Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 7, Issue 2, pp: (235-243), Month: May - August 2020, Available at: www.noveltyjournals.com

Effect of preoperative hydration on post spinal anesthesia headache

Hoda Abdou Abd El-Monem El-Deeb[1], Noura Mahmoud Elrefaey[2]

[1]lecturer, Medical-Surgical Nursing, Faculty of nursing, Alexandria University, Egypt

[2]lecturer, Medical-Surgical Nursing, Faculty of nursing, Matrouh University, Egypt

Abstract: **Spinal anesthesia is one of the most common types in anesthesia, it is safe but still accompanied by several complications including hypotension and post dural puncture headache. Post dural puncture headache (PDPH) can be severe enough to necessitate prolonged hospital stay or readmission. there is less evidence to support the effectiveness of hydration on headache caused by spinal anesthesia. So, it is necessary to investigate the effect of preoperative hydration on post spinal anesthesia headache Objective: to evaluate the effectiveness of preoperative hydration on post spinal anesthesia headache. Setting: The study was carried out at Alexandria Main University Hospital (MUH) and Hadara Orthopedic and Traumatology University Hospital Alexandria. Subjects: a convenience sample of 120 adult patients, divided into two equal groups: 60 patients in each of the study and the control group. Tools: Three tools were used for data collection: Socio demographic and clinical data, Post-spinal anesthesia headache assessment sheet and Visual analogue scale for measuring headache severity. Results: The current study showed that there is a statistical significant difference between both groups concerning occurrence of post spinal anesthesia headache, associated manifestations with headache, conservative treatment used to decrease headahe, type and frequency of headache relieve medication and the severity of headache; the difference is statistically better in the study group than the control one. Conclusion: It was concluded that preoperative hydration decrease occurrence and severity of post spinal anesthesia headache for one week postoperatively. Recommendations: Educational programs and continuing educational sessions have to be organized for surgical nurses about the effect of preoperative hydration on post spinal anesthesia headache, as nurses instruct patients on preoperative hydrations benefits and finally recommended that physicians, nurses and administrators must collaborate to ensure that evidence-based preoperative hydration are implemented and enforced in clinical setting.**

Keywords: **preoperative, Hydration, Spinal Anesthesia, Headache.**

1. INTRODUCTION

Spinal anesthesia is one of the most commonly used techniques in anesthesia. It also known as subarachnoid block, which considered a common type of regional anesthesia that, involves the injection of an anesthetic agent into the subarachnoid space; into the cerebrospinal fluid below the level of second lumber vertebrae. It was first performed accidentally by Corning in 1885. Since then, it has been widely used in gynecological and urological operations, surgeries below umbilical, pelvis, perineal and lower extremities **(KC and Pahari., 2017; Ali., 2012)**

However it is safe, easy, economical, has fewer side effects on respiratory system and preferred over general anesthesia because of its profound analgesia and muscle relaxation. The procedure is still associated with several complications; the most recognized including hypotension and post dural puncture headache (PDPH). PDPH, also known as post spinal puncture headache **(Khraise, et al., 2017)**.

According to the Headache Classification Committee of the International Headache Society, PDPH is defined as "bilateral headaches that develop within 7 days after a lumbar puncture and disappears within 14 days. The headache worsens

within 15 min of resuming the upright position, disappears or improves within 30 min of resuming the recumbent position **(Behery and Elshahat., 2015)**.

The exact cause is still unknown, while issues suggest that cerebrospinal fluid (CSF) loss through puncture site resulting in decreased CSF pressure and volume which leads to gravity dependent a sagging of the brain and traction on the pain sensitive structures around the brain are the main cause (**KC and Pahari., 2017**). Overall incidence of PDPH varies from 0.1 to 36%, the highest (36%) was reported after ambulatory diagnostic lumbar puncture using a 20 or 22G Quincke needle. Several risk factors play an important role in the occurrence of PDPH including age, gender, body mass index, needle size and design, and number of puncture attempts **(Khraise, et al., 2017)**.

