Perceived Benefits of Spinal Anesthesia among Pregnant Women in Maternity Teaching Hospital

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ABSTRACT

Background: One of the most commonly used anesthesia techniques is spinal anesthesia. With the benefits of delivering anesthesia and analgesia simultaneously, preventing major respiratory complications from general anesthesia (GA), and achieving high patient satisfaction, it is favored by both patients and anesthesiologists. This study sought to ascertain pregnant women's perceptions of the advantages of spinal anesthesia.

Methodology: At the Al-Batool Teaching Hospital in Mosul, a cross-sectional study was carried out between April 23, 2024, and January 5, 2025. The non-probability method: 150 pregnant women undergoing spinal anesthesia after cesarean sections make up the study sample. Direct, in-person interviews with expectant mothers were used to gather the sample. A questionnaire based on the prior study was used to gather the data, and SPSS version 22.0 was used for analysis.

Results: The women's responses to general information about spinal anesthesia prior to surgery were low, with the highest value123 (82.0%) and the lowest value 0 (00.0%). The majority of the sample concurred with the mother's opinion of the advantages of spinal anesthesia. It was determined that there was a negative relationship between benefits and general information about spinal anesthesia at $P < 0.01$, and it was (-0.257).

Conclusion: This study concluded that pregnant women also know very little about spinal anesthesia. Because all of the items were evaluated at a high level, the maternal perception of the advantages of spinal anesthesia post-operation for pregnant women who had previously had a cesarean section was entirely positive.

Keywords: Perceived Benefits, Spinal Anesthesia, Pregnant Women.

INTRODUCTION

A cesarean section can be performed as an emergency or as an elective procedure. Whether at the woman's request or due to problems, the percentage of women worldwide giving birth by cesarean section is rising in both industrialized and developing nations[1]. Globally, the trend of cesarean section rates has sharply increased for both elective and emergency surgical deliveries. According to reports, the rate of cesarean sections is 32% in the United States, 40.5% in Latin America, and up to 80% in certain private clinics. In contrast, the average rates in Europe, Asia, and Africa are 25%, 19.1%, and 7.3%, respectively[2]. For caesarean birth, both general and regional anesthetics are preferred methods. The woman's physiological condition, the experience of the obstetrician and anesthesiologist, the location of the medical facility, the availability of drugs and equipment, and the presence of qualified and appropriate assistants are some of the factors that affect the choice of anesthetic technique.[3].Commonly conducted under spinal anesthesia, cesarean sections provide many advantages for both the mother and the newborn over general anesthesia. Additionally, the baby is protected because the anesthetic medicines are not transferred across the placenta[4] . A small amount of anesthetic medication is directly injected into the fluid surrounding the spinal cord during spinal anesthesia, a form of regional anesthesia. Because it quickly numbs the nerves, this injection prevents feeling in the lower body. Spinal anesthesia is widely accepted as a safe technique for caesarean delivery. Spinal anesthesia has several advantages for cesarean sections, including preventing the debilitating effects of analgesics, allowing the patient to stay awake, and reducing the risk of stomach contents aspiration. Additionally, because it fosters a mother-child bond and allows the baby to be breastfed in the operating room, it seems more suitable than general anesthesia.[5, 6]. Spinal anesthetics have several benefits, including simplicity, rapid onset, low failure rate, low dosage, and profound or dense sensory and motor block[7].Spinal anesthesia has been widely accepted as the best option for elective, straightforward cesarean deliveries because it eliminates problems with general anesthesia, airway management, and the risk of aspirating stomach contents. It is also a quick and easy technique to perform. Better outcomes for both mothers and fetuses demonstrate the overwhelming body of research supporting regional anesthesia as the superior choice[8].

MATERIALS AND METHODS

Study Design:

To accomplish the study's objectives, a cross-sectional research study was designed, and it ran from April 23, 2024, to January 5, 2025.

Study Setting:

This research was conducted in the Al-Batool teaching hospital in Mosul city in Iraq.

Study Sample:

Using a non-probability technique, purposeful sampling was used. At the Al-Batool Teaching Hospital in Mosul, 150 pregnant women

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who had cesarean sections and were under spinal anesthesia and were admitted to the operating rooms and obstetric wards department make up the sample.

