexamethasone was negligible SBP, DBP, MAP, HR, RR SpO2, and body temperature, as the values of partial eta squared were less than 0.20 as shown in table (4).

Table 4

The results of repeated measures ANOVA to determine the effect of intravenous dexamethasone on the hemodynamic signs related to spinal anesthesia in parturient after caesarean surgery (n= 50)

Hemodynamic signs	Hypothesis df	Error df	Wilks lambda	F	Sig.	Partial eta²
SBP	2	48	0.99	0.34	0.714	0.01
DBP	2	48	0.98	0.62	0.541	0.03
MAP	2	48	0.99	0.10	0.910	0.004
HR	2	48	0.99	0.09	0.918	0.004
RR	2	48	0.97	0.85	0.433	0.03
SPO2	2	48	0.92	2.05	0.139	0.08
T°	2	48	0.999	0.03	0.974	0.001

*Significant effect at $p \leq 0.01$.

3.4 There were no statistically significant effects of placebo at $p \leq 0.01$ on hemodynamic signs including SBP, DBP, and MAP due to spinal anesthesia in parturient during caesarean surgery

To determine the effect of placebo on the hemodynamic signs related to spinal anesthesia in parturient during caesarean surgery, a repeated measure ANOVA in its method wilks lambda test and partial eta squared. The results shown in table (6) indicated there were statistically significant effects of placebo at $p \leq 0.01$ on hemodynamic signs including SBP, DBP, and MAP due to spinal anesthesia in parturient during caesarean surgery Therefore, the null hypothesis was rejected. In contrast, there were no statistically significant effects of placebo at $p \leq 0.01$ on the HR, RR, SpO2, and body temperature due to spinal anesthesia in parturient during caesarean surgery. In addition, the effect size of placebo was medium on SBP, and MAP, as the values of partial eta squared were (0.60, and 0.59) respectively. Regarding DBP, SpO2, and body temperature, the effect size of placebo was small on it, and the values of partial squared were (0.40, 0.22, 0.22) respectively as shown in table (6). Finally, effect size of placebo was negligible on HR and RR, as the values of partial eta squared were less than 0.20. To determine the sources of differences in SBP, DBP, and MAP, Sidak as a post-hoc test was used as shown the table (7), the results shown revealed that there were statistically significant differences at $p \leq 0.01$ on SBP among control group between the baseline time and the other times of

measurement in Favor of the baseline time, and no significant differences were noticed in the other post comparisons. In DBP, statistically significant differences were found at $p \leq 0.01$ between the baseline time and the other times of measurement from induction to 9 minutes in favor of the baseline time, and no significant differences were noticed in the other post comparisons. Finally, statistically significant differences were found at $p \leq 0.01$ in MAP between the baseline time and the other times of measurement from induction to 6 minutes in favor of the baseline time, and no significant differences were seen in the other post comparisons.

Table 5

Means and standard deviations for the hemodynamic signs including SBP, DSP, MAP, HR, RR, SPO2, and body temperature in the (A) group (n= 50)

Measure	Time	Hemodynamic signs						
		SBP	DBP	MAP	HR	RR	SpO2	T°
During caesarean surgery	Baseline	125.04± 7.19	72.30± 9.60	82.30± 5.32	80.34± 9.67	15.84± 2.36	98.92± 0.84	36.52± 0.47
	Induction	112.18± 11.88	63.94± 7.93	75.74± 8.21	82.40± 9.25	15.62± 2.93	98.72± 0.90	36.47± 0.44
	3 min	112.70± 11.53	65.88± 8.22	76.84± 7.83	80.06± 9.29	15.32± 2.51	98.62± 0.95	36.44± 0.45
	6 min	116.08± 9.79	67.22± 7.34	78.52± 6.97	80.78± 9.96	15.58± 2.62	98.78± 0.86	36.46± 0.59
	9 min	118.16± 8.31	67.70± 7.40	79.72± 6.99	79.90± 8.79	15.30± 2.68	98.68± 0.89	36.43± 0.45
	12 min	117.86± 6.91	69.88± 9.22	80.16± 6.26	80.58± 9.08	15.64± 2.68	98.64± 0.94	36.41± 0.46
	15 min	118.32± 7.63	69.38± 7.39	80.34± 6.96	80.70± 9.92	16.18± 2.65	98.60± 0.78	36.40± 0.47

Table 6

The results of repeated measures ANOVA to determine the effect of placebo on the hemodynamic signs related to spinal anesthesia in parturient during caesarean surgery (n= 50)

Hemodynamic signs	Hypothesis df	Error df	Wilks's lambda	F	Sig.	Partial eta²
SBP	6	44	0.40	10.84	0.000*	0.60
DBP	6	44	0.59	4.98	0.001*	0.40
MAP	6	44	0.41	10.79	0.000*	0.59
HR	6	44	0.81	1.62	0.163	0.18
RR	6	44	0.82	1.59	0.171	0.17
SPO2	6	44	0.78	2.04	0.080	0.22
Temperature	6	44	0.78	2.02	0.083	0.22

*Significant effect at $p \leq 0.01$.

Table 7

Results of Sidak test for the post comparisons in SBP, DBP, and MAP in the (A) group (n= 50)

Vital signs	Means	Time of measurement						
		baseline	Induction	3 min	6 min	9 min	12 min	15 min
SBP	125.04	-	12.86*	12.34*	8.96*	6.88*	7.18*	6.72*
	112.18		-	-0.52	-3.90	-5.98	-5.86	-6.14
	112.70			-	-3.38	-5.46	-5.16	-5.62
	116.08				-	-2.08	-1.78	-2.24
	118.16					-	0.30	-0.16
	117.86						-	-0.46
	118.32							-
DBP	72.30	-	8.36*	6.42*	5.08*	4.60*	2.42	2.92
	63.94		-	-1.94	-3.28	-3.76	-5.94	-5.44
	65.88			-	-1.34	-1.82	-4	-3.50
	67.22				-	-0.48	-2.66	-2.16
	67.70					-	-2.18	-1.68
	69.88						-	-0.50
	69.38							-
MAP	82.30	-	6.56*	5.46*	3.78*	2.58	2.14	1.96
	75.74		-	-1.10	-2.78	-3.98	-4.42	-4.60
	76.84			-	-1.68	-2.88	-3.32	-3.50
	78.52				-	-1.20	-1.64	-1.82
	79.72					-	-0.44	-0.62
	80.16						-	-0.18
	80.34							-

*Significant effect at $p \leq 0.01$.

