

# A Comparative Study to Assess the Knowledge on Code Blue Protocol among the Nurses of General Ward and Critical Care Unit at Mahatma Gandhi Medical College and Research Institute, Puducherry, India

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## ABSTRACT

**Background:** Code blue is generally used to indicate a patient requiring resuscitation or in need of immediate medical attention, most often as the result of a respiratory arrest or cardiac arrest. Every hospital as a part of its plans, sets a policy to determine which unit provides personnel or code blue coverage. It is very essential for every staff nurse to have an adequate knowledge regarding the code blue protocol to reduce the mortality rate especially in critical care units. A comparative study was conducted to assess the knowledge on code blue protocol between general ward and critical unit staff nurses at Mahatma Gandhi Medical College and Research Institute.

**Materials and methods:** Descriptive research design was used to conduct this study. Sixty nurses (30 general ward nurses and 30 critical care unit nurses) selected by purposive sampling technique, from the general ward and critical care unit includes medical ward, surgical ward, orthopaedic ward and gynaecological ward at Mahatma Gandhi Medical College and Research Institute, Puducherry. The data collected by semi structured questionnaire to assess the knowledge on code blue protocol.

**Results:** In critical care unit nurses, knowledge mean score is 19.30 and the standard deviation is 3.36. In general ward nurses, knowledge means the score is 15.23 and standard deviation is 2.19. The findings show that statistically highly significant ( $p \leq 0.000$ ).

**Conclusion:** The critical care nurses are having more knowledge about code blue than general ward nurses. Code blue call is the life threatening scenario where it should be known to every nurse who was working in both critical care units and general wards.

**Keywords:** Cardiac arrest, Code blue, Critical care unit, General ward and staff nurses.

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## INTRODUCTION

In hospital area, emergency resuscitation and stabilization of medical emergency situations can be happening,<sup>1-5</sup> that time the code blue can be used as a rapid response system. These medical emergencies require immediate attention.<sup>6-8</sup> When a person found in cardiac or respiratory arrest (unresponsive, pulse less, or not breathing) the code blue can be started immediately.<sup>9-16</sup>

Code blue rapid response system are provided with resuscitation and stabilization immediately to established medical emergencies.<sup>17-18</sup> The response system is in two phases. (i) Basic life support (BLS) service should be provided by hospital personnel who is the initial response. (ii) Specialized and well trained team will be the second response.<sup>19-23</sup>

Based upon the quality of standards to enable the proper establishment, the response system is being conducted with a specific response.<sup>24-28</sup> To enable the initiation of critical BLS, all members in the hospital must be trained with BLS skills.<sup>29,30</sup> BLS equipment should be placed in all strategic locations within the hospital grounds where the equipment is portable or mobile to enable rapid response.<sup>31-34</sup> Once there is a code blue, a team of doctors and paramedics (medical assistants and staff nurses), often a designated "code-team," will rush to the patient taking life-saving measures.<sup>35-39</sup> The team uses a "crash cart," wheelchair/stretcher, which contains important aids such as suction, oxygen, intubation equipment, ambu bag, defibrillator, resuscitation drugs

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and an IV setup to stabilize the patient.<sup>40-44</sup> The team will utilize BLS and advanced cardiac life support (ACLS) skills to resuscitate patients.<sup>45-48</sup>

## OBJECTIVES

- To assess the knowledge on code blue protocol among general ward staff nurse and critical care staff nurse.
- To compare the knowledge on code blue protocol among general ward staff nurse and critical care staff nurse.
- To find out the association between the level of knowledge on code blue protocol with selected demographic variables.

**HYPOTHESES**

- H<sub>1</sub>—There will be difference between the level of knowledge on code blue protocol among general ward staff nurse and critical care staff nurse.
- H<sub>2</sub>—There will be an association between the levels of knowledge on code blue protocol with selected demographic variables.

**MATERIALS AND METHODS**

Quantitative approach was used to assess the knowledge on code blue protocol among general ward nurses and critical care unit nurses at MGMCRI, Puducherry. Descriptive research design was used to conduct this study. The study was conducted in general ward and critical care unit at MGMCRI, Puducherry. The study population was general ward and critical care staff nurses at MGMCRI, Puducherry. The sample size was 60:30 general ward nurses and 30 critical care nurses. A purposive sampling technique was used. Tool used for this study was demographic variables and questionnaire to assess the knowledge on code blue protocol which includes security's first response, number of officers in code blue, depth of chest compression, techniques used to ensure understanding of orders during code blue, expansion of rapid of spontaneous circulation (ROSC), indication for defibrillation, when the monophasic defibrillator can be set, method to confirm the position of endotracheal (ET) tube, phase I consist of nurse's work during phase I, etc.

