

Current Practice of Discharging Patients From Post Anesthesia Care Unit After Surgical Operations, 2018

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Research

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Abstract

Background: Post-Anesthesia discharge criteria scoring systems have been used successfully to help discharge from the post anesthetic care unit for more than many years. They provide standardized documentation of a patient's readiness for discharge. A formal checklist is highly recommended for the staff to decide discharge of patients either to the ward or not from post-anesthesia care unit. In our study area there is no any standardized discharging systems. So the aim of this study was to improve post-anesthesia care outcomes.

Methods: Institutional based cross sectional study was conducted from January, 1- 15, 2018. All patients who were discharged from post anesthesia care unit to wards after operation were involved and a consecutive sampling method was done within the stud period. From the checklist form maximum score of subscales is two and minimal score is zero .The total scores should be greater than or equal to nine out of ten to transfer the patient from post anesthesia care unit to wards.

Results: This study showed that only 73.3 % patients were meet the audit standard. From sub scales, patients awakens scored was 91.1%, however all the rest scales were scored less than the standard. Able to move four extremities was 73.3%,able to deep breath and cough freely was 80%, blood pressure \pm 20 mmHg of pre-anesthetic level was 75.6% and able to maintain oxygen saturation > 92% on room air was 84.4%.

Conclusion and recommendation: This finding was low compared with standard as well as with the other studies. Then the staffs who work in post anesthesia care unit should be given training and they must discharge patients based of the standard as well as r- auditing is important to achieve the standard.

Background

Post-Anesthesia discharge criteria scoring systems have been used successfully to aid discharge from the post anesthetic care unit for over many years. Standardized documentation of a patient's readiness for discharge and agreed, written criteria for discharge of patients from the PACU to the ward should be in place in all units (1, 2).Every recovery room should have well-defined criteria for discharge of patients to the general ward or other clinical areas. If the discharge criteria are not achieved, the patient should remain in the recovery room and the responsible staff informed or may be transferred to an high dependence unit or intensive care unit but not to normal wards(3, 4).Recovery is an ongoing process that begins from the end of intraoperative care until the patient returns to his/her preoperative physiological state. The success of recovery depends on the appropriate and timely discharge of patients who have been anesthetized. Early discharge of patients, who later experience postoperative complications requiring unanticipated re-admission for re-operation or emergency care(5, 6).In practice, the most common causes for re-admission are surgical factors, particularly bleeding(7). The others are patients with respiratory complication are 20.7% and cardiovascular complications are 12.3%(8). The incidence of complications in the post-anesthesia care unit may be as high as 25%, many of which could be attributed

directly or indirectly to mistakes in medical decision. It has been estimated that up to 14% of the patient complications in the post-anesthesia unit are attributable to poor inter-team communication and inadequate medical information transfer(9). Usually the cause of post-operative complications in ward are human mistakes which account 53.5%,knowledge based 10.7%,skill based 2.3%,system error 8.4%,technical 4.8% and equipment error 14.3%(8). Post-Anesthesia care units are standard parts of hospital care(4). A formal checklist is highly recommended for the staff to decide discharge of patients either to the ward or not from post-anesthesia care unit(4). The MASS is the latest standard mostly used to make a decision when patients can be safely discharged from the post-anesthesia care unit to other wards. The scores are based on following standardized items; able to move, respiration, circulation, consciousness and level of oxygen saturation(10). But in our study area there is no any standardized discharging systems or with traditional discharge system. So the aim of this study was to improve post-anesthesia care outcomes for patients who have just had anesthesia before they were scheduled to be admitted to general wards or other units of the hospital or to investigate whether discharge scoring criteria are fulfill before discharge decision and allow for earlier discharge.

Methods

Ethical clearance was obtained from the ethical review committee of the school of medicine ,College of medicine and health science ,University of Gondar comprehensive Specialized Hospital. Institutional based cross sectional study was conducted from January, 1- 15, 2018. All patients who were discharged from PACU to wards after operation were involved and a consecutive sampling method was done within the stud period. Data were collected by reviewing patient’s medical record chart and anesthetic record sheet. The five main items and fifteen sub items selected from MASS. From the checklist form maximum score of sub scale is two (2) and minimal score is zero and the total scores should be greater than or equal to nine (9) to transferee the patient from PACU to wards (Table 1).