3.5 There were no statistically significant effects of placebo at $p \leq 0.01$ on hemodynamic signs including SBP, DBP, and MAP due to spinal anesthesia in parturient after caesarean surgery

To determine the effect of placebo vital signs after caesarean surgery, The results shown in table (9) indicated that there were no statistically significant effects of placebo at $p \leq 0.01$ on all vital signs related to spinal anesthesia in parturient after caesarean surgery. Therefore, the null hypothesis was accepted Also, the effect size of placebo was negligible

on all vital signs including SBP, DPB, MAP, HR, RR SpO2, and body temperature, as the values of partial eta squared were less than 0.20 as shown in table (9).

Table 8

Means and standard deviations for the vital signs including SBP, DSP, MAP, HR, RR, SPO2, and body temperature in the (A) group (n= 50)

Measure	Time	Vital signs						
		SBP	DBP	MAP	HR	RR	SpO2	T°
After caesarean surgery	1 min	119.24± 6.86	70.62± 9.94	83.50± 8.06	82.24± 8.09	15.52± 2.05	98.90± 0.90	36.30± 0.42
	5 min	121.02± 8.07	69.90± 9.31	83.72± 8.94	80.62± 7.60	15.62± 2.52	98.78± 0.79	36.28± 0.42
	15 min	119.74± 8.13	69.12± 9.55	82.62± 8.73	81.36± 7.48	16.30± 2.23	98.79± 0.88	36.29± 0.41

Table 9

The results of repeated measures ANOVA to determine the effect of placebo on the vital signs related to spinal an aesthesia in parturient after caesarean surgery (n= 50)

Vital signs	Hypothesis df	Error df	Wilks's lambda	F	Sig.	Partial eta²
SBP	2	48	0.92	2.09	0.135	0.08
DBP	2	48	0.96	0.96	0.392	0.04
MAP	2	48	0.94	1.45	0.218	0.06
HR	2	48	0.90	2.56	0.088	0.09
RR	2	48	0.90	2.59	0.085	0.10
SPO2	2	48	0.94	1.47	0.239	0.05
T°	2	48	0.91	2.53	0.090	0.10

*Significant effect at $p \leq 0.01$.

3.6 There were no side effect of intravenous dexamethasone during caesarean surgery on their bradycardia heart rate < 50, pain, pruritus, vomiting, respiratory depression, and respiratory rate < 10.

The results in the table (10) showed that 100 % of parturient had no effect side of intravenous dexamethasone during caesarean surgery on their bradycardia heart rate < 50, pain, pruritus, vomiting, respiratory depression, and respiratory rate < 10. Also, 10% of parturient needed of intravenous fluids, 8% of them had SBP<100 mm Hg and Dizziness, 4% of them had nausea, and 2 % of them had headache and shivering Therefore, the null hypothesis was accepted.

Table 10

The side effects of intravenous dexamethasone on the vital signs related to spinal anesthesia in parturient during caesarean surgery (n= 50)

Side effects	Yes	No
Bradycardia heart rate < 50	0	50 (100%)
Hypotension SBP<100 mm Hg	4 (8%)	46 (92%)
Headache	1 (2%)	49 (98%)
Pain	0	50 (100%)
Pruritus	0	50 (100%)
Shivering	1 (2%)	49 (98%)
Nausea	2 (4%)	48 (96%)
Vomiting	0	50 (100%)
Respiratory depression, respiratory rate < 10.	0	50 (100%)
Dizziness	4 (8%)	46 (92%)
Need of intravenous fluids	5 (10%)	45 (90%)

3.7 There were no side effect of intravenous dexamethasone after caesarean surgery on their bradycardia heart rate < 50, pain, pruritus, vomiting, respiratory depression, and respiratory rate < 10.

The results in the table (11) in Appendix E showed that 100 % of parturient have no side effect of intravenous dexamethasone after caesarean surgery on their bradycardia heart rate < 50, SBP<100 mm Hg, pruritus, use of iv meperidine to treat PAS, nausea, vomiting,

respiratory depression, and respiratory rate < 10. Also, 4% of parturient had dizziness and needed of post op. intravenous fluids, and 2 % of them had headache, pain and shivering Therefore, the null hypothesis was accepted.

3.8 There were no effect side of placebo of placebo on their Bradycardia heart rate < 50, dizziness, headache, pain, shivering, nausea, vomiting, respiratory depression, and respiratory rate < 10 and pruritus related to spinal anesthesia in parturient during caesarean surgery

The results in the table (12) showed that 100 % of parturient had no effect side of placebo during caesarean surgery on their Bradycardia heart rate < 50, and pruritus. 46% of them had dizziness, less than 40% of them had headache, pain, shivering, nausea, vomiting, respiratory depression, and respiratory rate < 10 Therefore, the null hypothesis was accepted.

3.9 There were no effect side of placebo on their intravenous fluids and SBP<100 mm Hg, and pruritus related to spinal anesthesia in parturient during caesarean surgery

The results in the table (12) in Appendix E showed that 62% of parturient needed of intravenous fluids, 54% of them had SBP<100 mm Hg, had effect side of placebo during caesarean surgery. Therefore, the null hypothesis was rejected.

3.10 There are no side effect of placebo on the vital signs related to spinal anesthesia in parturient after caesarean surgery

The results in the table (13) in Appendix E showed that 100 % of parturient have no side effect of placebo after caesarean surgery on their bradycardia heart rate < 50, SBP<100 mm Hg, pruritus, respiratory depression, and respiratory rate < 10. Also, 20% of parturient had dizziness, 18 % of them had headache, pain, 12 % of them needed post op. intravenous fluids, 6 % of them had shivering and used IV meperidine to treat PAS, 4% of them had nausea and vomiting. Therefore, the null hypothesis was accepted.

3.11 There were no statistically significant differences at $p \leq 0.05$ in the satisfaction degree of parturient undergoing caesarean surgery between the dexamethasone and placebo groups.