Tool of the study:

A pretested, self-administered questionnaire was used to gather data, and it was given to participants during in-person interviews. The questionnaire is divided into four sections: sociodemographic (part one), obstetric and medical history (part two), general information about spinal anesthesia prior to surgery (part three), and maternal perception of the advantages of spinal anesthesia following surgery (part four). Eight questions were used to gather information on spinal anesthesia for cesarean delivery; the right answers were coded with 1 and the wrong answers with 0. Thirteen questions concerning the advantages of spinal anesthesia were also included in the survey. The following scores were assigned to the benefit items: “disagree = 1, neutral = 2, and agree = 3”.

Statistical Data Analysis:

The statistical program (SPSS) version (22.0) is used to assess the study's findings using the following statistical data analysis techniques: descriptive data analysis, including percentages, frequencies, standard deviations, and arithmetic means. Inferential data analysis “basic Pearson's correlation coefficient, one-sample non-restricted chi-square test, and binomial test”.

RESULTS

Table 1. summarizes the responses of 150 pregnant women to the "General Information" section of the spinal anesthesia pre-operation main domain

General Information	Response	No.	%	MS	SD	RS% Ass.
1.Is spinal anesthesia a method used to numb the lower part of the body?	No	93	62.0	0.38	0.49	38.0 M
	Yes	57	38.0			
2.Is it necessary to obtain a written consent and signature before starting the spinal anesthesia procedure?	No	0	0.00	1.00	0.00	100 H
	Yes	150	100			
3.In spinal anesthesia, is it not necessary to fast before operation?	No	41	27.3	0.73	0.45	72.7 H
	Yes	109	72.7			
4. Should the mother sit or lie on her side while receiving a spinal anesthesia injection?	No	115	76.7	0.23	0.42	23.3 L
	Yes	35	23.3			
5. Does the mother stay conscious throughout the procedure when under spinal anesthesia?	No	106	70.7	0.29	0.46	29.3 L
	Yes	44	29.3			
6.Is spinal anesthesia safer than general anesthesia?	No	121	80.7	0.19	0.40	19.3 L
	Yes	29	19.3			
7.Does spinal anesthesia typically take a few minutes to start working?	No	117	78.0	0.22	0.42	22.0 L
	Yes	33	22.0			
8.Does the effect of spinal anesthesia last for two hours after the operation?	No	123	82.0	0.18	0.39	18.0 L
	Yes	27	18.0			

RS%: Relative Sufficiency Assess by (L: Low; M: Moderate; H: High).

According to Table 1, the question "Does the effect of spinal anesthesia last for two hours after the operation?" had the highest score of 123 (82.0%), while the question "Is it necessary to obtain a written consent and signature before starting the spinal anesthesia procedure?" had the lowest score of 0 (00.0%).

Table 2. Summary Statistics of Pregnant Women's Responses Toward "Benefits to Spinal Anesthesia" After- Operation Main Domain (N=150)

Domain's Items	Response	No.	%	MS	SD	RS% Ass.
1. Spinal anesthesia causes less confusion than general anesthesia	Disagree	2	1.3	0.91	0.28	91.3 H
	Neutral	11	7.3			
	Agree	137	91.3			
2. Spinal anesthesia causes less nausea and vomiting than general anesthesia	Disagree	2	1.3	0.78	0.42	78.0 H
	Neutral	31	20.7			
	Agree	117	78.0			
3. Spinal anesthesia causes less anorexia than general anesthesia	Disagree	9	6.0	0.69	0.47	68.7 H
	Neutral	38	25.3			
	Agree	103	68.7			
4. Spinal anesthesia takes effect faster than general anesthesia	Disagree	3	2.0	0.83	0.37	83.3 H
	Neutral	22	14.7			
	Agree	125	83.3			
5. Spinal anesthesia is the best pain reliever	Disagree	12	8.0	0.77	0.42	77.3 H
	Neutral	22	14.7			
	Agree	116	77.3			
6. Spinal anesthesia is less dangerous to the health of the mother and baby	Disagree	1	0.7	0.97	0.16	97.3 H
	Neutral	3	2.0			
	Agree	146	97.3			
7. In spinal anesthesia, the mother can return to her daily habits, such as eating and drinking easily	Disagree	0	0.00	1.00	0.00	100 H
	Neutral	0	0.00			
	Agree	150	100			
8. The mother can breastfeed immediately after the operation	Disagree	3	2.0	0.81	0.39	81.3 H
	Neutral	25	16.7			
	Agree	122	81.3			
9. Anesthesia continues to relieve pain for two hours or more after the operation	Disagree	0	0.0	0.97	0.16	97.3 H
	Neutral	4	2.7			
	Agree	146	97.3			
10. In spinal anesthesia, the mother remains conscious	Disagree	0	0.00	1.00	0.00	100 H
	Neutral	0	0.00			
	Agree	150	100			
11. Spinal anesthesia maintains airway efficiency	Disagree	2	1.3	0.87	0.33	87.3 H
	Neutral	17	11.3			
	Agree	131	87.3			
12. Spinal anesthesia reduces chest infections	Disagree	2	1.3	0.86	0.35	86.0 H
	Neutral	19	12.7			
	Agree	129	86.0			
13. In spinal anesthesia, the mother is in direct contact with her baby in the first moment of his life	Disagree	0	0.00	1.00	0.00	100 H
	Neutral	**0**	**0.00**			
	Agree	**150**	**100**			