**RESULTS**

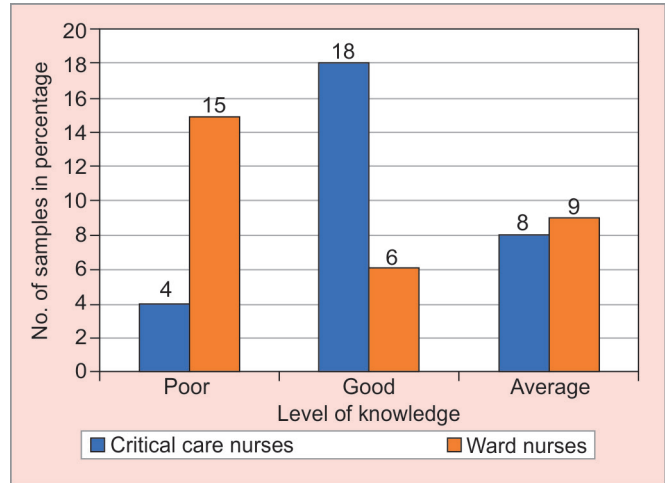
**Major Findings**

*Distribution of Demographic Variables of Staff Nurses in General Wards and Critical Care Units (N = 60)*

With regard to the age, majority of samples 15 (50%) in critical care unit, 19 (60%) in general ward nurses were in the age group of 26–30 years. With regard to the religion, majority of samples 23 (76%) in critical care unit, 16 (53%) in general ward nurses were Hindu. Regarding gender, majority of samples 20 (66%) were males in critical care unit, 18 (60%) were females in general ward nurses. Regarding experience, majority of samples 7 (24%) were in the range of experience of 3–4 years in critical care nurses and 14 (47%) were in the range of less than 2 years of experience in general ward nurses.

*Distribution of Knowledge of Staff Nurses in Wards and Critical Care Nurses Regarding Code Blue (N = 60)*

Figure 1 depicts percentage distribution of knowledge of staff nurses in general wards and critical care nurses regarding code blue. In critical care area majority of samples 18 (60%) were in the category of good; 8 (26%) were in the category of average and 4 (13%) were in the range of poor. This shows that majority of the staff in critical care were in the category of good knowledge about the code blue. In general ward areas like medical ward, surgical ward, orthopaedic ward, gynaecology ward, etc., majority of samples 15 (50%) were in the category of poor; 9 (30%) were in the category of average and 6 (20%) were in the range of good. This shows majority of the staff in ward areas were in the category of poor knowledge about the code blue.



**Fig. 1:** Distribution of knowledge of staff nurses in wards and critical care units

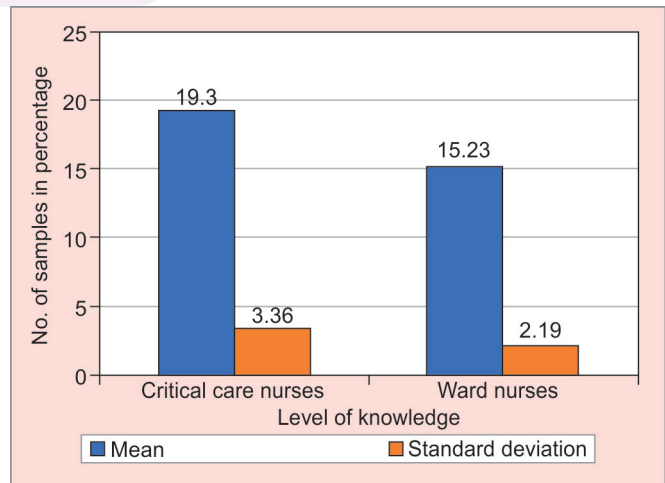
Figure 2 depicts comparison of knowledge on code blue protocol among ward and critical care nurses. In critical care nurses the mean knowledge was 19.30, standard deviation was 3.36 where in general wards mean knowledge was 15.23 and standard deviation was 2.19. The calculated *p* value ( $p \leq 0.000$ ) was less than 0.05 level and found statistically significant, which reveals that critical care nurses are having more knowledge about code blue than ward nurses.

*Association between Levels of Knowledge of Staff Nurses with Selected Demographic Variables*

There was a significant association between the level of knowledge of staff nurse with less than 2 years of experience at  $p < 0.038$ .

**CONCLUSION**

Code blue call is the life threatening scenario<sup>24,25</sup> where it should be known to every nurse who are working in both critical care units and general wards. The main conclusion of the study was that the general ward nurses had average knowledge and critical care nurses had good knowledge on code blue protocol.



**Fig. 2:** Comparison of knowledge on code blue protocol among ward and critical care nurses



## DECLARATION OF PATIENT CONSENT

The authors certify that they have obtained all appropriate patient consent forms. In the form of patient(s) has/have given his or her their consent for his/her/their images and other clinical information to be reported in the journal. Patients understand that their names and initials will be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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