Table 1: Scoring method based on the modified Aldrete scoring system.

Discharge criteria from post anesthesia care unit		Scores
Able to move voluntarily or on command	Four extremities	2
	Two extremities	1
	Zero extremities	0
Respiration	Able to deep breathe and cough freely	2
	Dyspnea, shallow or limited breathing	1
	Apneic	0
Circulation	Blood pressure \pm 20 mmHg of pre-anesthetic level	2
	Blood pressure \pm 20–50 mmHg pre-anesthesia level	1
	Blood pressure \pm 50 mmHg of pre-anesthesia level	0
Consciousness	Fully awake	2
	Arousable on calling	1
	Not responding	0
O2-Saturation	Able to maintain O2 saturation > 92% on room air	2
	Needs O2 inhalation to maintain O2 saturation > 90%	1
	O2 saturation < 90% even with O2 supplementation	0
Total possible score		10

*The total scores should be greater than or equal to nine (9) to transferee the patient from PACU to wards.

Results

Information was collected from 45 patients. This study showed that only 73.3 % patients were meet the audit standard (Figure1). From sub scales patients awakens scored 91.1% was good area of clinical practice, however all the rest scales were below the standard. Able to move four extremities was 73.3%,able to deep breath and cough freely was 80%, blood pressure \pm 20 mmHg of pre-anesthetic level was 75.6% and Able to maintain O2 saturation > 92% on room air was 84.4%(Table 2 & Figure 2).

Table 2: Audit results Based of Standard at Post anesthesia Care Unit, Jounuary1-15, 2018(N=45).

Standard	Number of patients whom discharged	Number of patients who score in each item of the standard	Percentage of patients who score in each item standard
Able to move four extremities	45	35	77.7%
Able to move two extremities	45	10	22.2%
Able to move zero extremities	45	0	0%
Able to deep breathe and cough freely	45	36	80%
Dyspnea, shallow or limited breathing	45	9	20%
Apneic	45	0	0%
Blood pressure \pm 20 mmHg of pre-anesthetic level	45	34	75.6%
Blood pressure \pm 20–50 mmHg pre-anesthesia level	45	11	24.4%
Blood pressure \pm 50 mmHg of pre-anesthesia level	45	0	0%
Fully awake	45	41	91.1%
Arousable on calling	45	4	8.9%
Not responding	45	0	0%
Able to maintain O ₂ saturation > 92% on room air	45	38	84.4%
Needs O ₂ inhalation to maintain O ₂ saturation > 90%	45	6	15.6
O ₂ saturation < 90% even with O ₂ supplementation	45	0	0%
Number of patients who score \geq 9	45	33	73.3%

Discussion

Discharge of the patients from the post anesthesia care unit is as important as admission of the patient into the unit(11). Recovery is a continual and ongoing process that has been traditionally divided into three distinct yet overlapping phases: early recovery, as the patient emerges from anesthesia; intermediate recovery, when the patient achieves criteria for discharge; and late recovery, when the patient returns to their preoperative physiological state(12). Traditionally, time based discharge method has been used to discharge patients from post-anesthesia care unit. Which varies from institution to institution, whereas modified Aldert,s score method standardizes and objectifies the discharge criteria across the institutions(13).Our study showed that only 73.3 % patients were meet the audit standard. This finding was low compared with the standard as well as with the other studies. This discrepancy might be because of nonstandard or time based patient discharging methods in our setup. Our institution has single post-anesthesia care unit which follows traditional time-based discharge method. From sub scales patients awakens scored was 91.1% and this result could be contributed by patients with regional anesthesia(14). A study in India the mean actual discharge time was found to be statistically significant when criteria based discharge compared with the time based discharge(13). In the other study the rate of complication and readmission were high even patients with criteria based discharge and the most cause of readmission were, with respiratory complication and cardiovascular complications (15).So rate of complications and rate of re-admission will be high in our setup even it is unknown.

Conclusion And Recommendation

This finding was low compared with standard as well as with the other studies. Then the staffs who work in post anesthesia care unit should be given training and they must discharge patients based of the standard as well as r- auditing is important to achieve the standard.

