



## The effect of education factor on the comparison of intravenous cannula and spinal needle pain in pregnant women

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**Abstract:** The research aims at Risk Factor for Conversion during Laparoscopic Cholecystectomy Retrospective Analysis, which is considered the true balance for treating symptomatic cholelithiasis, and cholecystectomy becomes necessary. It may be the cause of severe colic and sometimes cause symptoms that the patient cannot live with and there is treatment with drugs, but severe progress in Methods of surgically removing the gallbladder makes surgery an ideal solution for some cases and the process of removing the gallbladder becomes a necessity if the pain becomes unbearable and cannot be lived with, and the fear of gallstones sliding to block the main channel and cause pancreatitis, it is necessary to perform the operation although the surgery to remove the gallbladder has become easy After the emergence of new advanced methods on top of the laparoscope, there are some steps that the patient must follow after the operation to avoid complications and method was laparoscopic cholecystectomy in Al-Ramadi Teaching Hospital The data were recorded which indicated the gender and age of the sample in addition to that indication of the LC with several evaluations, including the evaluation of the performance of the surgeon who performed the operation with the evaluation of the complications that occurred after the operation and noting the period during which the patient stayed in the hospital..

**Keywords:** Laparoscopic Cholecystectomy, Teaching Hospital Retrospective Analysis.

## INTRODUCTION

Pregnancy is one of the most important processes of their lives for women. In this sense, there are many concerns about the current status of pregnant women since the first trimester of pregnancy. Most of these fears and worries are related to complications that may occur during the delivery process (Fertl, K. I. et al 2009).

Especially in recent years, the World Health Organization has carried out studies on whether mother education or education is of vital importance for mother, child, and community health Organization WH. World health statistics 2016; & Douglas, D. B. et al 2019). In this sense, many studies are conducted in our country, especially regarding the educational and psychological conditions of the Syrian refugees, prioritizing the mother's education level (Korukcu, O. et al 2018; & Yayan, E. H. et al 2020).

In this sense, the most critical concerns of pregnant women are related to the anesthesia to be applied when the time of birth comes, especially when the cesarean section is taken (Nieminen, K. et al 2009). There are concerns and fears, such as paralysis, fear of witnessing surgery, vascular access, and spinal anesthesia needle fear in pregnant patients against regional anesthesia. When we look at the rates of these fears, vascular Access needle fear is 12.1%, and spinal anesthesia needle fear is as high as 13.3% (Bheemanna, N. K. et al 2017).

Although there are many studies about information training given before surgery, there are not many studies about the effect of the education level of people on pain response. In this sense, we aimed to evaluate the status of vascular Access needle and spinal needle pain levels of pregnant patient groups who will undergo elective cesarean section according to education level.

## METHODS

This study was conducted with the approval of the Ethics Committee of Necmettin Erbakan University, Meram Medical Faculty, Konya, 2019/2197 on pregnant patients who were at the age of 18-45 years old, and performed at the University of Health Sciences, Konya Training and Research Hospital between 1 July 2019 and 1 October 2019. This study was performed in the Department of Anesthesiology and Reanimation. A total of 105 patients were included in the study voluntarily.

The study was performed after the intravenous cannula and spinal anesthesia trials. The same anesthesia specialist performed all trials, and the specialist was blind for the studies. All intravenous cannula (20 gauge) and spinal anesthesia needle (25 gauge) insertion in protocols were standard, which were recommendations by guidelines (Olawin, A.M., & Das, J.M. 2019).

Our including criteria were the ages that must be 18-45 years old range. The pregnant weeks that must be above 36. weeks, And our excluding criteria were the patients who must not be emergency cases, the patients who must not have mental retardation or neurological disorder.

Before the intravenous cannula and spinal anesthesia application, we recorded the demographic data of patients. After the intravenous cannula and spinal anesthesia was performed, we asked the patients the pains caused by the form. And we evaluated the pains according to the visual analog scale (VAS). In this scale, we recorded no pain as a zero point, recorded the worst pain as a ten-point.

### Statistical analysis

SPSS 22.0 for Windows soft ware was used for statistical analysis. With a sample size of over 105 patients, the study had 95% power to detect differences

of a 5% level of significance, adjusted for multiple comparisons between the four sites. This sample size also enabled the calculation of 95% limits of agreement with associated confidence limits of  $\pm 0.4$  SD of measurement differences.

Shapiro Wilks test was used to determine whether the data showed normal distribution. Descriptive statistical analyses were used to evaluate demographic data and data collected from tests and scales. A paired sample t-test was used to compare the data. Correlation analysis was used to assess the relationship between the data. Data were expressed as mean  $\pm$  standard deviation and percentages.  $P < 0.05$  was considered statistically significant. In the Correlation analysis, confidence intervals and p values showed a statistically significant or non-significant inverse interaction.