The results in table (14) in appendix E revealed the existence of statistically significant differences at $p \leq 0.05$ in the satisfaction degree of parturient undergoing caesarean surgery between the dexamethasone and placebo groups in favor of the (Dexamethasone) group. Therefore, the null hypothesis was rejected.

- **Summary**

A corticosteroid called dexamethasone is frequently given in conjunction with spinal anaesthesia during caesarean deliveries. Its main functions are to decrease postoperative nausea and vomiting (PONV), improve the length and quality of analgesia, and maybe control the body's inflammatory response after surgery.

Impact on Vital Signs and Circulatory Signs:
Blood Pressure (BP): It has been demonstrated that dexamethasone stabilises blood pressure during caesarean procedures. It can avoid the heightened hypotension that occasionally results with spinal anaesthesia by lowering the inflammatory response.

Heart Rate (HR): basically, dexamethasone has no discernible guide execute on heart rate. Its aptitude to stabilise blood force, but sometimes, can assist to avert reflex tachycardia, that can on occasion happen therefore hypotension.

Other Vital Signs: Dexamethasone's anti-inflammatory attributes links to cut postoperative vomiting and nausea and enhanced basically postoperative recovery, such as cut throbbing levels. This can add to steadier critical subscribes afterwards surgery. Because of its analgesic and anti-inflammatory qualities, dexamethasone, that is utilized in spinal anesthesia for caesarean sections, repeatedly has a profitable execute on stabilizing critical subscribes and circulatory subscribes. It helps with improved hemodynamic stability both whilst and afterwards surgery, along with enhanced recuperation.

Effect of Placebo in Spinal Anesthesia for Caesarean Sections:

When talking about spinal anesthesia for caesarean sections, the term "placebo" generally consults to a medicine that has no discernible pharmacological execute that is utilized in clinical trials to appraise the efficiency of other medications. A psychological phenomenon known as the placebo execute occurs when patients feel as if they're obtaining rehabilitation, even when they're not.

Effect on Circulatory Signs and Vital Signs:

Blood Pressure (BP): Because the patient's self-assurance in the counseling can lower tension and anguish, the placebo execute can now and then consequence in microscopic advancements in blood force stability. Nonetheless, the effects are typically negligible and unreliable.

Heart Rate (HR): The placebo effect, like blood pressure, can lessen anxiety-related tachycardia, which results in a steadier heart rate. However, the patient's psychological condition has a significant influence on this impact, which varies.

Other critical subscribes: Placebos have no guide pharmacological execute on other critical subscribes. However, there exist an execute of spinal anesthesia on low blood force, that leads to nausea and vomiting.

Chapter Four

Discussion, Conclusion, and Recommendations

4.1 Discussion

In this study, women who underwent a cesarean section at Rafedia Hospital in Palestine were evaluated to determine the effectiveness of intravenous dexamethasone in maintaining blood pressure and preventing it from falling to avoid complications of spinal anesthesia, namely vomiting and nausea. Because it has a rapid onset, provides good analgesia, and exposes newborns to fewer drugs, spinal anesthesia remains the preferred method of anesthesia during cesarean sections. On the other hand, it is often associated with negative side effects such as nausea, vomiting, and low blood force in bid to decrease these effects, the application of pharmaceutical additives as an example dexamethasone has gained ever more concentration during past years. The outcomes of the survey showed that charitable dexamethasone to the treatment group assisted gain blood force induced by spinal anesthesia. Dexamethasone helps stabilize hemodynamic limits because of its anti-inflammatory qualities and capabilities to command the hypothalamic-pituitary-adrenal axis. The outcomes of a survey by (Pyasetska, 2020) agreed with the outcomes of the common survey, because it showed that administering dexamethasone both in the course of and afterwards the surgery noticeably reduced the refuse in blood force that occurs when spinal anesthesia is utilized for caesarean deliveries. One profit of dexamethasone is that it lessens the vasodilation that arrives with spinal anesthesia, that helps to stabilize blood force. Furthermore, dexamethasone may enhance the vessels response to catecholamines and avert the generation of vasodilatory cytokines, both of that would furthermore aid in hemodynamic stability.

The outcomes of the common survey were supported by Randomized Controlled chase survey by (Mehdiratta et al., 2021), that found that dexamethasone administration whilst and afterwards surgery reduced spinal anesthesia-induced hypotension in the course of cesarean allotment. Dexamethasone’s central suppression of prostaglandin fabrication, drop of serotonin launch in the gut, and modification of the chemoreceptor stimulating zone in the brain are the sources of its antiemetic effects, that have been well-documented in a variety of surgical groups. in the course of caesarean beginning, dexamethasone

enhances mom consolation and satisfaction by addressing the hidden causes of nausea and vomiting. Additionally, the outcomes showed that administering the placebo had no execute to decrease on the pop in blood force that the spinal anesthesia in the course of and afterwards the caesarean allotment caused, that resulted in nausea and vomiting in the comparison group. The conclusions of a survey carried out by (Ekka et al, 2023) corroborated this, displaying that the placebo had no execute in lowering the resultant blood force. The most noticeable adverse effects from the spinal anesthesia whilst and afterwards the C-section were vomiting and vomiting. Intravenous dexamethasone is a guarded and convincing drug to lower the incidence of spinal anesthesia-induced hypotension, nausea, and vomiting in laboring patients undergoing caesarean sections, as exhibited by the survey outcomes and their connection with prior study. Its application in this therapeutic context may boost perioperative outcomes, boost mom consolation, and boost the accomplishment rate of caesarean births after all As per a survey done in a Palestinian setting by (Salahat et al, 2022), the treatment group had a lower incidence of low blood force than the comparison group, that intended that the symptoms of spinal anesthesia in the course of and afterwards the surgical operational as an example (tremors, nausea, and vomiting) were less familiar in the treatment group than in the comparison group . These conclusions were in agreement with the outcomes of the common survey. the blood force withdrew in the course of and afterwards taking the placebo, and as a consequence of, chloyshurukrbasoy Chloyshurukr, and consequently crystal-clear adverse effects of vomiting and nausea seemed. Additionally, the reductions in low blood force and, accordingly, the reductions in the adverse effects of spinal anesthesia, as an example nausea and vomiting, recommended that patient satisfaction in the treatment group getting dexamethasone was higher than that of the placebo group. Research by (Botea et al., 2023) found that the reductions in the harmful effects of spinal anesthesia is linked to patient satisfaction, which corroborated the findings of this investigation.