Abbreviations And Acronyms

PACU Post Anesthesia Care Unit

MASS Modified Aldert, s Scoring System

Declarations

Ethical approval

Ethical approval letter was obtained from school of medicine.

Consent for publication

Not applicable

Availability of data and material

All data generated or analyzed during this study are included in this published article

Funding

Not applicable

Conflicts of Interest

Authors declare that they have no conflicts of interest regarding the publication of this paper.

Authors contribution

Yosef Belay conceived, designed the study, supervised the data collection, and performed the data analysis, interpretation of the result, and drafting the manuscript. Co-authors participated in designing the study, data analysis and data interpretation, editing the manuscript. All authors read and approved the final manuscript.

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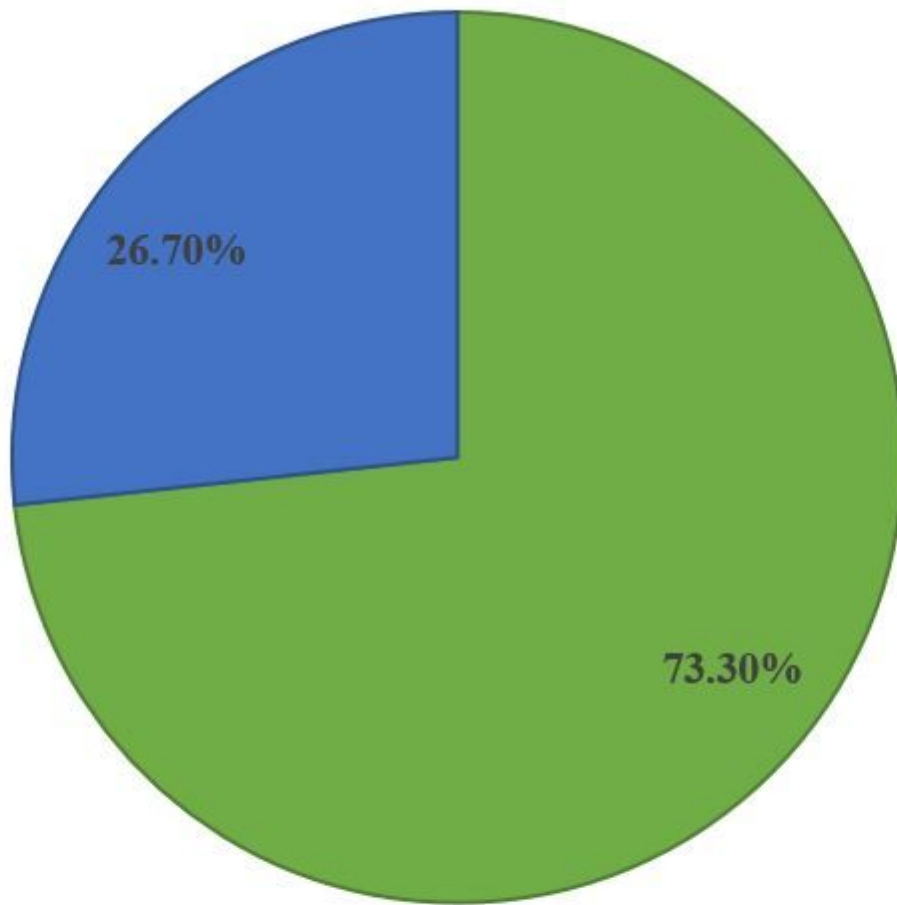
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Figures

