Knowledge and Attitude of Registered Nurses towards Post Cardiac Arrest Targeted Temperature Management

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Abstract: *Aim: A descriptive study to assess the knowledge and attitude of registered nurses towards post cardiac arrest targeted temperature management in a tertiary care hospital at Lucknow Objectives: 1) To assess the knowledge of Registered Nurses towards post cardiac arrest targeted temperature management. 2) To assess the attitude of Registered Nurses towards post cardiac arrest targeted temperature management. 3)To find the association between knowledge of Registered Nurses towards post cardiac arrest targeted temperature management and socio demographic data.4) To find the association between attitude of Registered Nurses towards post cardiac arrest targeted temperature management and socio demographic data 5) To find the association between knowledge and attitude of Registered Nurses towards post cardiac arrest targeted temperature management. Methodology: Descriptive, cross-sectional, non-experimental and quantitative study conducted on 80 registered nurses of tertiary care hospital, Lucknow Results: Among 80 registered nurses, majority (57.5%) of the subjects belonged to the age group of 20-30 years. Majority (53.8%) had undergone GNM Majority (37.5%) of subjects had 6 months to 5 years of experience. Majority of subjects (82.5%)had 6 months to 1 years of tenure.12.5% had done diploma course in critical care. Majority (55%) of the subjects had poor knowledge and only 7.5% had good knowledge. Majority of 55% (44) of subjects had negative attitude and 45%(36) of them had positive attitude. The study revealed that there is a significant statistical relationship between professional qualification and knowledge and also between years of experience in critical care and knowledge. It is also revealed that subjects who attended courses in critical care had good knowledge. There is a no significant relationship between socio demographic data and attitude. There is a significant relationship between knowledge level and attitude of the subjects on post cardiac arrest targeted temperature management. Conclusion: The knowledge of registered nurses regarding TTM need improvement. Continuous education with a view to promote the required quality of this essential health practice is encouraged.*

Keywords: knowledge, attitude, registered nurses, cardiac arrest, targeted temperature management

1. Introduction

Cardiac Arrest remains a leading cause of sudden morbidity and mortality. Enhanced recovery in cardiac arrest survivor is likely a product of multifactorial system-based changes, including the advent and evolution of Targeted Temperature Management (TTM). In 2003 the American Heart Association (AHA) and the International Liaison Committee on Resuscitation (ILCOR) endorsed the use of Targeted Temperature Management following cardiac arrest. Targeted temperature management (TTM) is an acute treatment that tries to achieve and maintain a specific body temperature in a person for a specific duration of time in an effort to improve health outcomes during recovery after a period of stopped blood flow to the brain. It is important to consider the various protective mechanism of hypothermia in achieving therapeutic objectives and improving neurological outcome as it reduces the brain metabolism (for every reduction in temperature degree brain metabolism reduces by 5% to 8%) leading to decrease in oxygen and glucose consumption of brain cells, it decreases apoptosis pathways and prevent cell death. Hypothermia block the process of neurological deterioration or even reverse it. It has a protective effect on blood brain barrier by reducing vascular permeability and decreasing cerebral edema. Levels of brain lactate are significantly reduced by hypothermia. Hypothermia has a repressive effect on seizure activity and increase tolerance to ischemia

Aim

To assess the knowledge and attitude of Registered Nurses towards the post cardiac arrest targeted temperature management in a tertiary care hospital at Lucknow

Objectives

1) To assess the knowledge of Registered Nurses towards post cardiac arrest targeted temperature management.
2) To assess the attitude of Registered Nurses towards post cardiac arrest targeted temperature management.
3) To find the association between knowledge of Registered Nurses towards post cardiac arrest targeted temperature management and socio demographic data.
4) To find the association between attitude of Registered Nurses towards post cardiac arrest targeted temperature management and socio demographic data.
5) To find the association between knowledge and attitude of Registered Nurses towards post cardiac arrest targeted temperature management

2. Methodology

A descriptive, cross-sectional, non-experimental and quantitative study conducted on 80 registered nurses of tertiary care hospital, Lucknow. A structured questionnaire consists of information on demographic profile, questions related to knowledge on TTM related to Practice &Protocol and attitude of registered nurses on TTM on a 5 point Likert scale with positive to negative scorings. Was prepared for assessing knowledge and attitude of registered nurses. Descriptive and inferential statistics was used to interpret the

findings. Written informed consent was also taken from the subjects.