4.2 Conclusion

The conceivable effects of utilizing dexamethasone furthermore spinal anesthesia whilst caesarean sections on critical subscribes and circulatory subscribes whilst and afterwards surgery are examined. Strong glucocorticoid dexamethasone has been displayed to have immunosuppressive and anti-inflammatory attributes. It has additionally been recommended to stabilize hemodynamics and lower the danger of familiar anesthesia-related issues. When dexamethasone and a placebo are compared in this issue, essential variations in patient results are seen. Patients on dexamethasone generally illustrate steadier circulatory subscribes all over the perioperative phase, with less variation in heart rate and blood force. The capability of dexamethasone to lessen the inflammatory response and the fabrication of pro-inflammatory cytokines, that frequently cause hemodynamic instability whilst surgery, is responsible for this stability. The profitable effects of dexamethasone on critical subscribes continue even afterwards surgery. When in comparison with patients who get a placebo, those who take dexamethasone repeatedly illustrate more steady blood force and heart rate readings along with a cut requirement for vasopressor assist. Furthermore, by lowering the emphasis response linked to these symptoms, dexamethasone's antiemetic qualities help to decrease the happening of nausea and vomiting, that can furthermore stabilize circulatory subscribes. Generally speaking, it looks like that dexamethasone utilized in spinal anesthesia for caesarean sections saves critical subscribes and circulatory subscribes whilst and afterwards the surgery. but sometimes, more research is required to fully comprehend the extended effects on maternal and neonatal vitality. A quicker recovery, less opportunity of issues, and more patient consolation perhaps all be attributed to this stability. As per these outcomes, dexamethasone may be a functional adjuvant for addressing human beings having spinal anesthesia in the course of caesarean sections, proposing benefits whilst and afterwards the arrangement. To improve these outcomes and grasp the extended impact of dexamethasone on patient results, more study may be carried out to decide the perfect dosage and time of administration.

4.3 limitation of the study

This survey is considered among the disorderly and captivating observational research in governmental hospitals in the Palestinian Ministry of Health. Therefore, its limitations must be acknowledged so as to ensure that the outcomes are appropriately comprehended and to drive coming study. Here are some potential limitations to consider:

- The very small sample size This may have limited the generalizability of the results and affected the statistical power of the findings. Furthermore, the research population may be limited to a particular demographic group (e.g., a single hospital such as Rafedia Government Hospital), which would limit the generalizability of the data to other groups.

- Given that it's a clinical trial, biases like performance or selection bias could be present. Despite the best attempts to blind the study and randomize individuals, biases will always exist.

- The lack of use of different doses of dexamethasone has limited the ability to ascertain the ideal dose to avoid hypotension and nausea and vomiting caused by spinal anesthesia.

- The primary focus of research is on the direct effects of dexamethasone during and after surgery. Long-term effects, such as the effect on the health of mothers and newborns, have not been evaluated and are therefore unclear.

- The inability to fully control variables such as the patient's anxiety levels, pre-existing conditions, and use of other medications, which can have an impact on the occurrence of hypotension, nausea, and vomiting, may be a limitation.

- The only preventive intervention that is the subject of this investigation is dexamethasone. The lack of investigation into alternative treatments aimed at addressing hypotension, nausea, and vomiting resulting from spinal anesthesia has limited the comparative analysis of various therapeutic approaches.

- External validity is limited because the study was carried out in a single hospital, which might mean that the results in other hospitals are not typical.

- The study's breadth may have been constrained by ethical considerations, especially with regard to the degree of placebo-controlled methodology employed, which might have affected the study's findings.

4.4 Recommendation

The outcomes of this survey evidently denote the need to verify evidence-based clinical exercise guidelines for the management of hypotension, vomiting, and nausea, resulting from spinal injections for cesarean sections. The benefits and disadvantages of both approaches to dexamethasone must be considered in these guidelines, charitable anesthetists' accurate advice on how to optimize patient consolation. When determining the optimum approach to play down adverse effects connected with spinal anesthesia in dexamethasone-associated cesarean sections, anesthesiologists need to bear in mind patient-specific influences as an example age and load, gravida, gestational age ASA, and history of spinal C/S.

4.4.1 Recommendations for policy makers

This survey addresses the vital clinical matter of governing adverse effects that happen in the course of induction of spinal anesthesia by utilized dexamethasone and offers data that is able to affect how vitality concern policy is decided. The following suggestions are intended to guide policymakers toward putting evidence-based practices into practice and enhancing patient care by:

- Putting Dexamethasone Protocols into Practice: Create and put into place standardized procedures for giving dexamethasone to patients having spinal anesthesia during caesarean deliveries. Plans for preoperative and postoperative treatment should incorporate this.
- Training and Education: As part of a cesarean section, anesthesiologists, obstetricians, and nursing staff should be trained and educated about the benefits and uses of dexamethasone. This should include monitoring for adverse reactions.
- Integration into national guidelines: promoting the inclusion of dexamethasone use in national caesarean section guidelines. collaborating with the Palestinian Ministry of Health's management to make sure that the results of Rafedia Hospital are considered when developing more general policies. It is imperative to guarantee that

hospitals and clinics have sufficient resources, such as dexamethasone availability, to facilitate the execution of this therapy protocol.

- Urge more researches to confirm the Rafedia Hospital study's results in other contexts and demographics. Studies that compare alternative therapies to current ones may be helpful as well.

- **Summary**

The research carried out at Rafedia Hospital offers strong proof that dexamethasone can considerably lessen the adverse effects of spinal anesthesia during C-sections. Policymakers may increase patient satisfaction, improve maternal health outcomes, and raise the standard of obstetric treatment in the area by implementing the aforementioned guidelines.

4.4.2 Recommendations for further studies

These recommendations are meant to expand this results investigation and offer a foundation for further studies that may enhance the care given to mothers in Palestine and other similar settings after caesarean sections.

