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Effectiveness of preoperative teaching to reduce the anxiety level of patient attendants on craniotomy: A Quantitative One group pre-test post-test research study

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Abstract
Background: A craniotomy may be done for a variety of reasons. It may be done as an emergency following a head injury or brain haemorrhage. All surgeries carry some risks.
Objectives: To assess the effectiveness of preoperative teaching in terms of knowledge and anxiety level of the patient attendants of the patients who are undergoing craniotomy.
Material and Method: The study adopted a quantitative pre-experimental one group pre-test post-test design, 42 patient attendants of the patients who are undergoing craniotomy in Rahman Hospitals Pvt. Ltd., Guwahati, Assam were recruited as sample of the study utilising purposive sampling technique. A Structured Knowledge Questionnaire, GAD-7 Scale were used to collect the data. Descriptive and inferential statistics were used to analysis the data.
Result: The mean score of knowledge of patient attendants regarding craniotomy was increased from 13.76 to 22.21 after the implementation of preoperative teaching. The mean score of anxiety level of patient attendants regarding craniotomy was reduced from 13.74 to 9.93 after the implementation of preoperative teaching. Most of the patient attendants [47.6%] belonged to the age group of 25-30 years, [57.1%] were male, [38.1%] were secondary education, [42.9%] belonged to nuclear family, [59.5%] were married, [47.6%] were Son/daughter. Majority of the patients [42.9%] were undergoing frontotemporoparietal craniotomy, [35.7%] underwent craniotomy due to CVA, [71.4%] had moderate level of consciousness as per GCS, [28.6%] were not oriented to time, place, and person, [33.3%] had hypertension, [45.2%] had found to be ill for less than 1 month of duration.
Conclusion: Based on the findings, the study concludes that the preoperative teaching was effective in enhancing knowledge on craniotomy and in reduction of the anxiety level of the patient attendants regarding the patients who are undergoing craniotomy. There was a significant inverse correlation between knowledge and anxiety level.

Keywords: Effectiveness, preoperative teaching, anxiety level, craniotomy, patient attendants

Introduction
A craniotomy may be done for a variety of reasons. It may be done in an emergency following a head injury or brain hemorrhage, it may be done to remove blood clots; which are pressing on the brain. As a planned procedure, it may be essential to remove a tumor of brain or to clip cerebral aneurysm. Every operations carry some kind of risks. The common risks associated with any type of surgery include bleeding; infections; blood clots; risks related to anesthesia like light-headedness, low blood pressure, etc. [1].

Methodology
The objectives of the study were to assess the effectiveness of preoperative teaching in terms of knowledge and anxiety level of the patient attendants of the patients who are undergoing craniotomy and also to find out the relationship between the knowledge and anxiety level of the patient attendants of the patients who are undergoing craniotomy. The research approach chosen for the study was a quantitative one group pre-test and post-test research design. The study was conducted among patient attendants of the patients who are undergoing craniotomy in Rahman Hospitals Pvt. Ltd. Formal permission was obtained from each participant. Every participant was assured of his/her privacy and confidentiality.

Sample Size
The sample size was 42 patient attendants of the patients who are undergoing craniotomy in Rahman Hospitals Pvt. Ltd.

Sampling Technique
Non-probability purposive sampling technique

Tool for data collection
The tool used in the study were:
Part I- Demographic and clinical variable Proforma.
Part II- Structured knowledge questionnaire.
Part III- Generalized anxiety disorder (GAD-7) scale.

Procedure for data collection
Formal permission was obtained from the concerned authorities of Rahman Hospitals Private Limited and the patient attendants. The data were collected in one month from the patient attendants of the patients who are undergoing craniotomy at Rahman Hospitals Private Limited. Non-probability purposive sampling technique was used for the selection of the patient attendants in the study. A total of 56 patient attendants were selected for pre-test. The purpose of the study was explained to the participants and a pre-test was conducted by using a structured questionnaire regarding craniotomy and the GAD-7 scale to assess the anxiety levels. On the same day, preoperative teaching on craniotomy was given by using the lecture cum demonstration method for 45 minutes. After 2 weeks, 14 patient attendants were not present during the time of data collection for post- test, so, the post-test was conducted on 42 patient attendants using the same structured questionnaire regarding craniotomy to assess their knowledge and the GAD-7 scale to assess their anxiety level.