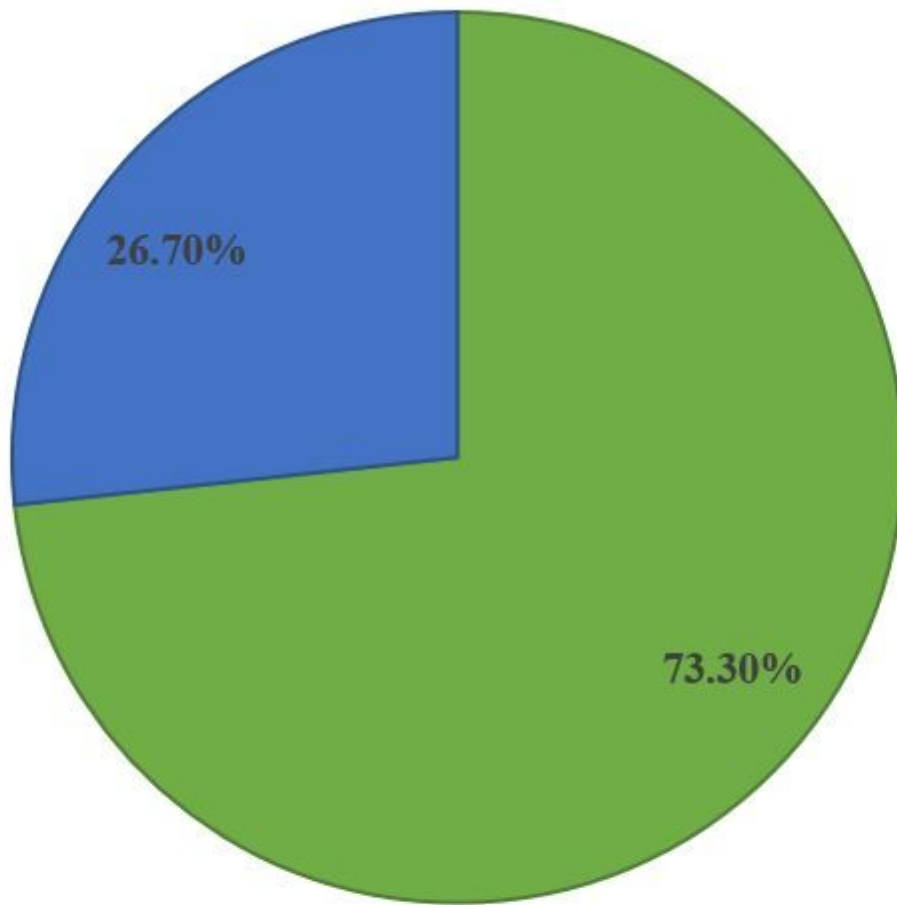


■ **Number of patients who met standard**

■ **Number of patients who did not meet standard**

Figure 1

Proportion of patients who were discharged based on standard.