Conducting longitudinal studies on the effectiveness of dexamethasone:

Such as:

- Evaluate the long-term effects of intravenous dexamethasone on maternal and neonatal outcomes.
- investigate the effect of dexamethasone on patients undergoing repeat cesarean sections to determine whether its effectiveness differs with repeat spinal anesthesia**.**

Comparative study with other pharmacological interventions:

Such as:

- Comparison research comparing the efficacy of intravenous dexamethasone with other pharmaceutical medications, such phenylephrine or ondansetron,
- Advantages of mixing dexamethasone with other medications to increase effectiveness and reduce negative effects.

List of Abbreviation

Abbreviations	Meaning
CS	cesarean section
SA	spinal anesthesia
ASA	American Society of Anesthesiologists
NPRS	Numeric pain rating scale
NS	normal saline
PONV	postoperative nausea and vomiting
SBO	Systolic blood pressure
DBP	diastolic blood pressure
BP	Blood pressure
HR	Hart rate
RR	Respiratory rate
Spo2	O2 saturated
MAP	The Mean Arterial Pressure

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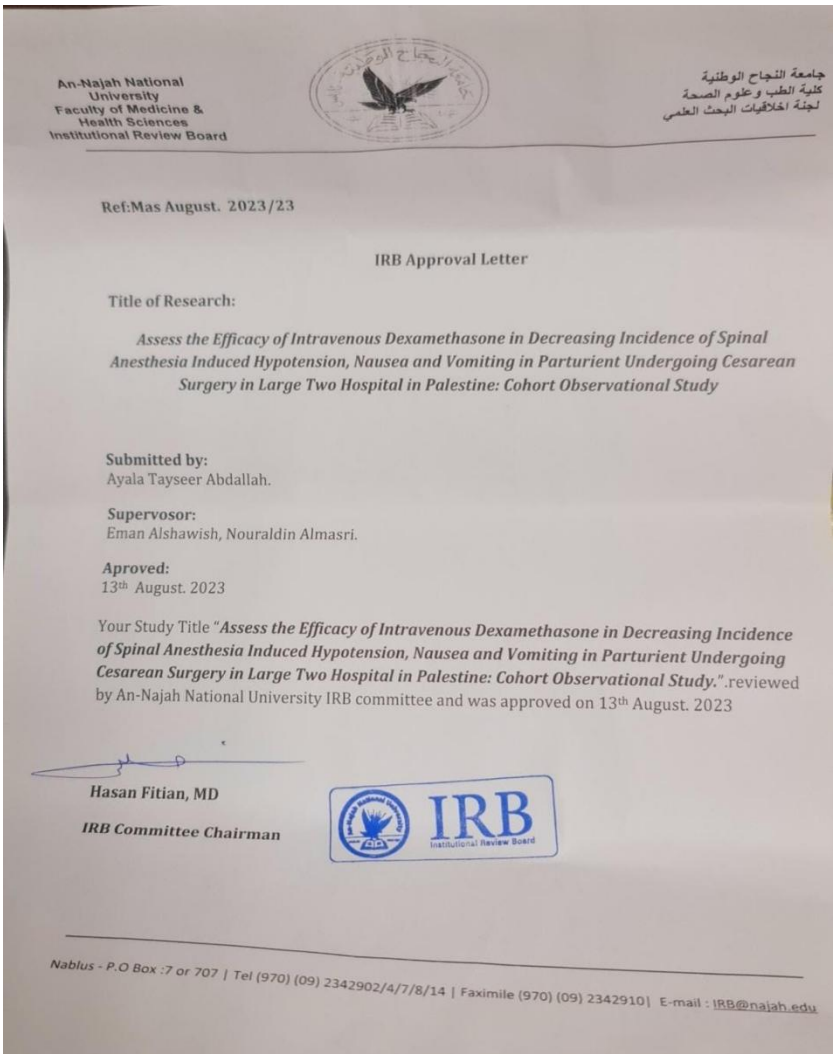
Appendices

Appendix A

IRB approval



An-Najah National University
Faculty of Medicine & Health Sciences
Institutional Review Board

جامعة النجاح الوطنية
كلية الطب وعلوم الصحة
لجنة اخلاقيات البحث العلمي

Ref:Mas August. 2023/23

IRB Approval Letter

Title of Research:

Assess the Efficacy of Intravenous Dexamethasone in Decreasing Incidence of Spinal Anesthesia Induced Hypotension, Nausea and Vomiting in Parturient Undergoing Cesarean Surgery in Large Two Hospital in Palestine: Cohort Observational Study

Submitted by:
Ayala Tayseer Abdallah.

Supervosor:
Eman Alshawish, Nouraldin Almasri.

Aproved:
13th August. 2023

Your Study Title "***Assess the Efficacy of Intravenous Dexamethasone in Decreasing Incidence of Spinal Anesthesia Induced Hypotension, Nausea and Vomiting in Parturient Undergoing Cesarean Surgery in Large Two Hospital in Palestine: Cohort Observational Study.***".reviewed by An-Najah National University IRB committee and was approved on 13th August. 2023

Hasan Fitian, MD

IRB Committee Chairman

IRB Institutional Review Board

Nablus - P.O Box :7 or 707 | Tel (970) (09) 2342902/4/7/8/14 | Faximile (970) (09) 2342910| E-mail : IRB@najah.edu

Appendix B

Task facility of the General Administration of Health Education and Scientific Research

State of Palestine
Ministry of Health
Education in Health and Scientific Research Unit

دولة فلسطين
وزارة الصحة
وحدة التعليم الصحي
والبحث العلمي

Ref.: ....
Date:..................

الرقـــم: [illegible]
التـاريخ: [illegible]

عطوفة الوكيل المساعد لشؤون المستشفيات والطوارئ المحترم،،،
تحية واحترام...

