

TO ASSESS THE KNOWLEDGE AND PRACTICE OF HOME CARE REGARDING POST CRANIOTOMY CARE AMONG CAREGIVERS OF CRANIOTOMY PATIENTS.

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Abstract:

Background - After the initial phase of hospitalization and recovery, most patients return to home to live in community with numerous physical, psychological, mental, social, and spiritual health disabilities. Those conditions prohibit the individual from participating in the community independently and efficiently. Around three fourths of patients tend to receive help from family members for daily living activities. So family caregivers play a significant part, since they are born with a large portion of the cost of home care.

Objective -This study is planned with the objective to Assess Knowledge and practice of home care regarding post craniotomy care among caregivers of patients. And to associate the knowledge and practice of home care regarding post craniotomy care among caregivers of patients with selected demographic variables.

Methodology -This study was conducted in Wardha district. It was a descriptive study where in caregivers of 36 patients who underwent craniotomy. A self prepared validated questionnaire was designed to assess the level of knowledge and observational checklist prepared for observing practice, caregivers age up to 50 and above it, as per inclusion/exclusion criteria, Sampling Technique: non probability convenient sampling ,Survey research approach were selected. Ethics approval was obtained from IEC, DMIMS (DMIMS (DU)/IEC/Dec-2019/8644). The conclusion will be drawn from the results and will be published in peer reviewed journal.

Expected Results- Results According to the study, timely caregiver education on craniotomy care is important during hospitalization, so that after discharge of proper practice information reduces the chance of complication and minimizes the risk of infection and mainly in whom care givers are among younger adults and people with low educational status. Educational level and age group can be significant to knowledge and practice. Researchers predict that effective discharge planning and interventions were increasing the knowledge and practice level of the caregivers.

Keywords – Craniotomy, Post Craniotomy care, Caregivers

Introduction:

A craniotomy is a surgical procedure that momentarily removes a bone flap from the skull to reach the brain. Craniotomies are also a vital procedure performed on patients with brain injuries or traumatic brain injury (TBI), and may also allow doctors to surgically implant deep brain stimulators to treat Parkinson's disease, epilepsy, and cerebellar tremor. In neuroscience, the technique is also commonly used for extra cellular recording, brain imaging, and neural manipulations such as electrical stimulation and chemical titration. with a high incidence of secondary complications, because many of these patients have depressed defensive reflexes and decreased levels of consciousness and they endure prolonged periods of immobilization. After a craniotomy, most people tend to stay in hospital for 5 to 14 days. Their activity is growing gradually. It is normal for people after the surgery to feel exhausted for 6 weeks. The person may need physical therapy, occupational therapy, or speech therapy to restore normal function, depending on the region of the brain affected.¹

It profoundly affects physiological as well as psychological functions². Statistics indicate that some of India's leading sites saw over 40,000 neurology patients every year³ between the years 2003 and 2006. The diagnosis and treatment of neurological disorders involves a high degree of accuracy and timing that would assess the prognosis and even decide the quality of life of the patient. Neurological diseases are major causes of death. There are common disease variable as well as other variable which need attention to that mortality and morbidity. A neurological illness poses a huge obstacle to the person, family and caregiver whether they are a patient, a family member, or a significant other. Neurosurgery is one of the big neurological condition treatment systems².

Rationale of study –

Craniotomy entails increased morbidity and death, and has a wide variety of complications. These complications may be avoided by extensive perioperative planning, strict adherence to aseptic procedures, diligent microsurgical dissection, proper wound closure, judicious use of prophylactic agents and careful treatment of wound.⁴

The incidence of craniotomy surgery and its complications are high in United States and also in India. The lack of personal hygiene, lack of adequate knowledge of patients and caregivers are the important factors in developing most of the complications such as pneumonia, DVT, wound infection and bleeding disorders.⁵

The combination of verbal and written health records helps patients and significant others to be presented with structured care records, which seems to increase understanding and satisfaction. The nature and extend of post discharge problem experienced by newly discharged patients helps as a baseline for discharge planning.⁶

After discharge of patient developed the Surgical site infection in two patients and one patient developed CSF rhinorrhea in our hospital. These happened probably due to improper home care Practice and inadequate knowledge regarding home care after craniotomy. For this reason the investigator decided to assess Knowledge and Practice though the Questionnaires and checklist of care givers of patients after craniotomy⁷.

Methodology -This study was conducted in Wardha district. It was a descriptive study where in caregivers of 36 patients who underwent craniotomy. A self prepared validated questionnaire was designed to assess the level of knowledge and observational checklist prepared for observing practice, caregivers age up to 50 and above it, as per inclusion/exclusion criteria, Sampling Technique: non probability convenient sampling ,Survey research approach were selected.