Post dural puncture headache (PDPH) is usually mild to moderate but can be severe enough to necessitate prolonged hospital stay or readmission. Therefore, treatment of spinal headache is an important issue. Many researchers reported that treatment includes bed rest in supine position, adequate hydration and medications including paracetamol, nonsteroidal anti-inflammatory drugs (NSAIDs), codeine, caffeine etc. Although bed rest after spinal anesthesia is still a standard protocol, there is little evidence to support the effectiveness of hydration on the occurrence and severity of headache. A study conducted by **Yavuz et al., 2014** concluded that preoperative hydration may be effective to prevent postoperative nausea. Based on that, the researchers found it necessary to investigate the effect of preoperative hydration on post spinal anesthesia headache **(KC and Pahari., 2017; Evans, et al., 2010)**. Therefore, this study aims to study the influence of hydration on the incidence and severity of post lumbar puncture headache in patients undergoing spinal anesthesia.

Aim of the study:

This study aimed to

- To study the influence of preoperative hydration on the incidence and severity of post lumbar puncture headache in patients undergoing spinal anesthesia.

Research hypothesis:

Patients who receive preoperative hydration will experience less post spinal anesthesia headache than those who do not receive such intervention.

2. MATERIALS AND METHOD

Materials

Research Design:

Quasi-experimental design was used**.**

Setting:

The study was conducted at inpatient urological department at Alexandria Main University Hospital (MUH) and Hadara Orthopedic and Traumatology University Hospital Alexandria.

Subjects:

The study subjects comprised a convenience sample of 120 adult patients of both sexes undergoing spinal anesthesia in the above mentioned settings. The total number of subjects was randomly divided into two equal groups: 60 patients in each of the study and the control group.

Subjects, inclusion criteria were:

Adult patients with:

- Age from 21 to 60 years
- Absence of distinct mental disorders
- No addiction

- Absence of conditions forbidding spinal anesthesia
- Consent for receiving spinal anesthesia
- No medical diseases as diabetes mellitus, hypertension ,no coagulopathies, cardiac, kidney or liver disease.
- No neurological or psychological disorders
- Having indications to receive spinal anesthesia.
- Both sexes.
- Willing to participate in the study and cooperate
- Able to communicate verbally

Tools of the study

Three tools were used for data collection:

Tool I: Socio demographic and clinical data: including age, gender, educational level, smoking, past history, type and duration of surgery.

Tool II: Post-spinal anesthesia headache assessment sheet: It was constructed by the researcher after review of relevant literature Alam (2011) and Ahmed (2019). It including headache occurrence, frequency, duration, associated symptoms, conservative measures to relieve headache, received medication to relieve headache, type and frequency of medications.

Tool III: Visual analogue scale for measuring headache severity

It was adopted from Benjamin et al.; (2010) Cline (2013), it used to assess headache severity. It is a horizontal line, 10cm in length, anchored by word descriptors at each end; left end No headache and right end Very severe headache. The patient marked on the line the point that he/she felt representing his/her perception and current state. The Visual analogue scale (VAS) score are determined by measuring in centimeter from the left hand end of the line to the point that the patient marked. The measured value are illustrated as (0) indicated no headache; (1-3cm) illustrated mild headache, (4-6cm) indicated moderate headache and (7-10cm) indicated severe headache.

Method

The study was designed and implemented as follows:

• Written approval:

An official letter from Alexandria faculty of Nursing was submitted to directed to responsible authorities at urological department at Alexandria Main University Hospital (MUH) and Hadara Orthopedic and Traumatology University Hospital Alexandria.

Tool development

Tool I and Tool II were developed by the researcher after reviewing the relevant literature and were translated into Arabic.

Content validity

The developed tools were tested for its content validity by 7 faculty members who are experts in the field of medical surgical nursing, Faculty of Nursing, University of Alexandria to assure clarity and validity of items.

Reliability

Study tools were tested for its reliability using Alpha Cronbach's statistical test for internal consistency of tools items. Alpha coefficient for tools items was 0.74 which is acceptable.

Pilot study:

A pilot study was carried out before starting the data collection. It was applied on 10 patients from the study settings to check and ensure the clarity, feasibility, applicability of the developed tool and to identify the difficulties that may be faced during to identify the difficulties that may be faced during data collection. Subjects who shared in the pilot study were excluded from the main study sample.

Data collection

An official permission was obtained from the hospital director of the selected settings after explaining the aim of the study. A convenient sample of 120 adult patients was divided into two groups; 60 patients in the study group and 60 patients in the control group. Data collection was carried out in two phases: data related to the control group and data related to the study group. Data collection started with the control group who followed the routine hospital preoperative care. The study group were instructed to drink 1200 to 1500 ml including tap water, juice and soup on the evening before surgery from 2pm to 10pm nearly 300ml/2hrs and 500ml intravenous Ringer's lactate one hour preoperatively was given by the nurse and prescribed by the surgeon on the patient's chart. Data collection was conducted over a period of 4 months (from December 2019 to March 2020).