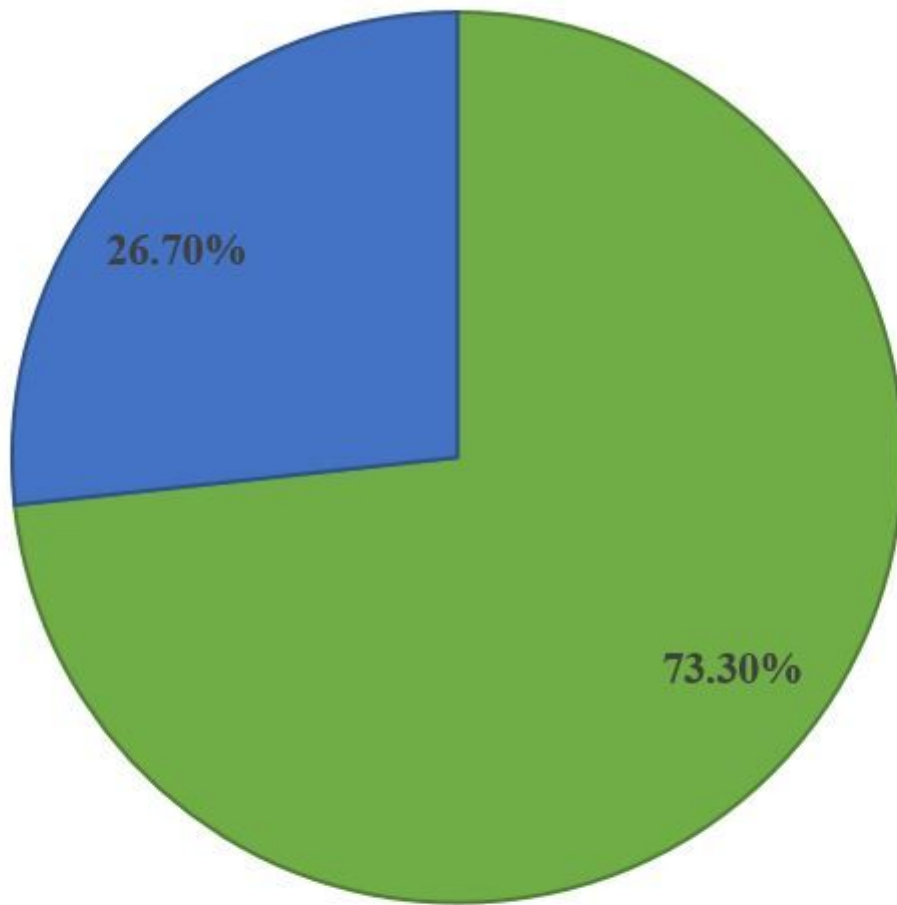


■ Number of patients who met standard

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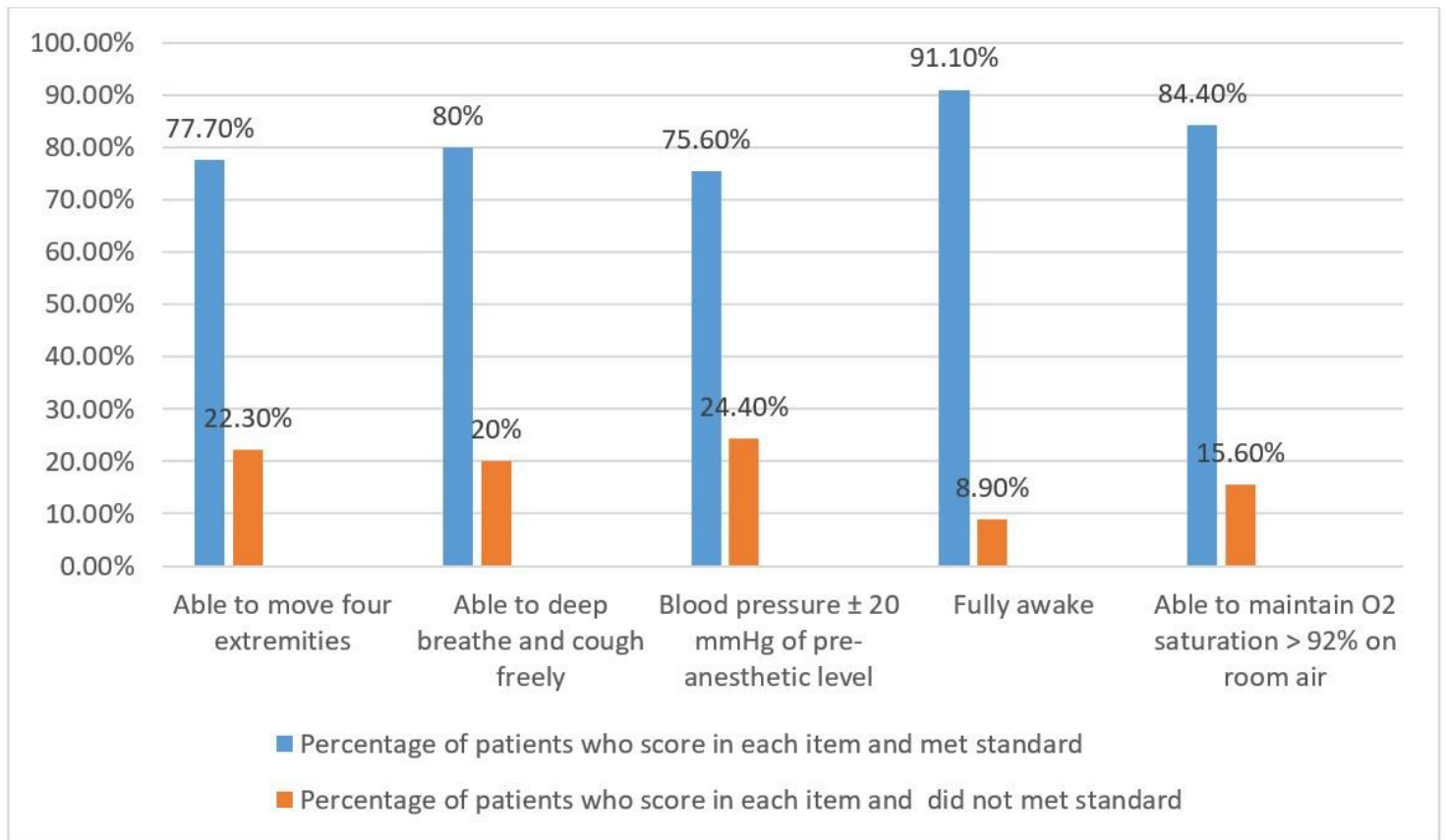


Figure 2

Subscales Discharging Criteria From Post Anesthesia Unit Based on Modified Alderte,s Scores.

