

## TO ASSESS THE PRACTICE OF ORGANIZED CRASH CART SYSTEM AMONG NURSES AT SELECTED HOSPITALS , PUDUCHERRY

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### INTRODUCTION

Crash cart is an essential part of emergency procedure in any hospital. An organized crash cart can bring a sense of structure to a potentially chaotic situation. Crash cart are usually stocked with emergency medications for almost all potential emergency situation. Apart from emergency medication, they contain various other equipments like resuscitation set, organized into various drawers & modules like intubation module, intravenous module etc.

A well-organized crash cart can save a lot of time & confusion during an emergency, which in turn can save a life. Some crash carts are organized into drawers with color code for different types of situations.<sup>1</sup>

In hospital emergency rooms, intensive care units and other areas cardiac arrest is quite common. When this occurs immediate care must be provided with in few minutes to prevent permanent brain cell damage. To speed the delivery of necessary drugs and equipment, crash carts are used by designated teams of nurses and doctors.

The crash cart may be hex angle in shape

with caster wheels arranged so it can be easily turned on a central axis. Each of the sides is readily accessible at the same time with one of the sides being quickly removable for use as a cardiac arrest

board which is placed under the patient's back during resuscitation. The cart is made of aluminum and plastic for light weight and maneuverability. The sides of the cart are transparent panels which are colour coded, so equipment and drugs stored inside can be quickly identified and removed.<sup>2</sup>

Further the upright shape of the cart provides better mobility and requires less floor space than conventional rectangle shaped boxes and cart. This is extremely important considering the congestion usually surrounding a patient during emergencies. After an emergency the removable panels can be quickly entered for restocking and made ready for use again in a few minutes.

The crash cart for use in storing equipment and drugs in a hospital and the like includes a lower housing having caster wheels mounted on the bottom thereof. The lower housing has side panels which may be opened for entrance into the housing. One or more of

the side panels may be transparent for viewing the items stored therein. An upper housing is mounted on top of the lower housing with the upper housing having one or more transparent side panels for viewing items stored therein. The side panels may be opened for entrance into the housing. A flat rotate able shelf is mounted on top of the upper housing and is adapted for receiving equipment such as a defibrillator thereon.<sup>3</sup>

Types of standard carts are adult cart; the adult emergency cart is usually a three drawer cart. It is colour coded red or grey and items for treatment of adult patients. A few of these cart may have five drawers and the pediatric cart; the pediatric emergency cart is a five drawer cart and is painted blue. It contains items for pediatric use.<sup>4</sup>

## **NEED FOR THE STUDY**

It is a well-known fact that crash cart system is an integral part of emergency procedures in any hospital. But it is felt that this system is not used to its potential in most of the hospitals. During emergency situation, nurses are left with confusion & hurry in getting the emergency medications.<sup>6</sup> A well-organized crash cart can save a lot of time & confusion during an emergency, which in turn can save the life. Some crash carts are organized into drawers with color code for different type of situations.<sup>7</sup>

These are some of the item found on a crash cart: Defibrillator, the goal is to shock the heart back to normal. Endo-tracheal intubation equipment, the tube allows artificial respiration equipment to take over the job of breathing for the patient, Central vein catheters, cardiac drugs and many other lifesaving drugs.

To insure availability of all drugs and equipment necessary to initiate advanced life-support measures and uniformity of crash cart throughout the units. All crash cart will be checked; defibrillator and cardiac monitor shall be checked and appropriately

Documented for performance on both battery and electrical current once in every 24 hours. The defibrillator will remain plugged into an electrical outlet at all times, except during battery testing. The department will be contacted immediately when a defibrillator problem is documented once in every shift.<sup>9</sup>

Responsibilities of the nurse in charge are restocking of crash cart immediately after every shift, verifying contents of the cart with the supply personnel, verifying the presence and expiry date of all items on carts at least every month, reporting to supply department if expiry date is exceeded or seal is broken.

Because of the number of personnel on an emergency team and the necessity for speed

in the delivery of care, confusion quite often occurs when the first drugs to be administered were in one drawer while an equally important piece of equipment was in another drawer. Because of the structure of the equipment box access to more than one drawer at a time was impossible causing serious delays. Further these carts were organized in as much as first used drugs were in a specific drawer, respirator equipment in another drawer etc. This means one drawer after another must be opened and closed repeatedly.

Here it was felt that a study was needed to assess the knowledge about the full potential of crash cart system among nurses. Further, the study will go into the existing crash cart practices among the nurses. This would help in bringing out the need for organized crash cart system awareness among nurses on the need & importance of crash cart system.<sup>10</sup>

#### **STATEMENT OF THE PROBLEM:**

“A descriptive study to assess the practice of organized crash cart system among nurses at selected hospitals, Puducherry”.

#### **OBJECTIVES**

1. To assess the level practice of nurses regarding organized crash cart system.
2. To find out the association between practice of nurses regarding crash cart and selected variables.

#### **OPERATIONAL DEFINITION**

- **Practice of organized crash cart system:**

It refers to the deliberate effort taken by the staff nurses to arrange crash cart in a systematic order after every shift.

- **Organized crash cart:** It refers to a systematically arranged emergency trolley.

#### **ASSUMPTION:**

It is assumed that nurses lack efficiency in utilization of organized crash cart system.

#### **INCLUSION CRITERIA:**

- Nurses who are working in Emergency, CCU and ICU departments at selected hospitals, Puducherry
- Nurses who are willing to participate in the study.