Ethical considerations

Every patient was informed that the anonymity and confidentiality of their responses and privacy would assert.

Statistical analysis of the data

Data were fed to the computer and analyzed using IBM SPSS software package version 20.0**. (**Armonk, NY: IBM Corp**)** Qualitative data were described using number and percent. Quantitative data were described using range (minimum and maximum), mean, and standard deviation. Univariate analyses including: t-test was used to test the significance of results of quantitative variables. Chi-Square test for categorical variables, to compare between different groups, Fisher's Exact test when less than 20% of the cells have expected count less than 5 and Monte Carlo test correction for chi-square when more than 20% of the cells have expected count less than 5. Significance of the obtained results was judged at ≤ 0.05 level.

3. RESULTS

Table (I): Frequency Distribution of Socio-Demographic Characteristics among the Study and Control Groups of Patients undergoing Spinal Anesthesia.

As for age it was observed that 28.3 % of both study and control group patients were in the age between (31- 40 years). Regarding gender, more than half (56.7%) of the study group and more than two thirds (66.7%) of the control group were males. As regards level of education, more than one fifth of both groups were secondary education. In addition approximately one third of both study and control group patient (35.0%, 33.3 %) were read and write and illiterate respectively. Concerning smoking, more than half (53.3 %) and (61.7 %) of both the study and control groups respectively were smoker. As for past history, it was noticed that less than one third (25.0 %) of the study group and one third (33.3 %) of the control group had past history of headache and spinal anesthesia. In relation to type of surgery, half (50%) of the study group and more than half (53.3%) of the control group were had orthopedic surgeries, the rest of the two groups were had urological surgeries. As for duration of surgery, Mean ± SD equal to 75.42± 15.549, 78.75± 10.681 of the study and control groups respectively. There were no statistically significant differences between the study and control groups regarding age, gender, education level, smoking, past history, and type of surgery (P= 0.978, 0.260, 0.069, 0. 267, 0.431, 0 .715, 0.174) respectively.

Table (II): Comparison between the Study and the Control Groups related to Occurrence of Post Spinal Anesthesia Headache

This table showed comparison between the study and the control groups related to occurrence of post spinal anesthesia headache. Regarding headache occurrence during 1st 24hrs postoperative, 2nd 24hrs postoperative and after 48 hours to 7 days, the majority of study group patients (83.3%, 88.3%, 96.7%) had no headache compared with (61.7%, 71.7, 78.3%)

of the control group patients respectively with a statistically significant difference between the study and control groups (P= 0.008,0.022, 0.002). Moreover, there is a statistical significant difference within the study group (P= 0.006), while there is no statistical significant difference within the control group (P= 0.074).

Table (III): Frequency Distribution of Post Spinal Anesthesia Headache Assessment among the Study and Control Groups

This table represented the assessment of post spinal anesthesia headache between the study and control groups. In relation to the frequency of post-operative headache during 1st 24hrs postoperative and 2nd 24hrs postoperative, all study group patients had headache for a once while 17.4%, 5.9 % of control group has experienced headache for two times with no statistically significant difference between the two groups (P=0.159, 0.400). After 48 hours to 7 days, all study group patients experienced headache for two times compared with 46.2% of control group patients have headache for more than two times with a statistically significant difference between the study and control groups (P= 0.001).

As for duration of headache, majority of study group patients (80%, 71.4%, 100%) compared with (56.5%, 64.7%, 69.2%) of the control group experienced headache for less than 30 minutes during 1st 24hrs postoperative, 2nd 24hrs postoperative and after 48 hours to 7 days respectively with no statistical significance difference between the study groups.

Regarding symptoms associated with patient's headache, half (50%) of the study group compared to more than three quarters (78.3%) experienced one associated symptoms during the 1st 24 hours, there were a statistically significance difference between the study and control group during the 1st 24hrs postoperative and 2nd 24hrs postoperative P=0.021, 0.020 respectively but there was no statistical significant difference between the two groups after 48 hours to 7 days.