3. Discussion

Out of 80 Registered Nurses majority (57.5%) belonged to the age group of 20-30 years and only 8.1% were in the age group of >40 years. Majority (53.8%) had undergone GNM, and only 3.8% were MSc(N). Majority (37.5%) of subjects had 6 months to 5 years of experience, and 7.5% had > 20 years of experience. Majority of subjects (82.5%) had 6 months to 1 years of tenure, and 6.25% had > 10 years in critical care unit. Majority (48.75%) had not done any courses, and 12.5% had done diploma course in critical care
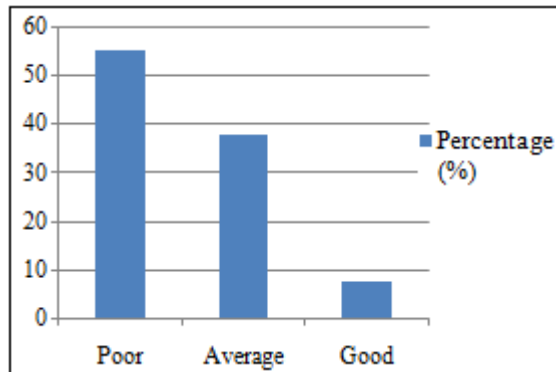

Figure 1: Percentage Distribution of subjects based on knowledge

Majority of 55% (44) of subjects had poor knowledge, 37.5% (30) of subjects had average knowledge and 7.5% of them had excellent knowledge regarding post cardiac arrest targeted temperature management

Maximum of subjects had knowledge in ACLS protocol (86.2%) and standard neuro-protective strategy (80%). The subjects lack knowledge in the areas of duration of TTM (25%) and duration of induction phase (23. 8%).Subjects need more emphasis on knowledge regarding phases and procedures of targeted temperature management.

A similar cross sectional descriptive study conducted **by Hannah KhahuganiInyamaError! Bookmark not defined., et al, Kenya(2017)** to determine the level of awareness on therapeutic hypothermia/targeted temperature among healthcare providers. The sample size for the study was 54 who were BLS and ACLS trained and certified. Majority of the participants in the study were critical care nurses and most of the participants were aged between 31-39 years of age and experience 1-5 years in critical care. 35% of participants had never heard about TTM. They could not find any association between health care providers designation and awareness of TTM
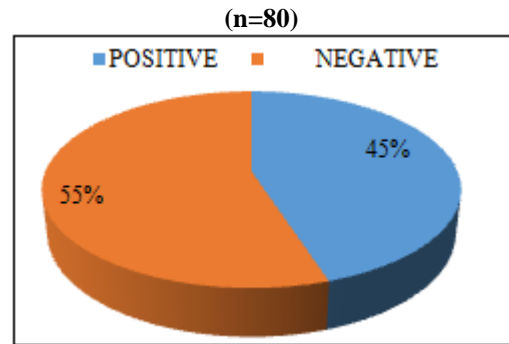
(n=80)

Figure 2: Percentage Distribution of subjects based on attitude

Majority 44 (55%) of subjects had negative attitude and 36(45%) of them had positive attitude regarding post cardiac arrest targeted temperature management.

Table No 1: Association of knowledge level of the subjects on post cardiac arrest targeted temperature management with qualification, (n=80)

Qualification	Good	Average	Poor	X^2	p
GNM	02	11	30		
PBBSc	01	05	04		
BSc	03	13	08	23.90	0.001
MSc	Nil	01	02		
Total	06	30	44		

There is a significant relationship between professional qualification and knowledge.

Table 2: Association of knowledge level of the subjects on post cardiac arrest targeted temperature management with tenure in ICU, (n=80)

Tenure in ICU	Good	Average	Poor	X^2	p
6months – 01year	03	23	40		
2 years – 10 years	01	05	03	11.01	0.02
> 10 years	02	02	01		
TOTAL	06	30	44		

There is a significant relationship between years of experience in critical care and knowledge

Table 3: Association of knowledge level of the subjects on post cardiac arrest targeted temperature management with courses attended in critical care nursing (n=80)

Courses Attended	Good	Average	Poor	X^2	p
Update course	03	11	17		
Diploma course	01	05	04	10.70	0.03
No courses done	02	14	23		
Total	06	30	44		

There is a significant relationship between courses attended in critical care and knowledge.

In this study we could not find any association between the socio demographic data and attitude of subjects

Table 4: Association of knowledge level with attitude of the subjects on post cardiac arrest targeted temperature management (n=80)

Knowledge/Attitude	Good	Average	Poor	X^2	P
Positive	06	15	15		
Negative	Nil	15	29	14.34	<0.001
Total	06	30	44		

There is a significant relationship between knowledge level and attitude of the subjects on post cardiac arrest targeted temperature management.

4. Conclusion

The study revealed that subjects who had higher professional qualification, more tenure in ICU, and who attended critical care courses had better knowledge. However, it is observed that there is a scope for practicing Targeted Temperature Management (TTM) after cardiac arrest to improve neurological outcome of patients. The study has reflected the need of strengthening of knowledge about Targeted Temperature Management among registered nurses through CNE, workshop, symposium etc. and development of an institutional protocol to practice Targeted Temperature Management (TTM) for better nursing care.

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