Data Analysis
The data were analyzed and interpreted in accordance with the objectives of the study by using descriptive and inferential statistical methods. Frequency and percentage distribution methods were used for the analysis of demographic variables and clinical variables in the study.

Results

Table 1: Frequency and Percentage Distribution of Demographic Variables of the patient attendants of the patients who are undergoing craniotomy n=42

Sl. No.	Demographic variables		Frequency	Percentage (%)
1	Age in year	< 25 years	5	11.9%
		25 - 30 years	20	47.6%
		31 - 35 years	5	11.9%
		Above 35 years	12	28.6%
2	Gender	Female	18	42.9%
		Male	24	57.1%
3	Religion	Christian	9	21.4%
		Hindu	15	35.7%
		Muslim	18	42.9%
4	Educational qualification	Higher education	10	23.8%
		Primary education	12	28.6%
		Professional education	4	9.5%
		Secondary education	16	38.1%
5	Occupation	Govt. employee	8	19.0%
		Self - employee	23	54.8%
		Unemployed	11	26.2%
6	Types of Family	Extended family	14	33.3%
		Joint family	10	23.8%
		Nuclear family	18	42.9%
7	Marital Status	Divorced	4	9.5%
		Married	25	59.5%
		Unmarried	10	23.8%
		Widow	2	4.8%
		Widower	1	2.4%
8	Relationship with patient	Father/Mother	3	7.1%
		Friends	1	2.4%
		Husband/Wife	15	35.7%
		Relatives	3	7.1%
		Son/daughter	20	47.6%

Table 2: Frequency and Percentage Distribution of Clinical Variables of the patients who are undergoing craniotomy n=42

Sl. No.	Clinical Variables		Frequency	Percentage (%)
1.	Types of craniotomy	Frontal parasagital craniotomy	1	2.4
		Frontotemporal craniotomy	1	2.4
		Frontotemporaparietal craniotomy	18	42.9
		Midline suboccipital craniotomy	3	7.1
		Pteironal craniotomy	10	23.8
		Temperoparietal craniotomy	9	21.4
	Indications of craniotomy	Brain tumour	8	19.0
		Cerebral aneurysm	7	16.7

		CVA	15	35.7
		TBI	12	28.6
2.	Level of consciousness according to GCS	Mild (13 -15)	1	2.4
		Moderate (9 - 12)	30	71.4
		Severe (3 - 8)	11	26.2
3.	Orientation	All the above	8	19.0
		None of the above	12	28.6
		Person	10	23.8
		Place	3	7.1
		Time	5	11.9
		Time & person	4	9.5
4.	Co-morbidity	Diabetes mellitus	6	14.3
		HTN with DM	10	23.8
		Hypertension	14	33.3
		Hypothyroidism	2	4.8
		None of the above	10	23.8
5.	Duration of illness before surgery	> 1 month - 6 month	11	26.2
		> 6 month - 1 year	8	19.0
		Above 1 year	4	9.5
		Below 1 month	19	45.2

Table 3: Frequency and Percentage Distribution of Knowledge of the patient attendants of the patients who are undergoing craniotomy before and after the implementation of preoperative teaching. n=42

	Knowledge					
	Poor		Average		Good	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Pre-Test	30	71	10	23.8	2	4.8
Post-Test	3	7.1	16	38.1	23	54.8

Table 4: Frequency and Percentage Distribution of anxiety level of the patient attendants regarding the patients who are undergoing craniotomy before and after implementation of preoperative teaching. n=42

	Anxiety					
	Mild		Moderate		Severe	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Pre-test	4	9.5	16	38.1	22	52.4
Post- test	20	47.6	22	52.4	0	0

Table 5: Calculation of paired t-test for the comparison of knowledge on craniotomy before and after the implementation of preoperative teaching. n=42