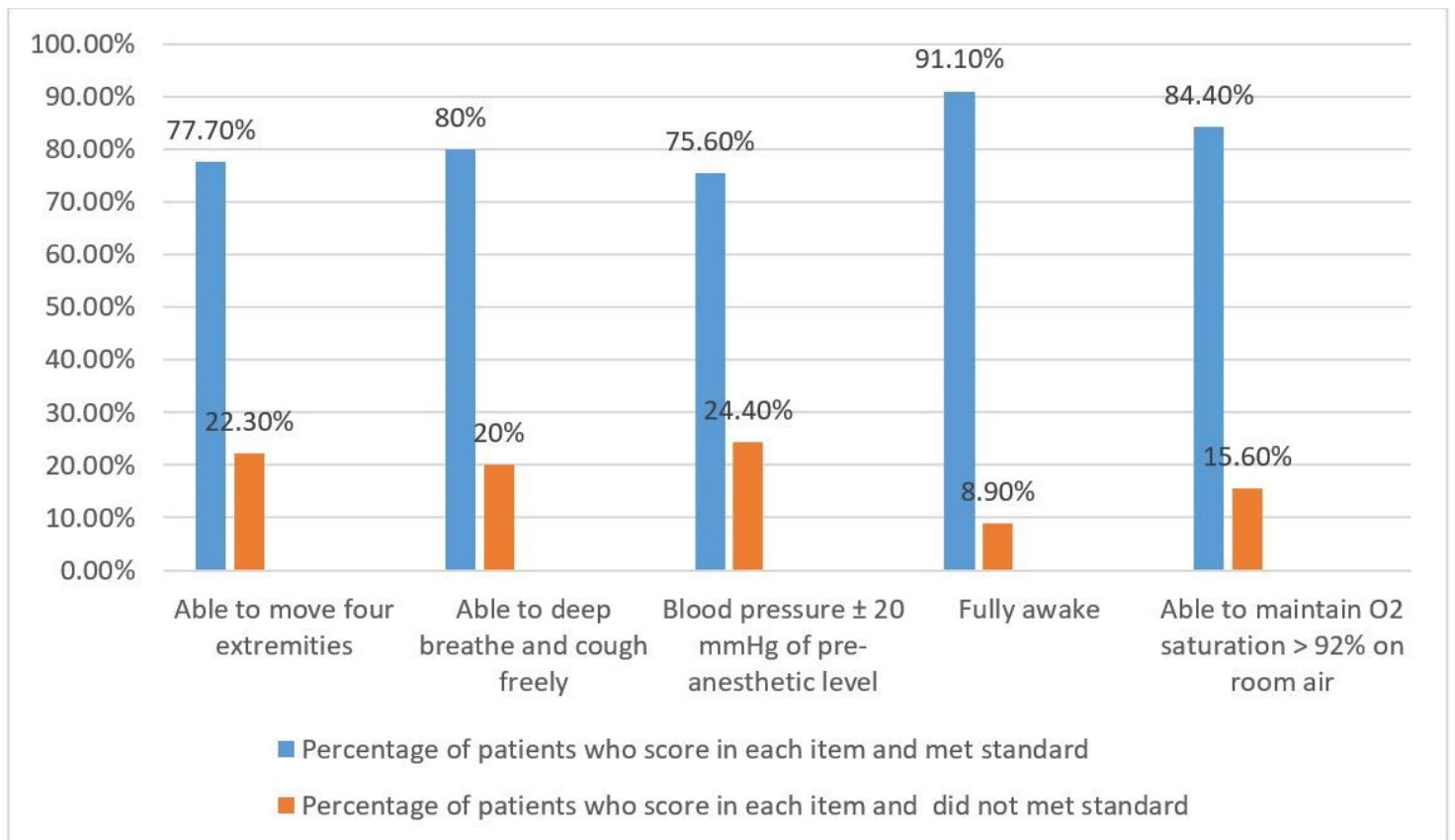


Figure 2

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