“RS%: Relative Sufficiency Assess by (L: Low; M: Moderate; H: High”.

According to Table (2), the majority of the sample's answers to every question on the pregnant women's opinion of the benefits of spinal anesthetic fell into the agree level.

Table 3. Summary Statistics of Percentile Grand/Global Mean of Score of an Overall Assess Domains (N=150)

Studied Domains	No.	Min.	Max.	PGMS	PSD	Assess
General Information	150	12.5	100	40.333	26.074	M
Benefits	150	46.2	100	88.297	12.348	H
Overall Assess	150	45.30	97.23	64.636	10.736	M

"PGMS: Percentile Grand/or Global Mean of Score; PSD: Pooled Standard deviation".
"Assessing by: (Low, Moderate, and High) according to [(0.0 – 33.33), (33.34 – 66.66), and (66.67 – 100)] intervals respectively".

According to Table (3), the score's percentile grand/global mean was 64.636%, its maximum value was 97.23%, its minimum was 45.30%, and its pooled standard deviation was 10.736. The results showed that, mainly in connection to a compacted overall main domain, a moderate to high level was assessed for the subjects of the main domains under consideration. Furthermore, general information had been used to explain a moderate to poor assessment. Finally, a comprehensive evaluation of the benefits major domain showed the results.

Table 4. Pearson's Correlation, Simple coefficient between the various answers from the two domains under study (benefits and general information)

Simple Pearson's Correlation Coefficients Among studied main domains		Benefits Domain
Rho	General Information	-0.257
P-value	General Information	0.001

"(*) HS: Highly Sig. at P<0.01; Statistical hypothesis are based on Pearson's Coefficient test".

Table (4) shows significant correlation coefficients were observed among the studied domains, indicating strong relationships at P<0.01, particularly between "General Information and Benefits," with a negative correlation of (-0.257) for benefits.

DISCUSSION

Illustrates the statistical distribution of general information pertaining to spinal anesthesia prior to the procedure for the sample was low level according to table (1); the highest value was 123 (82.0%) at the question "Does the effect of spinal anesthesia last for two hours after the operation?" and the lowest value was 0 (00.0%) at the question "Is it necessary to obtain a written consent and signature before starting the spinal anesthesia procedure?" corroborating the results of our study[9] .The majority of the sample's responses to every item pertaining to the benefits of spinal anesthesia were at the agreed-upon level shown in table 2, as there is a study that supports the research by[10,11]. Concerning the subjects of the assessed primary domains, results indicated a moderate to high level of assessment predominantly across the overall main domains in a concise format. Additionally, general information was evaluated at a moderate to low level. Lastly, the overall evaluation of the benefits main domain yielded a high level according to the percentile grand/global mean of score estimation according to table 3; this result agrees with [12-14].The person's coefficients for the primary areas under study are displayed in table 4. Observing strong relationships at P<0.01 between "General Information and Benefits" with a reversed relationship. More than one study mentioned the same reasons and they were largely consistent with current study [15] .

CONCLUSION

According to the consequences of the present study, the researcher typically concluded that maternal perception regarding benefits to spinal anesthesia after operation for the studied pregnant women of having a previous cesarean section had been assessed at a high level. The study also showed that pregnant women had poor information about spinal anesthesia before cesarean.

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Competing Interest: None

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