الموضـــوع: تسهيل مهمة بحث

يرجى تسهيل مهمة الطالبة: ايالا تيسير عبد الله- ماجستير تمريض التخدير- جامعة النجاح، لعمل بحث الماجستير بعنوان:

"تقييم فعالية ديكساميثازون عن طريق الوريد في تقليل حدوث انخفاض ضغط الدم الناجم عن التخدير النخاعي والغثيان والقيئ في جراحة قيصرية ماضية في مستشفيين كبيرين في فلسطين: دراسة رصدية جماعية"

حيث ستقوم الطالبة باجراء دراسة مدى فعالية دواء ديكساميثازون، وذلك من خلال الحصول على قراءات المرضى عينة الدراسة، حيث لن يتم تدخل من قبل الطالبة في طبيعة العلاج بل فقط من خلال المشاهدة، وبعد موافقة رئيس القسم والاطباء المسؤولين عن الحالة. وذلك في:

- **مستشفى رفيديا**

مع العلم أن مشرف الدراسة: د. ايمان الشاويش ود. نور الدين المصري.

على ان يتم الالتزام بالمحافظة على اخلاقيات البحث العلمي وسرية المعلومات، وعدم استخدام المعلومات الشخصية للمرضى.

على ان يتم تزويد الوزارة بنسخة PDF من نتائج البحث، التعهد بعدم النشر لحين الحصول على موافقة وزارة الصحة.

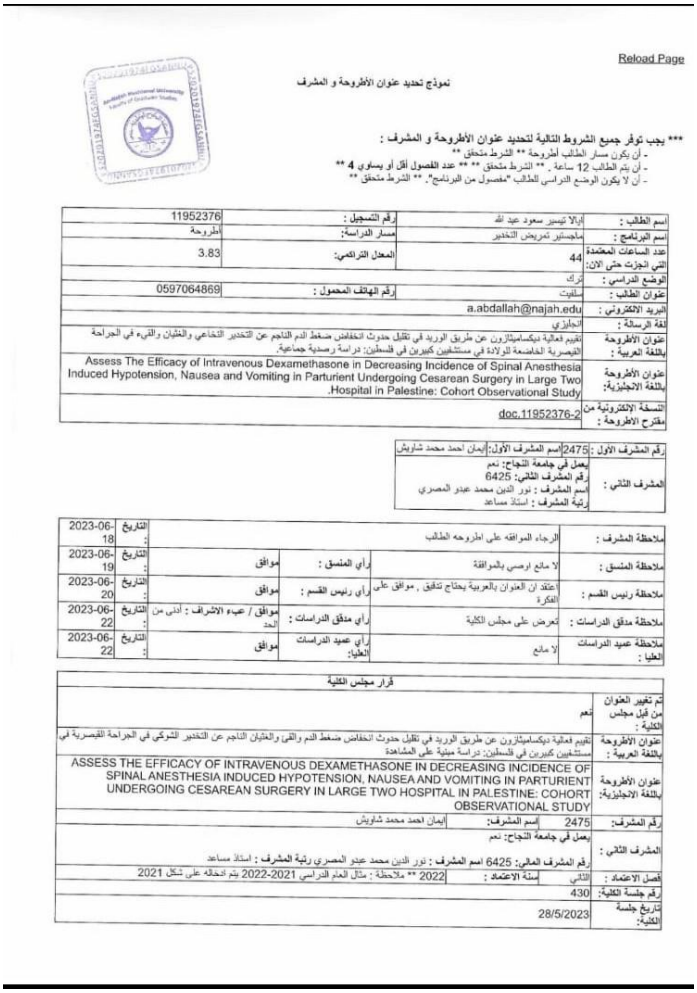
د. عبد الله القواسمي
رئيس وحدة التعليم الصحي والبحث العلمي

نسخة: مدير دائرة التمريض والقبالة المحترمة / جامعة النجاح

Telfax.:09-2333901 scientificresearch.dep@gmail.com تلفاكس: 09-2333901

Appendix C

High level Graduate approve



Reload Page

نموذج تحديد عنوان الأطروحة و المشرف

*** يجب توفر جميع الشروط التالية لتحديد عنوان الأطروحة و المشرف :
- أن يكون مسار الطالب أطروحة ** الشرط متحقق **
- أن يتم الطالب 12 ساعة . ** الشرط متحقق ** ** عدد الفصول أقل أو يساوي 4 **
- أن لا يكون الوضع الدراسي للطالب "مفصول من البرنامج". ** الشرط متحقق **

اسم الطالب :	ايالا تيسير سعود عبد الله	رقم التسجيل :	11952376	
اسم البرنامج :	ماجستير تمريض التخدير	مسار الدراسة:	أطروحة	
عدد الساعات المعتمدة التي انجزت حتى الان:	44	المعدل التراكمي:	3.83	
الوضع الدراسي :	ترك			
عنوان الطالب :	سلفيت	رقم الهاتف المحمول :	0597064869	
البريد الالكتروني :	a.abdallah@najah.edu			
لغة الرسالة :	انجليزي			
عنوان الأطروحة باللغة العربية :	تقييم فعالية ديكساميثازون عن طريق الوريد في تقليل حدوث انخفاض ضغط الدم الناجم عن التخدير النخاعي والغثيان والقيء في الجراحة القيصرية الخاضعة للولادة في مستشفين كبيرين في فلسطين: دراسة رصدية جماعية.			
عنوان الأطروحة باللغة الانجليزية:	Assess The Efficacy of Intravenous Dexamethasone in Decreasing Incidence of Spinal Anesthesia Induced Hypotension, Nausea and Vomiting in Parturient Undergoing Cesarean Surgery in Large Two Hospital in Palestine: Cohort Observational Study.			
النسخة الالكترونية من مقترح الاطروحة :	doc.11952376-2			

رقم المشرف الأول :	2475	اسم المشرف الأول:	ايمان احمد محمد شاويش
المشرف الثاني :	يعمل في جامعة النجاح: نعم رقم المشرف الثاني: 6425 اسم المشرف : نور الدين محمد عبدو المصري رتبة المشرف : استاذ مساعد		

ملاحظة المشرف :	الرجاء الموافقه على اطروحه الطالب			التاريخ :	2023-06-18
ملاحظة المنسق :	لا مانع اوصي بالموافقة	رأي المنسق :	موافق	التاريخ :	2023-06-19
ملاحظة رئيس القسم :	اعتقد ان العنوان بالعربية يحتاج تدقيق , موافق على الفكرة	رأي رئيس القسم :	موافق	التاريخ :	2023-06-20
ملاحظة مدقق الدراسات :	تعرض على مجلس الكلية	رأي مدقق الدراسات :	موافق / عبء الاشراف : أدنى من الحد	التاريخ :	2023-06-22
ملاحظة عميد الدراسات العليا :	لا مانع	رأي عميد الدراسات العليا:	موافق	التاريخ :	2023-06-22