As for using conservative methods to relieve headache, 20% of study group use nothing from conservative treatment for headache, 80% using one conservative method compared with 69.6% and 30.4% of control group patients using one or more conservative treatment during the1st 24 hrs postoperative with a statistically significant difference between the study and control group (P= 0.007). In relation to using medication to control post spinal anesthesia headache, all control group patient received medication to control headache, while 20% of study group patients didn't receive any medications. Additionally, the highest proportion (40%, 52.2%) for the medication received from all patients was paracetamol that used for a once.

Table (IV): Frequency Distribution of Post Spinal Anesthesia Headache Severity among the Study and Control Groups.

This table showed that no one experienced severe pain from the study group compared with 16.7%, 10.0% and 10.2% from the control group had severe headache during the 1st 24hrs postoperative, 2nd 24hrs postoperative and after 48 hours to 7 days respectively there were a statistically significance difference between the study and control group patients regarding the severity of post-spinal anesthesia headache during the 1st 24hrs postoperative, 2nd 24hrs postoperative and after 48 hours to 7 days with P= 0.001, 0.043, 0.009 respectively

Discussion:

Spinal anesthesia is commonly performed for thoracic surgeries (T4) in general operations, gynecology, orthopedics and urology **(Baig., 2014; Bauset-Navarro, et al., 2014; Brull, et al., 2015)**. This method is associated with numerous benefits, as patient convenience, reduced side effects of general anesthesia, shorter length of hospital stay, and possibility postoperative pain control. Despite various merits, spinal anesthesia is associated with complications such as nausea, vomiting, double vision, photophobia, neck pain, and headaches. Intense pain is one of the most common complications caused by spinal anesthesia **(Nguyen and Walters., 2014; Tinca, et al., 2014; Deo., 2013; Najafi, et al., 2014; Zeger, et al., 2012)**.

The results of the present study demonstrate that there was no statistical significant difference in the sociodemographic characteristics between the study and control group. These findings roll out the extraneous factors that might confuse the effect of preoperative hydration on post spinal anesthesia headache. This result is constant with **(KC., 2017and Ali., 2012).**

The finding in the present study also find that the differences regarding assessment of post spinal anesthesia headache between study and control group were statistically significant in relation to occurrence of headache, associated manifestations, conservative treatment, type and frequency of medication used, in addition to severity of headache. This may be owed to that adequate hydration preoperatively has many benefits including providing relaxation, hypnotic through increased brain neurons and increasing serotonin synthesis, regulation of mood, increasing feeling of well being, providing normal sleep and decreasing pain sensitivity **(Allen 2012)**. This is supported by the results of **(Yavuz and his collaborators, 2014)** study showed that preoperative fluid bolus has a profound effect in the reduction of post-operative nausea and vomiting among patient undergoing laparoscopic cholecystectomy operation.

My opinion, all these benefits led to decrease post spinal anesthesia headache, in addition to preoperative hydration increases the production of CSF. As result, it compensates for the diminished pressure of the CSF caused by spinal anesthesia, leading to reduce the intensity of headache. These findings are fitting with **(Ali., 2012)** who documented that use of nursing interventions such as patient hydration and rest in prone position were significantly reduce the rate of occurrence and severity of post spinal anesthesia headache among the study group.

Furthermore, the findings of the present study are accordance with **(Aberomand et al.; 2016)** study that investigate the effect of patient educational program inolved adequate hydration on headache caused by spinal anesthesia and found a greater impact of the educational program on decreasing the incidence, severity of headache which assessed through visual analogue scale.

The results of the present study acquired a greater value based on the report of (**Evans., 2000)** who reported that no evidence was present to support that preoperative hydration prevent post spinal anesthesia headache and recommended this issue for further research. In addition, the results of **(KC, 2017)** who found that preoperative hydration and prophylactic bed rest following spinal anesthesia is of no benefit.

In line with this result previous study by **(Ali 2012)** revealed that preoperative nursing intervention included improvement of patient's hydration by encouraging patients to increase fluids intake as juice, tap water, and/or soup result in decreasing the incidence, duration and associated symptoms of headache in the study group.

4. CONCLUSION

From the findings of the present study, it can be concluded that: preoperative hydration decrease occurrence and severity of post spinal anesthesia headache for one week postoperatively.

5. RECOMMENDATIONS

- Educational programs and continuing educational sessions have to be organized for surgical nurses about the effect of preoperative hydration on post spinal anesthesia headache.

