Study of Knowledge of First Aid Management and Emergency Care in Burn Patients

Prabhjot Saini*, P Ranadive, R Mahal

Introduction
The attainment of health is a fundamental right of every human being, enshrined in the constitution. The hospital provides curative, preventive, promotive and rehabilitative services for the needy. Nurses in the hospital form major part in the care system. Since nurses are the major force in hospitals, they play a pivotal role. They give nursing care to the patients and their activities rally around the needs of the patient.

Trauma, specially burns, irrespective of age, swift in onset and slow in recovery, presents many pitfalls for the care of the patient. Nurses need a thorough understanding of the pathophysiologic changes and treatment modalities in various phases of injury and healing. Burn care has improved in recent decades, resulting in lower mortality rate for victims of burn injuries. Dedicated burn centres have been established in which multi-disciplinary burn team works to care for the burn patient and the family. Advances in pre-hospital and inpatient care have contributed to survival. Max (1989) and Dogra (2004) reported that burn is a preventable tragedy, which is unfortunately still common in India. Possibility of disfigurement, death and emotional trauma is a shattering experience to the victim as well as his / her family. Proper initial management can salvage many such unfortunate victims. Burns require close monitoring, barrier nursing and sympathetic attitude of medical and paramedical staff in a burn ICU for better chances of survival. Understanding the pathophysiology of a burn injury is important for its effective management. Besides, different causes of burns lead to different injury patterns, which require different management. It is, therefore, important to understand how a burn was caused and what kind of physiological response it will induce (Shehan & Peter, 2005).

Across the world, burn nurses have also played a vital role in burn education and burn prevention activities. Nurses need to understand the essence of what it means to be ‘a burn nurse’. It is important for nurse to be able to determine best practice based on good principles of care.

The authors therefore conducted an experimental study to evaluate the effectiveness of a self-structured teaching programme on the knowledge regarding First Aid Management and Emergency Care (FAM&EC) of burn patients among staff nurses in selected hospitals of Ludhiana, Punjab.

Objectives
The objectives of the study were to:
1. Assess the pre-test knowledge of staff nurses among control and experimental group.
2. Assess the post-test knowledge score of staff nurses among control and experimental group.
3. Compare pre-test and post-test score of staff nurses among control and experimental group.
4. Find out relationship of effectiveness of structured teaching programme on staff nurses with selected variables, i.e. age, professional qualification, duration of experience, in-service education on FAM&EC of burn patients.

Research Hypotheses:
The post-test mean knowledge score of staff nurses among the experimental group was significantly higher than those of the control group staff nurses.

Theoretical framework:
It was based on General System Theory by Ludwig Von Bertalanffy (1968) and IOWA model. System’s theory’s main focus is on human system, subsystem, input, throughput and output in terms of feedback.

The knowledge of staff nurses regarding FAM&EC of burns, is under study. It is an open system, which consists of interrelated subsystem such as demographic variables. The change in any of the sub-
systems can cause change in the knowledge score when some sensory input is provided with the throughput i.e. knowledge regarding FAM & EC of burn patients via teaching strategy; it increases the knowledge of staff nurses, which leads to application of the knowledge in practice. Feedback refers to the output that is returned to the subsystem.

Similarly, the conceptual framework is also based on IOWA model with a concept that infusing knowledge, improves the quality of patient care. Application of knowledge is important to improve patient outcome.

Methodology
The study utilised a quasi-experimental design which was adopted to assess the effect of structured teaching programme on FAM & EC of burn patients among staff nurses. Randomisation was not possible due to limited number of staff nurses handling burn patients.

A non-equivalent group pre-test post-test design was adopted to accomplish the objectives of the study.

The independent variables included were age, professional qualification, duration of experience, area of work, in-service education on first aid management or emergency care of burn patients, monthly salary, number of burn cases handled, institution of working.

The dependent variables were knowledge regarding first aid management and emergency care of burn patients.

The study was conducted on 50 staff nurses working in burns unit, plastic surgery unit, trauma / casualty and intensive care units of selected hospitals of Ludhiana, Punjab. Purposive sampling technique was adopted to collect the data. The sample consisted of two groups of staff nurses: experimental group and control group.

The tool for data collection was developed based on review of literature. It was divided into 3 parts:

Part 1: Sample characteristics
Part 2: Tool for assessment of knowledge regarding FAM & EC of burn patients (total score = 50)
Part 3: Self-structured teaching programme regarding FAM & EC of burn patients.

Reliability of the tool was computed by Split half method using Spearman Brown formula (r=0.92).

A pilot study was conducted for checking the feasibility of the study and establishing reliability of the tool. The collected data was organised and analysed according to objectives of the study using descriptive and inferential statistics.

Findings
Analysis and interpretation was done in accordance with the objectives laid down for the study. The data was analysed by calculating the score in terms of mean and standard deviation; t-value and was finally calculated between experimental and control groups. The level of significance chosen was 0.05. The staff nurses of experimental group and control group were matched on demographic profile using the test of association.

Majority of the respondents were in the age group, 20-25 years (52%). Maximum respondents had not attended any such in-service education programme, and had undergone private training for nursing education (96%). Maximum respondents were getting monthly salary beyond Rs. 5000-7500 (64%). Respondents belonging to CMC&H were taken as control group and DMC&H respondents as experimental group.

Mean pre-test and post-test knowledge score of control group (32-48, 33) was not statistically significant, whereas the pre-test and post-test knowledge score of experimental group (31.52, 43.52) was found to be highly significant as evident from ‘t’ value (48)=10.090 (p<0.001).

This suggested that structured teaching programme has definite impact on the mean knowledge score of experimental group.

The maximum pre-test knowledge score of staff nurses in control group (56%) and experimental group (60%) was good. Maximum post-test knowledge score in control group was good (52%) while in experimental group, it was excellent (96%).

Hence, most of the staff nurses of both experimental and control groups had good knowledge and there is a definite effect of teaching on knowledge scores in experimental group.

Experimental group have significant increase in post-test knowledge mean score as evident from ‘t’ value (10) = 5.75 at July 09.
p<0.001 level of staff nurses who attended inservice, whereas pre-test knowledge mean score of control group shows that there is statistically significant difference in the knowledge scores as evident from ‘t’ value (23) =2.43 at p<0.05 level of staff nurses who attended in-service education (34.55) than who have not attended (30.86). Hence, it is concluded that attending inservice education can make improvement in improving knowledge.

Conclusion

- Self-structured teaching plan was found effective in increasing knowledge about FAM&EC of burn patients among staff nurses.
- There was highly significant difference between pre- and post-test knowledge scores of experimental group among staff nurses regarding FAM&EC of burn patients.
- There was highly statistical significant association between the knowledge scores of staff nurses who attended in-service education.

Implications

1. A curriculum should be developed for nursing students about importance of teaching the first aid management of burn victims, and its prevention and control, since immediate first aid reduces the risk of mortality and hospital stay.
2. Attention to basic principles of initial trauma and resuscitation and the timely application of simple emergency measures can minimise the morbidity and mortality in burn injuries.
3. Nurse administrators should encourage involvement of family, community and friend groups in improving the practices of immediate first-aid management of burns.

Recommendations

The study can be replicated in a larger sample. It should include attitude and practices of staff nurses regarding FAM&EC of burn patients.

Similar study can be conducted in different setting and different target population such as general public or nursing students.

A retrospective study can be conducted to find out the type of burns, burns occurrence, age group with most prevalent burns and the number of days for hospital stay can be conducted.

References