## RESULTS

Study population women who underwent cesarean delivery at Konya Training and Research Hospital preoperative period in the operation room (n =109) were invited to participate in the study. After exclusions, there were 105 women eligible for the study.

These 105 patients were divided into four groups; patients who go to primary school (group I) (n=51), patients who go to secondary school (group II) (n=29), patients who go to high school (group III) (n=20) and patients who go to university (group IV) (n=5).

When we look at the demographic data, there was a significant difference between the four groups regarding age ( $p < 0.001$ ). The age group of primary school graduates was between 21-40 years, the age group of secondary school graduates was between 20-35 years, the age group of high school graduates was between 19-37 years, and the age group of university graduates was between 24-34 years. Patient's ages and education levels were presented in Table 1.

**Table 1:** Patient's ages and education level

Education Level	Age Mean Value (year)	n
Primary School	31.16 $\pm$ 4.75	51
Secondary School	25.66 $\pm$ 3.92	29
High School	27.40 $\pm$ 4.83	20
University	29.20 $\pm$ 3.96	5

n: Number of patients

There were significant differences between the four education groups regarding spinal anesthesia VAS and intravenous cannula VAS ( $p=0.001$ (Group I),  $p=0.001$ (Group II),  $p=0.001$ (Group III),  $p=0.037$ (Group IV) respectively) (Table 2). Additionally, the patient's VAS scores, which were compared to educational levels, were presented in figure 1.

**Table 2:** Comparison of the education level group with VAS (Visual Analog Scala)

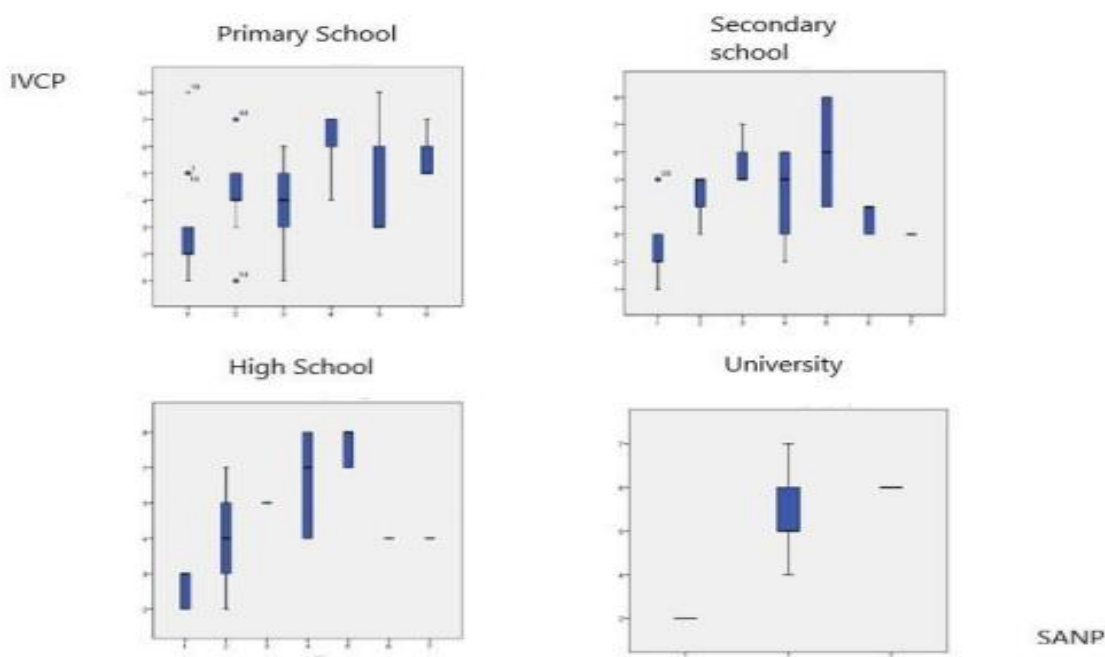
Education Level	VAS/IVCP	VAS/SANP	p
Primary School	4.10±2.04	2.61±1.48	0.001
Secondary School	3.97±1.70	2.90±1.78	0.001
High School	4.45±1.84	3.20±1.76	0.001
University	4.80±1.92	3.60±2.60	0.037

IVCP: Intravenous cannula pain, SANP: Spinal anesthesia needle pain, \*p<0.05

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**Figure 1:** Spinal anesthesia VAS and intravenous cannula VAS in the four education groups. IVCP: Intravenous cannula pain, SANP: Spinal anesthesia needle pain. (Box plot graphic)

When we looked at the number of trial effects by comparing it with the correlation test, there were significant differences between the number of trials and VAS scores in the intravenous cannula (p= 0.001). However, there were no significant differences between

the number of trials and VAS scores in the spinal anesthesia (p=0.064). The number of trials for the intravenous cannula and the spinal anesthesia was presented in table 3.