#### **METHODOLOGY**

- **RESEARCH APPROACH:** Quantitative research approach
- **RESEARCH DESIGN:** Descriptive approach
- **POPULATION:** Staff nurses working at Emergency, CCU and ICU

departments.

- **SAMPLE:** Simple random sampling by lottery method
- **SAMPLING CRITERIA INCLUSION CRITERIA**

- Nurses who are working at Emergency, ICU and CCU departments in selected hospitals.

- Nurses who are willing to participate in the study.

**DATA COLLECTION INSTRUMENT:**

Based on the objectives of the study observational checklist was developed to assess the practice of

nurses regarding crash cart. It was considered to be an appropriate instrument.

Section A: Demographic data

Section B: Assessment of practice regarding crash cart through observational checklist

**DATA COLLECTION PROCEDURE:**

Prior permission was obtained from the concerned authority to conduct the study. The investigator personally visited and introduced to the nursing superintendent and explained the purpose of the study. Data was collected .

**DATA ANALYSIS AND INTERPRETATION**

**Table – 1 Assessment of level of Practice on Organized crash Cart system among Nurses**

PRACTICE LEVELS	RESPONDE	
	FREQUENCY	%
SATISFACTORY (< 50%)	21	42.0
MODERATELY SATISFACTORY (51-	29	58.0
UNSATISFACTORY ( > 75% )	-	-
TOT	50	100.0

Table 1 shows that 21(42 percent) of the subjects have satisfactory level of practice and 29(58 percent) were moderately satisfactory level.

Aspect wise Mean Practice on Organized crash Cart system among Nurses

n =50

No.	Practice Aspects	Statements	Max. score	Range Score	Practice		
					Mean	Mean	SD
I	Location	3	3	1-3	2.72	90.7	19.1
II	Maintenance	11	11	1-10	4.84	44.0	20.5
III	Arrangement	8	8	2-7	5.30	66.3	16.0
IV	Post emergency	3	3	0-2	0.74	24.7	25.9
V	Credentials of	2	2	0-2	0.26	13.0	24.3
	Total	27	27	8-20	13.86	51.3	13.7

The range of score on location of crash cart was 1-3. Subjects scored a mean score of 2.72, the mean practice score percent was 90.7 and the standard deviation score was 19.1

The range of score on maintenance of crash cart was 1-10. Subjects scored a mean score of 4.84, the mean practice score percent was 44.0 and the standard deviation score was 20.5

The range of score on arrangement of crash cart was 2-7. Subjects scored a mean score of 5.30, the mean practice score percent was 66.3 and the

standard deviation score was 16.0

The range of score on post emergency nursing action of crash cart was 0-2. Subjects scored a mean score of 0.74, the mean practice score percent was 24.7 and the standard deviation score was 25.9

The range of score on credentials of nurses was 0-2. Subjects scored a mean score of 0.26, the mean practice score percent was 13.0 and the standard deviation score was 24.3

## SUMMARY

The present study was conducted with an objective to assess the practice of organized crash cart system among nurses in, selected Hospital ,Puducherry. In order to achieve the objectives of the study a descriptive observational approach was adopted and purposive sampling technique was used to select the samples. The study was conducted over a period of 4 weeks. The data was collected from 50 subjects by using observational checklist.

**The first objective was to assess the practice of nurses regarding organized crash cart system.**

The practice regarding crash cart system was assessed and tabulated in table 2. It reveals that out of 50 subjects 21 (42%) had satisfactory level of practice and 29 (58%) of staff nurses had moderately satisfactory levels. The overall mean practice score percent was 51.3 with a standard deviation of 13.7. These findings show none of the subjects have highly unsatisfactory level of practice.

**The second objective was to find out the association between practice of nurses and selected variables**

The relationship of nurse's practice regarding crash cart system and demographic variables are shown in table 1. There is no significant relationship found with any of the

listed demographic variables like gender, marital status, professional qualification and total experience. There was inferential significance found with the age, area of working and practice of the staff nurses regarding crash cart.

**Demographic variables of the subjects.**In the present study ,

- 22 (40percent) of the subjects were in the age group of 23-25 years, 20 (40 percent) were of 26-28 years and 8(16 percent) of 29-31 years of age.
- 15 (30 percent) of the subjects were males and 35 (70 percent) were females.
- 39 (78 percent) of the subjects were single and 11(22 percent) were married.
- 39 (78 percent) of the subjects were diploma and 11 (22 percent) were graduates.
- 20 (40 percent) of the subjects were working in ICU, another 20 (40 percent) were in CCU and 10 (20 percent) in Emergency departments.
- 19 (38 percent) were having 1 year of experience, 15 (30 percent) were having 2-3 years of experience and 16 (32 percent) of the subjects were having 4+ years of experience.

## CONCLUSION

- 21 (42percent) of subjects had satisfactory level of practice and 29 (58percent) of staff nurses had moderately satisfactory levels. These findings show none of the subjects have unsatisfactory level of practice regarding organized crash cart.
- The overall range of practice score was between 8-20, mean practices score percent was 51.3 with a standard deviation of 13.7.
- There is no significant relationship found with any of the listed demographic variables like gender, marital status, professional qualification and total experience.
- There is significant association found between age, area of working and practice of the staff nurses regarding crash cart.
- None of the subjects had unsatisfactory level of practice (>75 percent).

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