- As nurses instruct patients on preoperative hydrations benefits

- Physicians, nurses and administrators must collaborate to ensure that evidence - based preoperative hydration are implemented and enforced in clinical setting.

REFERENCES

[1] Aberomand R., Ravari A., Mirzaei T. and Savaie M. (2016). Effects of Patient Educational Programs on the Headache Caused by Spinal Anesthesia. Evidence Based Care Journal, 5 (4): 41-15.

[2] Ahmed S., Jayawarna C. and Jude E. (2019). Post lumbar puncture headache: diagnosis and management Available at: https://www.ncbi.nlm. nih.gov/pmc/articles /PMC2660496/pdf/ 713.pdf Retrieved on October 2019.

[3] Alam A., Raheen M, Iqbal K, Chowdhury M (2011). Headache following Spinal Anesthesia Journal Of Bangladesh College Of Physicians And Surgeons: 29.

[4] Ali S. (2012). Effect of Pre and Post Nursing Intervention on the Occurrence of Tension Headache among Surgical Patients Undergoing Spinal Anesthesia. Journal of Anesthesia and Clinical Research; 3:7.

[5] Ali Z. (2012) Effect of Pre and Post Nursing Intervention on the Occurrence of Tension Headache among Surgical Patients Undergoing Spinal Anesthesia. Journal of Anesthesia and Clinical Research.

[6] Allen S. and Barrett R (2012). prevalence and patterns of anxiety in patients undergoing gynaecological surgery. Available at: htt//www.eprints.bournemouth.ac.uk/11680/1/Anxiety.pdf.Retrieved in April2012.

[7] Baig T. (2014). Comparison of 25 Gauge Cutting with Noncutting Needles for Post Dural Puncture Headache in Obstetric Patients. Journal of Anesthesia and Clinical Research;5(10):1-3.

[8] Bauset-Navarro J., Sanchez-Ortuno I., Gomez-Cardenas C., Sanz-Monllor A., Cinesi-Gomez C., Pinera-Salmeron P. (2014). Iatrogenic after Spinal Puncture Technique. Prevalence Study of Headache and Associated Factors. Revista de Neurología Journal; 58 (5):193-8.

[9] Behery M, Elshahat M (2015). Post dural lumber puncture headache (PDLH) after spinal anesthesia for cesarean section, comparative study between para median and median approaches;13 (2).

[10] Brull R, Macfarlane A, Chan V(2015). Spinal, Epidural, and Cauddal Anesthesia. In: Miller RD EL, Fleisher LA, Wiener- kronish JP, Young WL, editor. Miller's Anesthesia. 8 ed. Philadelphia: Elsevier:1684-716.

[11] Cline M., Herman J., Shaw E. and Morton R(1992). Standardization of the visual analog scale. Available at: http://www.Standardization of the Visual Analogue Scale Nursing Research.htm. Retrieved in October 2013.

[12] Deo G. (2013). Post Dural Puncture Headache. Journal of Chitwan Medical College. ;3(1):5-10.

[13] Evans R., Armon C., et al.; (2010). Assessment prevention of post lumbar puncture headaches. American Academy of Neurology. Available at www.neurology.org Retrieved in October 2019.

[14] KC HB, Pahari T. (2017). Effect of Posture on Post Lumbar Puncture Headache after Spinal Anesthesia: A Prospective Randomized Study. Kathmandu University Medical Journal; 60(4):324-8.

[15] Khraise W., Allouh M., El-Radaideh K. et al.; (2017). Assessment of risk factors for post dural puncture headache in women undergoing cesarean delivery in Jordan: a retrospective analytical study. Local and Regional Anesthesia Journal;10: 9–13.

[16] Najafi A., Emami S., Khajavi M., Etezadi F., Imani F., Lajevardi M., et al.; (2014). Is Epidural Dexamethasone Effective in Preventing Postdural Puncture Headache? Acta Anaesthesiology Taiwan Journal; 52 (3):95-100.

[17] Nguyen D., Walters R. (2014). Standardizing Management of Post-Dural Puncture Headache in Obstetric Patients: A Literature Review. Open Journal of Anesthesiology; 4(10): 244-53.

[18] Selcuk M., Kazancı D., Turan S. and Aydinlı B. (2014).Investigation of the Effects of Preoperative Hydration on the Postoperative Nausea and Vomiting. Bio-Medical Research International Journal; (9): 6.