**Table 3:** The number of trial effects by comparing with correlation test.

Parameters	CorrelationCoefficient	Standart Error	p Value
VAS/IVCP	0.312	0.71	0.001*
VAS/SANP	0.224	0.81	0.022*

\*p<0.05

## DISCUSSION

In this study, we evaluated the response of pregnant women who were admitted to the operation room for an

elective cesarean section to intravenous cannula pain and spinal anesthesia needle pain by VAS and found that they felt more vascular needle pain level.

This difference was found to be less in university graduate pregnant patients. In addition, as the number of practice trials increases, the rate of feeling pain increases.

In recent years, various studies have been carried out to reduce vascular access needle pain. In the study of Zempsky et al., (2016) 693 patients were divided into two groups. One of the group received powdered lidocaine, and the other placebo group received an ineffective powder. It was found that vascular access needle pain was more tolerable in adults in the lidocaine-treated group.

In another study, 180 children between the ages of 7-12 were examined for needle pain used for blood sampling. Vibration instruments, distracting cards, and balloon inflating methods were compared with the control group. As a result, it was found that these three groups indifferently reduced pain and anxiety in children compared to the control group (Tork, H. M. M. 2017).

In our study, the effect of education levels needle pain was examined in pregnant women who had a particular condition in patients, and it was concluded that as the level of education decreased, tolerance to pain decreased statistically.

In the study of Sharma et al., (1996) Two different groups were studied with EMLA cream containing lidocaine and 1% lidocaine administration. In total, 41 postpartum tube ligation patients were evaluated for the superiority of two different methods before spinal anesthesia. This evaluation was also performed with two separate spinal needles of 20 and 25 gauge. As a result, lidocaine-containing EMLA cream was found to be as effective as intradermic administration of 3 ml lidocaine, provided that it was administered 30 minutes before administration. It was also observed that this result was valid for both spinal needles of 20 and 25 gauge diameters.

In another study by Kobayashi et al., 60 patients undergoing total spinal anesthesia were studied. One of the patients who were divided into three groups was administered 0.5 ml lidocaine before 27 gauge spinal needle applications, 2 ml lidocaine before 24 gauge spinal needle application, and the group without lidocaine before 25 gauge spinal needle. In 2 ml intradermic lidocaine and 24 gauge spinal needle administrations, no difference was observed in pain compared to the 25 gauge spinal needle group for lidocaine administration. However, in the 0.5 ml lidocaine and 27 gauge spinal needle groups, a significant reduction in spinal needle pain was observed with the decrease in needle size despite less lidocaine.

In our study, no local anesthesia was performed before the intravenous needle and spinal needle. Pain

responses in standard practice were evaluated, and patients were divided into groups according to their educational level.

In addition, Roberge *et al.* Study investigate dvenousdialatation methodt of acilitatevenousvascularaccess. In this study, it was emphasized that recurrent unsuccessful vascularaccess procedures increased adrenaline secretion as a result of increasingfearandexcitement in patientsand as a result, the difficulty of the procedure with venousvasocontraction increased (Roberge, R. J. 2004).

In our study, we also asked how many attempts were made for both vascularand spinal anesthesia. As a result, the effect of repetitive procedures on needle pain was found to be significant by the correlation test.

Pregnancy and pre-pregnancy anxiety (and depressive) disorders, fear of pain, fear of infant injury emerged prominently during pregnancy. Besides, maternal age, educational status, marital status, parity, previous abortion, and potential problems such as preterm birth or low birth weight should be considered (Martini, J. et al 2016).

We state in our study that Education levels were significant for all parameters. And increasing the level of education, patients could dealwith negative conditions. These conditions were fear of needle pain in our research.

When we compared the level of pain in different regions of body, the back pain receptor have low sense during the spinal needle insertion. The contrast of this condition, venous needle pain can be felt very high. Glucocorticoid receptors could be effect fort is sensibility(Lentjes, E. G. W. M. et al 1997).

When we looked at the needle pains by comparing them with the correlation test, there were significant differences between the VAS scores in the intravenous cannula, but there were no significant differences between the VAS scores in the spinal anesthesia.

If we look at the limitations of our study; Although the level of education in our study is equal, it is clear that there may not be standardization regarding the quality of education. Pre-procedure training could be provided to prevent this, but the training would not be standard because of the different educational levels of the patients.

May be we could take the patients as equal numbers, but the level of education didn't lead to this situation because of the local conditions.

Also, the evaluation of spinal needle pain after vascular Access was a problem where these two needle pain perceptions could affect each other.

However, according to the safety protocol required for anesthesia to be performed, it was essential to open the vascular tract first. In addition, we think that this negative effect may be minimized since the vascular access is standard in all patients.

As a result, the needle pain was so crucial for pregnant. Especially in some regions, low education levels could increase the needle pain. And this condition could be challenging for our colleagues.

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