CRITERIA OF STUDY

Inclusion criteria:-

Those who are:

1. Caregivers willing to participate in the study
2. Caregivers those who are available at the time of sampling
3. Caregivers those who are Able to understand Marathi and English

Exclusion criteria:-

Those who are:

1. Previously exposed to such study.
2. Caregivers, those who are already having practice regarding post-operative craniotomy management.
3. Caregivers who are health professional.

Withdrawal Criteria - Participants who fulfill the following criteria will be withdrawn from the study:

1. Want to withdraw from the study
2. Not fulfilling study schedule

Sample size: In previous studies, the sample size ranges from 20 to 30.

For this study, the power is set at 0.80 and it is considered as superiority design .So the sample size is calculated by using following formula.

$$\eta = \frac{Z_{\alpha/2}^2 \times P \times (1-P)}{d^2}$$

$2\alpha/2$ is the level of significance at 5% i.e. 95%

Confidence interval =1.96

P=Prevalence of surgical site infection

=4.1%=0.041

d= Desired error of margin =7% =0.07

$$\eta = \frac{1.96^2 \times 0.041 \times (1-0.041)}{0.07^2}$$

= 30.82

= 36 Caregivers needed in the study

In consideration of 10% dropout, 36 participants needed in the study.

Outcome measures –

1. **Primary outcomes include** Assess Knowledge of home care regarding post craniotomy care among caregivers of patients.
2. **Secondary outcomes include** Assess practice of home care regarding post craniotomy care among caregivers of patients.

Data management and monitoring -

Validated structured items were used to assess the knowledge and practices, was used to assess the knowledge about new Craniotomy care. The tool was prepared on the basis of objectives of the study. The tool was divided in three sections. **Section 1:-** Demographic variables. There were 5 demographic variables age, Gender, Educational, occupation, Caregivers relation with patient. **Section 2:-** A structured questionnaire on knowledge regarding the Craniotomy care. There were total 16 items in the questionnaires. Every item having 4 options to respond. Out of 4 options only one option was corrected. A score of one was given for every correct answer. The total score of overall knowledge questionnaire (out of 16) was categorized as Self prepared questionnaire was used to assess the knowledge of caregivers of patients **Section3:-** Observational checklist based on home care regarding post craniotomy care among caregivers of patients

Data will be collected direct visit of patient home, when data collected only selected the patient who leaving Wardha district. For data collection using questionnaires for assessing the knowledge and using observational checklist for seeing practice.

Statistical analysis- Statistical analyses will be performed A. Demographic data is to be analyzed using frequency, percentage (%) and presented in the form of table and graphs. B. Unpaired t-test and one way ANOVA test was used to analyze the association between knowledge and practice of home care regarding post craniotomy care among caregivers of patients with selected demographic variables.

Ethics and dissemination- This study is approved by the Institutional Ethics Committee of DMIMS (DMIMS (DU/IEC/Dec-2019/8644) All participants will asked to read and sign the informed consent. The study results will be disseminated to study participants and published in peer-reviewed publications.

Expected Outcomes/Results:

Author chose this title for study because after discharge from hospital patient going home and developed infection because patient caregivers don't know how to take care of it and how to do it, so timely caregiver education during hospitalization is important. In the United States, and also in India, the incidence of craniotomy surgery and its complications are high. The lack of good practice, lack of adequate caregiver's knowledge, is dangerous. Results According to the study, timely caregiver education on craniotomy care is important during hospitalization, so that after discharge of proper practice information reduces the chance of complication and minimizes the risk of infection and mainly in whom care givers are among younger adults and people with low educational status.

Discussion

Sreejith SM., (2011) A study to assess the knowledge of home care among caregivers of patients after craniotomy in SCTIMST, Trivandrum. They summarized that during hospitalization, approximate and timely education of caregivers is necessary. So that patients are given optimum care after discharge. The authors concluded that if the discharge preparation is successful it will mitigate the problems that can arise due to inadequate home treatment. According to the Author educational level and age group, awareness and experience are important. The Author predicts that effective discharge planning and interventions had increased the caregivers' level of knowledge and practice. Mistiaen et al (2007) conducted a study on interventions aimed at reducing problems in hospital-to-home adult patients. They summarized that interventions to support discharge planning and discharge have a positive impact on patient status at hospital discharge. Articles related to craniotomy and intracranial operative procedures

are available⁸⁻¹⁰. Panchbhai et al reported about oral health care needs in the dependent elderly in India¹¹. Shaheed et al assessed the quality of life and mental status in cancer patients¹². Similar studies on patient care and health care needs were reported by Verghese et al¹³, Borkar et al¹⁴ and Grover et al¹⁵.

Conclusion: Conclusion will be drawn from the statistical analysis.

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