[19] Tinca C., Ciobotaru R., Voinescu D., Matei M., Ciobotaru O., Tolan T. (2014). Post-Dural Puncture Headache. Annals of the University Dunarea de Jos of Galati: Fascicle: XVII, Medicine (1):87-91.

[20] Yavuz M., KazancJ D., Turan S., et al.; (2014). Investigation of the Effects of Preoperative Hydration on the Postoperative Nausea and Vomiting. Bio-Medical Research International Journal; ID 302747.

[21] Yousuf M., Haider S., Aziz M. and Waris S. (2015). Spinal anaesthesia; comparison between prophylactic low dose ketamine and ondansetron for prevention of shivering during spinal anaesthesia in patients undergoing lower abdominal surgeries. The Professional Medical Journal; 22(8): 1029-33.

[22] Zeger W., Younggren B., Smith L. (2012). Comparison of Cosyntropin Versus Caffeine for Post-Dural Puncture Headaches: A Randomized Double-Blind Trial. World Emergency Medical Journal; 3(3):182-5.

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 7, Issue 2, pp: (235-243), Month: May - August 2020, Available at: www.noveltyjournals.com

Table (I): Frequency Distribution and Significance of Differences of Socio-Demographic Characteristics among the Study and Control Groups of Patients undergoing Spinal Anesthesia.

Socio-Demographic Characteristics	Study group (n=60)		Control group (n=60)		Significance level
	No.	%	No.	%	
Age (Years)					
20-30	13	21.7	14	23.3	$\chi^{2=}$0.199 P=0.978
31-40	17	28.3	17	28.3	
41-50	13	21.7	14	23.3	
51-60	17	28.3	15	25.0	
Gender					
Male	34	56.7	40	66.7	$\chi^{2=}$1.269 P=0.260
Female	26	43.3	20	33.3	
Educational level					
Illiterate	10	1.7	20	33.3	$\chi^{2=}$**8.7** P=0.069
Read and write	21	35.0	9	15.0	
Primary	8	13.3	8	13.3	
Secondary	14	23.3	13	21.7	
Highly educated	7	11.7	10	1.7	
Smoking					
Yes	32	53.3	37	61.7	FE$^{=}$ 1.237 P=0. 267
No	28	46.7	23	38.3	
Past history					
Headache	22	36.7	16	26.7	$\chi^{2=}$**1.683** P=0.431
Spinal anaesthesia	23	38.3	24	40.0	
Headache & Spinal anaesthesia	15	25.0	20	33.3	
Type of surgery					
Orthopedic surgery	30	50.0	32	53.3	FE$^{=}$0.134 P=0 .715
Urological surgery	30	50.0	28	46.7	
Duration of surgery	75.42± 15.549		78.75± 10.681		t= 1.369 P=0.174

χ^2: Chi square test FE: Fisher's Exact test t: t-test

p: p value for association between different categories * Statistically significant at $p \leq 0.05$

Table (II): Comparison between the Study and the Control Groups related to Occurrence of Post Spinal

Post-operative headache Occurrence	1st 24hrs postoperative					2nd 24hrs postoperative					After 48hrs to 7days post operative				
	Study group (n=60)		Control group (n=60)		Sig. level	Study group (n=60)		Control group (n=60)		Sig. level	Study group (n=60)		Control group (n=60)		Sig. level
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
Present	10	16.7	23	38.3	$\chi^{2=}$7.064	7	11.7	17	28.3	$\chi^{2=}$5.208	2	3.3	13	21.7	$\chi^{2=}$9.219
Absent	50	83.3	37	61.7	P=0.008*	53	88.3	43	71.7	P=0.022*	58	96.7	47	78.3	P=0.002*
Sig. within each group: the study group: P1=0.006* the control group: P1:0.074															

χ^2: Chi square test p: p value for association between different categories * Statistically significant at $p \leq 0.05$

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 7, Issue 2, pp: (235-243), Month: May - August 2020, Available at: www.noveltyjournals.com

Table (III): Frequency Distribution of Post Spinal Anesthesia Headache Assessment among the Study and Control Groups