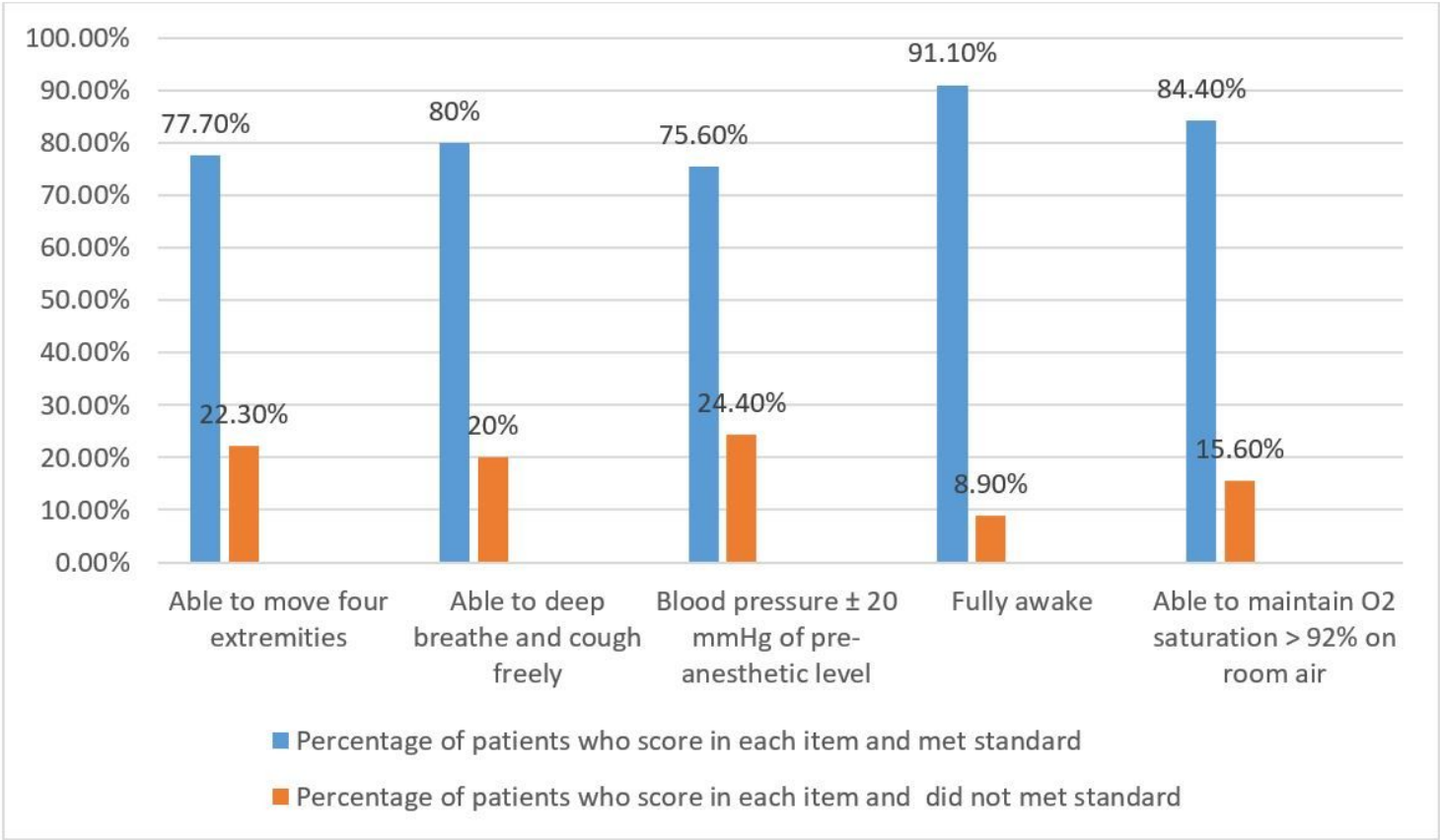


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