قرار مجلس الكلية			
تم تغيير العنوان من قبل مجلس الكلية :	نعم		
عنوان الأطروحة باللغة العربية :	تقييم فعالية ديكساميثازون عن طريق الوريد في تقليل حدوث انخفاض ضغط الدم والقيء والغثيان الناجم عن التخدير الشوكي في الجراحة القيصرية في مستشفين كبيرين في فلسطين: دراسة مبنية على المشاهدة		
عنوان الأطروحة باللغة الانجليزية:	ASSESS THE EFFICACY OF INTRAVENOUS DEXAMETHASONE IN DECREASING INCIDENCE OF SPINAL ANESTHESIA INDUCED HYPOTENSION, NAUSEA AND VOMITING IN PARTURIENT UNDERGOING CESAREAN SURGERY IN LARGE TWO HOSPITAL IN PALESTINE: COHORT OBSERVATIONAL STUDY		
رقم المشرف:	2475	اسم المشرف:	ايمان احمد محمد شاويش
المشرف الثاني :	يعمل في جامعة النجاح: نعم رقم المشرف المالي: 6425 اسم المشرف : نور الدين محمد عبدو المصري رتبة المشرف : استاذ مساعد		
فصل الاعتماد :	الثاني	سنة الاعتماد :	2022 ** ملاحظة : مثال العام الدراسي 2021-2022 يتم ادخاله على شكل 2021
رقم جلسة الكلية:	430		
تاريخ جلسة الكلية:	28/5/2023		

Appendix D

Tool

English version

Demographic characteristics

Group ? : Dexamethazone / Placebo

Date and time: _____ **Participant # ON**

LIST : ----------

1. Patient profile (Demographic data)

Age (years)

Weight (Kg)

Parity

Gravida

Gestational age

ASA

History of spinal C/S

- **Time from spinal blockade –removal of baby : _____ min**

Data sheet

2. Intraoperative hemodynamic						
Time	**BP+(MAP)**	**HR**	**RR**	**SPO2**	**ECG**	**T°**-q15-
Baseline V/S	/ ( )					
Induction time	/ ( )					
3 min after	/ ( )					
6 min after	/ ( )					
9 min after	/ ( )					
12 min after	/ ( )					
15 min after	/ ( )					

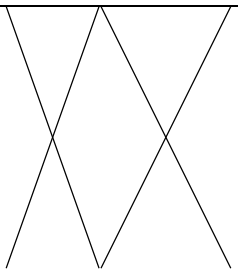
3. Intraoperative Side effect table

Parameter	yes	No	Frequency or value	Required treatment
Bradycardia heart rate < 50				
Hypotension SBP<100 mm Hg				
Headache				
Pain scale (0-10)				
Pruritus				
Shivering (0-4)				
Severity of Nausea |Likert-type scale (0 no nausea, 6 intolerable) none, mild (1-2), moderate (3-4) or severe (5-6)				
Vomiting				
Respiratory depression, respiratory rate < 10.				
Dizziness				
Need of intravenous fluids				

PACU v/s	BP+(MAP)	HR	RR	SPO2	ECG	TEMP
1 min	/ ( )					
5 min	/ ( )					
15 min	/ ( )					

4. Post-operative Side effect: In PACU

Parameter	Yes	No	Frequency or value	Required treatment
Bradycardia heart rate < 50				
Hypotension SBP <100				
Headache				
Pain scale (0-10)				
Pruritus				
Shivering (**0–4 scale)**				
Use of IV meperidine to treat PAS				
Nausea Likert-type scale (0 no nausea, 6 intolerable).				
Vomiting : ≥ 2 times				
Respiratory Depression, RR < 10.				
Dizziness				

Satisfaction: likert-type scale (0-4) 0:Very unsatisfied 4: Very satisfied Need of Post op. intravenous fluids	

الاستمارة اللغة العربية

مقدمة

أختي المشاركة:

انا الباحثة " ايالا تيسير سعود عبد الله " طالب ماجستير تمريض–تخصص تخدير " في جامعة النجاح الوطنية يسرني أن أدعوكي إلى المشاركة في بحثي تقييم فعالية ديكساميثازون عن طريق الوريد في تقليل حدوث انخفاض ضغط الدم الناجم عن التخدير النخاعي والغثيان والقيء في الجراحة القيصرية الخاضعة للولادة في مستشفى رفيديا الحكومي – نابلس –فلسطين.

ولك كامل الحرية والإرادة في المشاركة في هذا البحث, ولك الحق في أخذ الوقت الكافي للتفكير في المشاركة من عدمها , وسؤال الباحث اذا كان لديكي أي استفسار , والتحدث لأي شخص أو جهة عن هذا البحث مع العلم ان المشاركة طوعية وفي حال قمتي بالمشاركة , يحق لك الانسحاب في أي وقت.

كما يمكنك الاستفسار من الباحث عن أي جزء يتعلق في البحث الآن أو فيما بعد, وستجدين الوقت والإجابة الكافيتين.

رقم هاتف الباحث: 0597064869

البريد الالكتروني:

هذا ويضمن البحث سرية المعلومات المتعلقة بالمشاركة.