Post-operative headache assessment	1st 24hrs postoperative					2nd 24hrs postoperative					After 48hrs to 7days post operative				
	Study group (n=10)		Control group (n=23)		Sig. level	Study group (n=7)		Control group (n=17)		Significance level	Study group (n=2)		Control group (n=13)		Significance level
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
frequency															
One	10	100.0	19	82.6	χ^2=1.979	7	100.0	16	94.1	FE=0.707	0	0.0	7	53.8	χ^2=15.000
Two	0	0.0	4	17.4	P= 0.159	0	0.0	1	5.9	P=0.400	2	100.0	0	0.0	P=0.001*
More than two	0	0.0	0	0.0		0	0.0	0	0.0		0	0.0	6	46.2	
duration															
< 30 min	8	80.0	13	56.5	χ^2=1.660	5	71.4	11	64.7	χ^2=0.101	2	100.0	9	69.2	FE=1.349
30< 60 min	2	20.0	10	43.5	P= 0.198	2	28.6	6	35.3	P=0.751	0	0.0	4	30.8	P=0.245
Associated symptoms															
None	3	30.0	0	0.0	χ^2=7.709	2	28.6	0	0.0	χ^2=7.866	0	0.0	0	0.0	χ^2=0.165
One	5	50.0	18	78.3	P=0.021*	5	71.4	10	58.8	P= .020*	2	100.0	12	92.3	P=0.685
More	2	20.0	5	21.7		0	0.0	7	41.2		0	0.0	1	7.7	
Conservative measures to relieve headache															
None	2	20.0%	0	0.0	FE=6.784	0	0.0	0	0.0	χ^2=0.697	0	0.0	0	0.0	FE=2.246
One	8	80.0%	16	69.6	P=0.007*	5	71.4	9	52.9	P=0.404	2	100.0	7	53.8	P=0.134
More	0	0.0	7	30.4%		2	28.6	8	47.1		0	0.0	6	46.2	
Received medication to relive headache															
Yes	8	80.0	23	100	FE=5.082	5	71.4	17	100.0	FE=5.392	2	100.0	13	100.0	
No	2	20.0	0	0.0	P=0.024*	2	28.6	0	0.0	P=0.020*	0	0.0	0	0.0	---
Type of received medication to relive headache															
None	2	20.0	0	0.0	FE=6.422	2	28.6	0	0.0	χ^2=8.442	0	0.0	0	0.0	FE=0.967
Paracetamol	3	30.0	11	47.8	P=0.047*	0	0.0	8	47.1	P=0.015	0	0.0	3	23.1	P=0.325
NSAIDs	4	40.0	12	52.2		5	71.4	9	52.9		2	100.0	10	76.9	
Narcotics	1	10.0	0	0.0		0	0.0	0	0.0		0	0.0	0	0.0	
Frequency of received medications															
None	1	10.0	0	0.0	FE=3.403	0	0.0	0	0.0		0	0.0	0	0.0	χ^2=15.000
One	9	90.0	19	82.6	P= 0.07*	7	100.0	17	100.0	---	0	0.0	7	53.8	P=0.001*
Two	0	0.0	4	17.4		0	0.0	0	0.0		2	100.0	0	0.0	
More	0	0.0	0	0.0		0	0.0	0	0.0		0	0.0	6	46.2	

χ^2: Chi square test FE: Fisher's Exact test

p: p value for association between different categories * Statistically significant at $p \leq 0.05$

Table (IV): Frequency Distribution of Post Spinal Anesthesia Headache Severity among the Study and Control Groups.

Headache severity	1st 24hrs postoperative					2nd 24hrs postoperative					After 48hrs to 7days post operative				
	Study group (n=60)		Control group (n=60)		Sig. level	Study group (n=60)		Control group (n=60)		Sig. level	Study group (n=60)		Control group (n=60)		Sig. level
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
"0" no pain	50	83.3%	37	61.7%	χ2=16.235	53	88.3%	43	71.7%	χ2= 8.153	58	96.7%	46	78.0%	χ2=11.577
"1-3" Mild pain	8	13.3%	5	8.3%	P=0.001*	4	6.7%	5	8.3%	P=0.043*	2	3.3%	3	5.1%	P=0 .009*
"4-6" Moderate pain	2	3.3%	8	13.3%		3	5.0%	6	10.0%		0	0.0%	4	6.8%	
"7-10" severe pain	0	0.0%	10	16.7%		0	0.0%	6	10.0%		0	0.0%	6	10.2%	

χ^2: Chi square test p: p value for association between different categories * statistically significant at $p \leq 0.05$