

# Post operative pain assessment and pain management among patients undergoing cranioplasty

**Mrs. Shilpa Bakal**

M.Sc. Medical Surgical Nursing

## Abstract

Pain assessment and pain management is the most crucial job of critical care nurses. Pain assessment and its management in patients undergoing cranioplasty, especially those with communication barriers, continue to present challenges to nurses in the critical care areas. The present study was undertaken to assess the level of post-operative pain suffered by patients after cranioplasty, to identify the activities that increases/relieve pain and to find out association between pain score of patients and selected variables. This study has used the following tools, a self-prepared validated questionnaire and Wong Bakers Faces pain scale. As per the findings, the post-operative pain was mild to moderate and decreased from first to third postoperative day. Patients Pain relief was adequate with the combination therapy of pain medications like non-narcotic analgesics and non-steroidal anti-inflammatory drugs.

The study revealed that there was no significant difference between the pain perception and age or gender of the patient. It is found that the activities that increased pain were surgical dressing removal and patient's position changing. Critical care nursing staff should focus on assessing and managing post-operative pain to improve quality of nursing care in order to improve the comfort of cranioplasty patients.

## Objectives -

1. To assess the level of post- operative pain suffered by patients after cranioplasty.
2. To identify the activities that increase or relieve pain.
3. To find out association between pain score of patients and selected demographic variables.

## Literature Review

- Studies on pain assessment and analgesic usage in neurosurgical patients revealed that frontal craniotomy patients experienced the lowest pain and required less opioid than patients undergoing posterior fossa interventions- Thibault 2007
- Age was an independent factor with lower pain scores observed with increased age- Mordhorst 2010.

## Methodology

**Type of study** - Descriptive study

**Design** - Non experimental research design.

**Approach** - Quantitative research.

**Setting** -Neurosurgical Hospitals in Pune .

**Population** -Adult patients undergoing cranioplasty.

**Sample** - 40 patients undergoing cranioplasty .

**Sampling Method-** Convenient sampling method.

**Exclusion criteria-** patients who were not able to follow the instructions and those who remained on ventilator or not fully conscious were excluded.

## Data Collection

### Tools-

1. **Wong Bakers Faces pain Rating Scale.**

2. **Validated Questionnaire** about pain experiences including **four point verbal numerical scale** ranging from 0-no pain, 3- max pain.

- Data was collected from December 2022 to January 2023.
- First assessment was done after 24 hrs of surgery and 2<sup>nd</sup>, 3<sup>rd</sup> observations after 48 hrs and 72 hrs respectively

## Analysis

Epi Infoversion 3.5.1

Statistical significance- Paired ' t ' test at 0.05 probability value.

## Result :

### Sample Characteristics

- ❖ 76 patients underwent cranioplasty during data collection period.
- ❖ 40 were conveniently selected.
- ❖ Age ranged from 19yrs to 74yrs Mean 44.2 to 12.8yrs , median 42.5yrs.
- ❖ 22 were males and 18 were females
- ❖ 35 patients undergone supratentorial and 5 patients undergone infratentorial cranioplasty.

**Characteristics of Post-Op Pain**

- Max. Obtained pain score was 19
- All patients reported surgical dressing removal as the activity causing max. Pain
- 45% patients also reported pain during position change.
- None of the patients reported pain during physiotherapy, suctioning or other nursing activity.

**Pain Relief Drugs Used**

- Most of the patients got pain relief from non narcotic and NSAID. The drugs used were Diclofenac sodium, Tramadol or Acetamenophen either alone or in combination.
- Most recieved Diclofenac sodium + Tramadol on first (72.5%), second (50%) and third (12.5%) post op days.
- One patient didn't require analgesic on 2<sup>nd</sup> day while 22 patients didn't require on 3<sup>rd</sup> day.

**Pain Score as Per Selected Variables**

Characteristics of Patients	Mean	S.D.	P Value
<b>POST-OP DAY</b>			
FIRST P.O.D	8.73	1.935	0.000
SECOND P.O.D.	6.25	1.104	0.000
THIRD P.O.D	2.93	2.280	
<b>AGE</b>			
YOUNGER AGE(< 42.5)	8.80	2.04	0.81
OLDER AGE (>42.5)	8.65	1.87	
<b>SEX</b>			
MALE	8.56	1.99	
FEMALE	8.94	1.89	0.50

**Summary**

- The reported pain was mild to moderate and used drugs provided adequate pain relief. Wong Bakers faces pain rating scale could be used as an easy tool.
- Patients self report on pain along with 4 point verbal numerical scale was helpful and further research using larger sample size is needed.

**BIBLIOGRAPHY**

## Books

Black Joyce M & Jane Hokanson Hawks. (2005). Medical Surgical Nursing (7<sup>th</sup> edition ). Philadelphia: W.B.Saunders Company

Brunner & Suddarth. (2004). Text book of Medical Surgical Nursing. 11<sup>th</sup> edition). Philadelphia: Lippincott Williams and Wilkins.

Carol Taylor.(2008). Fundamentals of nursing the act and science of nursing care. (1st Edition). New Delhi: Lippincott Williams and Wilkins.

Densie T. Polit Hungler (2007). Essentials of nursing research methods, appraisals and utilization. (8th edition). Newyork: Lippincott.

Fawcent (2008). Analysis and evaluation of conceptual Models of Nursing. New Delhi: F.A. Davis Company.

Gupta.S.P. (2003). Statistical Methods ( 31st edition). India : Sultan Chand Educational Publication.

Harrison's. (1999). Principles of internal medicine. ( 16th edition). New York: McGraw Hill Medical Publishing Division.

Kothari. C.R. (2008). Research Methodology, Methods and Techniques. (2<sup>nd</sup> edition). NewDelhi: New Age International Publishers.

Lewis. (2007). Medical Surgical Nursing (5th edition). Philadelphia : mosby publications.

Mahajan B.K . (1997). Methods in Biostatistics (8th edition). New Delhi: Jaypee Publications.

Potter & Perry.P. (2009). Basic Nursing theory and practice (9th edition). Mosby: USA.

Seshiah V.A. (1997). A Handbook of nursing procedures (1st edition).Mumbai: All India Publishers.

Sundar Rao P.S. (1999). An introduction to Biostatistics- A Manual for students in health sciences.

Timby Barbara. K & Smith Nanas.E. (2007). Introduction to medical surgical nursing. (9th edition). Philadelphia: Lippincott William and Wilkins publications.

Wesley.L.Ruby. (1995). Nursing Theories and Models. (2nd edition). New Delhi: Spring House Corporation.

## Journals:

Agarwal et al., (2012). Acute Intradialytic stretching complications in End Stage Renal Disease on maintenance haemodialysis. Journal of Nepal Medical Association, 52(187), 118-121.

Amany sobhy sorour et al., (2013). Nurses knowledge and practice regarding Intradialytic Complications for Haemodialysis Patient. Journal of American Science, 9(11), 300-307.

Anu Mathew & Latha. S. (2014). Effectiveness of Intradialytic stretching exercise on fatigue and quality of life among chronic renal failure patients undergoing Haemodialysis. *Journal of International Academic Research for Multidisciplinary*, 2 (7),320-323.

Appanraj.R., Kumar,A., & Usha.(2015).Muscle cramps episodes among chronic renal failure patients who are on haemodialysis. *International Journal of advances in case reports*, 2 (13).