Appendix E

Tables

Table 11

The side effects of intravenous dexamethasone on the vital signs related to spinal anesthesia in parturient after caesarean surgery (n= 50)

Side effects	Yes	No
Bradycardia heart rate < 50	0	50 (100%)
Hypotension SBP<100 mm Hg	0	50 (100%)
Headache	1 (2%)	49 (98%)
Pain	1 (2%)	49 (98%)
Pruritus	0	50 (100%)
Shivering	1 (2%)	49 (98%)
Use of IV meperidine to treat PAS	0	50 (100%)
Nausea	0	50 (100%)
Vomiting ≥ 2 times	0	50 (100%)
Respiratory depression, respiratory rate < 10.	0	50 (100%)
Dizziness	2 (4%)	48 (96%)
Need of Post op. intravenous fluids	2 (4%)	48 (96%)

Table 12

The side effects of placebo on the vital signs related to spinal anesthesia in parturient during caesarean surgery (n= 50)

Side effects	Yes	No
Bradycardia heart rate < 50	0	50 (100%)
Hypotension SBP<100 mm Hg	27 (54%)	23 (46%)
Headache	17 (34%)	33 (66%)
Pain	18 (36%)	32 (64%)
Pruritus	0	50 (100%)
Shivering	9 (18%)	41 (82%)
Nausea	16 (32%)	34 (68%)
Vomiting	2 (4%)	48 (96%)

Respiratory depression, respiratory rate < 10.	2 (4%)	48 (96%)
Dizziness	23 (46%)	27 (54%)
Need of intravenous fluids	31 (62%)	19 (38%)

Table 13

The side effects of placebo on the vital signs related to spinal anesthesia in parturient after caesarean surgery (n= 50)

Side effects	Yes	No
Bradycardia heart rate < 50	0	50 (100%)
Hypotension SBP<100 mm Hg	0	50 (100%)
Headache	9 (18%)	41 (82%)
Pain	9 (18%)	41 (82%)
Pruritus	0	50 (100%)
Shivering	3 (6%)	47 (94%)
Use of IV meperidine to treat PAS	3 (6%)	47 (94%)
Nausea	2 (4%)	48 (96%)
Vomiting ≥ 2 times	2 (2%)	48 (96%)
Respiratory depression, respiratory rate < 10.	0	50 (100%)
Dizziness	10 (20%)	40 (80%)
Need of Post op. intravenous fluids	6 (12 %)	44 (88%)

Table 14

Independent t- test results to determine the differences in the satisfaction of parturient undergoing caesarean surgery between the Dexamethasone and Placebo groups (n= 100)

Variable	Group	N	Mean± SD	T	Sig.
Satisfaction	Dexamethasone (B)	50	3.46± 0.73	3.29	0.001*
	Placebo (A)	50	2.94± 0.84		

* Significant differences at ($p \leq 0.05$).

جـامعـــة النجاح الوطنية

كليـــة الدراســـات العليـــا

تقييم فعالية الديكساميثازون عن طريق الوريد في تقليل حالات انخفاض ضغط الدم والغثيان والقيء الناجم عن التخدير الشوكي في الولادة التي تخضع لعملية قيصرية في مستشفى رفيديا، فلسطين: "دراسة رصدية".

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قدمت هذه الرسالة استكمالا لمتطلبات الحصول على درجة الماجستير في تمريض التخدير، من كلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس- فلسطين.

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الملخص

التخدير النخاعي هو الطريقة الأكثر استخدامًا في العمليات القيصرية بسبب بدايته السريعة ويوفر تسكينًا أفضل، ولكنه قد يؤدي إلى بعض الاعراض الجانبية , منها انخفاض ضغط الدم والغثيان والقيء، فضلاً عن الإضرار بنتائج الأم والجنين. كان الهدف من هذه الدراسة الرصدية هو تقييم فعالية الديكساميثازون الوريدي في الوقاية من انخفاض ضغط الدم والغثيان والقيء ا للتخدير الشوكي بين النساء اللواتي يخضعن لعملية قيصرية في مستشفى رفيديا فلسطين. ينبغي وضع وتنفيذ إجراءات موحدة لإدارة الديكساميثازون للمرضى الذين يخضعون للتخدير الشوكي أثناء العملية القيصرية. ولإدراجها في خطط العلاج، تم تضمين ما مجموعه 100 حالة ولادة في الدراسة، حيث تلقت المجموعة التجريبية جرعة قياسية من الديكساميثازون عن طريق الوريد قبل التخدير النخاعي، وتلقت المجموعة الضابطة علاجًا وهميًا. وكانت نقاط النهاية الأولية التي تمت دراستها هي حدوث انخفاض ضغط الدم الناجم عن التخدير الشوكي، والغثيان أثناء العملية، والقيء المرتبط باستخدامه وكذلك بعد الجراحة.تم تحليل البيانات باستخدام اختبار SPSS V 22، (ANOVA) لمقارنة المجموعات. تم استخدام اختبارات مربع كاي لتقييم المتغيرات الفئوية إحصائيًا (أسئلة نعم / لا). ووفقا للنتائج، فإن إعطاء الديكساميثازون قبل وبعد العملية القيصرية يساعد على استقرار ضغط الدم حيث يمنع ضغط الدم من الانخفاض. أشارت النتائج أيضًا إلى وجود أهمية إحصائية للعلاج الوهمي عند ($p \geq 0.01$) على علامات الدورة الدموية بما في ذلك ضغط الدم الانقباضي وضغط الدم الانبساطي

(DBP) وضغط الدم المتوسط (MAP) أثناء العملية القيصرية. في المقابل، لم تكن هناك تأثيرات ذات دلالة إحصائية للعلاج الوهمي عند $p \leq 0.05$ على معدل ضربات القلب، وRR، وSPO2، ودرجة حرارة الجسم أثناء العملية القيصرية. كان حجم تأثير الدواء الوهمي على ضغط الدم الانقباضي وMAP معتدلاً، مع قيم مربع إيتا الجزئية (0.60 و0.59)، على التوالي. فيما يتعلق بـ DBP وSpO2 ودرجة حرارة الجسم، كان حجم تأثير الدواء الوهمي صغيرًا، مع قيم مربعة جزئية (0.40، 0.22، 0.22)، على التوالي. تسلط هذه الدراسة الضوء على إمكانات الديكساميثازون كعامل مساعد مفيد في إدارة المضاعفات المرتبطة بالتخدير الشوكي، وبالتالي تحسين سلامة وراحة الولادة التي تخضع لعمليات قيصرية. ينبغي أن تركز الأبحاث المستقبلية، مثل استكشاف جرعات مختلفة أو المقارنة مع الأدوية الأخرى، لتأكيد هذه النتائج ووضع بروتوكولات موحدة لاستخدام الديكساميثازون في هذا السياق.

الكلمات المفتاحية: ديكساميثازون عن طريق الوريد، التخدير الشوكي، انخفاض ضغط الدم، الغثيان، القيء، الجراحة القيصرية، النساء اللواتي يخضعن لعملية قيصرية، مستشفى رفيديا، فلسطين، دراسة رصدية، الفعالية.