	Mean	Mean Difference	Std. Deviation	t-value	df	P-value
Pre-Test Knowledge	13.76	8.45	4.45	23.84	41	<0.001**
Post-Test Knowledge	22.21		3.95			

(**-Significant at p<0.05; tabulated 't' – value = 2.02)

Table 6: Calculation of paired t-test for the comparison of anxiety level of the patient attendants regarding the patients who are undergoing craniotomy before and after the implementation of preoperative teaching. n=42

	Mean	Mean Difference	Std. Deviation	t-value	df	P-value
Pre-Test anxiety level	13.74	3.81	3.01	15.62	41	<0.001**
Post-Test anxiety level	9.93		2.29			

(**-Significant at p<0.05; tabulated 't' – value = 2.02)

Table 7: Correlation between pre-test knowledge and pre-test anxiety level of the patient attendants of the patients who are undergoing craniotomy. n=42

	'r'-value	p-value
Pre-Test Knowledge	-0.84	<0.001**
Pre-Test anxiety level		

(** - Significant at p<0.05)

Discussion

The study revealed that the preoperative teaching in terms of knowledge was effective which showed that mean of post-test knowledge score of patient attendants was significantly higher than the mean of the pre-test knowledge score (t=25.09, p=<.001). Similar findings were reported by Ng SX, Wang W, Shen Q, Toh ZA, He HG[2] who conducted a study on the effectiveness of preoperative education interventions on improving perioperative outcomes of adult patients undergoing cardiac surgery: a systematic review and meta-analysis shows that preoperative education had large significant effects on reducing post-intervention preoperative anxiety (P = 0.02), length of ICU stay (P = 0.02), and improving knowledge (P=0.00001). In the present study, the preoperative teaching regarding craniotomy in terms of anxiety was effective which showed that mean of pre-test anxiety level of patient attendants was significantly higher than the mean of the post-test. (t = 15.62, p = <0.001). Similar findings were reported by Koshy PP[3], who conducted the study on effectiveness of preoperative

teaching on anxiety of patients undergoing craniotomy shows the result indicated an improvement in preoperative teaching. These improvements were highly significant (p<0.001) which shows difference in pre-test knowledge mean score and post-test knowledge mean score and anxiety of the patients reduced after the preoperative teaching. Similar findings were reported by Martin R [4], who conducted the study on the effectiveness of structured preoperative education on anxiety level of patients undergoing elective orthopaedic surgery depict that there was significant difference suggesting that preoperative teaching was effective in increasing the knowledge of patients and reducing anxiety level of the patients.

Conclusion

From the findings of the present study the following conclusions were drawn-

- The mean post-test knowledge score was significantly higher than the pre-test knowledge score of the patient attendants of the patients who are undergoing craniotomy regarding the craniotomy.
- The mean post-test anxiety level score was significantly lower than the pre-test anxiety level score.

Therefore, the study concludes that the preoperative teaching was effective in enhancing knowledge on craniotomy and in reduction of the anxiety level of the patient attendants regarding the patients who are undergoing craniotomy

Reference

1. Craniotomy [Internet]. Healthpages.org. HealthPages.org | Anatomy, Surgery, Pregnancy, Nutrition, Fitness; 2011 [cited 2022 Dec 22]. Available from: https://www.healthpages.org/surgical-care/craniotomy/
2. Ng SX, Wang W, Shen Q, Toh ZA, He HG. The effectiveness of preoperative education interventions on improving perioperative outcomes of adult patients undergoing cardiac surgery: a systematic review and meta-analysis. Eur J Cardiovasc Nurs [Internet]. 2022 [cited 2022 Dec 22];21(6):521-36. Available from: https://pubmed.ncbi.nlm.nih.gov/34964470/
3. Koshy P**.** Effectiveness of preoperative teaching on anxiety of patients undergoing craniotomy. Shree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum; c2007.
4. Martin R. Effectiveness of structured preoperative education on anxiety level of patients undergoing elective orthopaedic surgery. Indian Journal of Continuing Nursing Education, 2022, (2).