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ORIGINAL ARTICLE

Inappropriate Intensive Care Unit admissions: Nigerian doctors' perception and attitude

BB Osinaike[1,2], O Olusanya[2]

[1]Department of Anaesthesia, University of Ibadan and [2]Department of Anaesthesia, University College Hospital, Ibadan, Oyo State, Nigeria

Abstract

Background: Nonclinical factors are said to influence decisions to admit patients into the Intensive Care Unit (ICU). We therefore assessed the perception and attitude of Nigerian doctors working in the ICU about inappropriate admissions and request for admission in the setting of a full ICU.

Methods: An anonymous, self-administered questionnaire survey was carried out among doctors working in the ICU of 17 University Teaching Hospitals, in Nigeria. A score of 0 (least usual reason) to 5 (most usual reason) was ascribed to some factors that can influence ICU admission. In addition, each of the 4 possible actions in the setting of a full ICU was graded from 0 (least likely) to 5 (most likely). The result was analyzed as appropriate.

Results: Sixty-four doctors participated in the survey. Inappropriate admissions were acknowledged by 96% of respondents. Perceived reasons included pressure from superiors (93.7%), referring clinicians (89.1%), and hospital management (87.5%). If confronted with request for admission in the setting of a full ICU, respondents will arrange for the discharge of fit ICU patients to the ward (95.3%), transfer patients not receiving acute care to high dependency unit or recovery room (70.3%), or create additional ICU beds (42.2%). Chi-square test showed a significant difference between single and married respondents with regard to clinical doubt ($P = 0.01$) and pressure from referring clinician ($P = 0.02$) as reasons for inappropriate admission. Respondents' gender, marital status, professional activity, and number of ICU admissions per year did not affect possible steps in the setting of a full ICU.

Conclusion: Inappropriate ICU admissions were perceived as a common event and were mainly attributed to pressure from seniors, referring clinicians, and hospital management. Further work is necessary to determine the impact of such admissions on ICU efficiency.

Key words: Intensive care, patient admission, perception, resource allocation

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Introduction

The need for judicious use of limited beds and the high cost of care in the Intensive Care Unit (ICU) leaves clinicians with no choice but to employ requisite guidelines when considering patients for admission to the ICU.[1,2] These guidelines are usually clinical in nature; however, some authors have opined that nonclinical factors influence decisions to admit patients to the ICU.[3,4] There are few studies on ICU physicians' perceptions of this problem or of the appropriateness of their decisions. In particular, there are no data on inappropriate admissions to ICUs in

Address for correspondence:
Dr. BB Osinaike,
Department of Anaesthesia, University College Hospital,
PMB 5116, Dugbe, Ibadan, Oyo State, Nigeria.
E-mail: drosinaike@yahoo.co.uk

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Nigeria. We sought to assess the perception and attitude of Nigerian doctors working in the ICU about inappropriate admissions and request for admission in the setting of a full ICU.

Methods

An anonymous, self-administered questionnaire survey was done among junior doctors working in the ICU of 17 University Teaching Hospitals, in Nigeria. The first part of the questionnaire solicited personal and professional information; the second asked for opinions on possible factors that may be responsible for inappropriate admission. These factors included clinical doubt, limited decision time, assessment error, pressure from a senior, referring clinician, hospital management, patient's family, threat of legal action, and religious belief. A score of "0" was ascribed to the least usual reason and '5' to the most usual reason. An inappropriate admission was considered as the admission of a patient, who in the physician's professional opinion would not benefit from intensive care. This includes, but not limited to patients who are either too well or too sick. Furthermore, each of the four possible actions in the setting of a full ICU was graded from 0 (least likely) to 5 (most likely).

To assess the influence of respondents' gender, marital status, professional activity, and number of ICU admissions per year on reported opinions about inappropriate admissions and possible actions in the setting of a full ICU, we used Chi-square test with the opinions dichotomized as "usual reason and not a usual reason."

Results

Sixty-four doctors participated in the survey; 51 males and 13 females, 45 (70.3%) are married and 57 (89.1%) work both in the ICU and operating theatre. The average duration of experience in the ICU was 3 years. All ICUs were mixed surgical-medical with majority, 43 (67.2%) having annual admissions of <300 [Table 1]. Inappropriate admission was acknowledged by 62 (96.9%) respondents. The most common reasons given were pressure from superiors (93.7%), referring clinician (89.1%), and hospital management (87.5%) [Tables 2 and 3]. Low frequency reasons were the threat of legal action (45.3%) and religious beliefs (17.2%).

If confronted with request for admission in the setting of a full ICU, respondents are more likely to arrange for discharge of fit ICU patients to the ward (95.3%), transfer patients not receiving acute care to high dependency unit or recovery room (70.3%), or create additional ICU bed (42.2%) [Table 4]. Chi-square test showed a significant difference between single and married respondents with regard to clinical doubt ($P = 0.01$) and pressure from referring clinician ($P = 0.02$) as reasons for inappropriate admission [Table 3]. Gender, professional activity, and number of ICU admissions per year did not affect the opinion of respondents on inappropriate admissions. For possible steps in the setting of a full ICU, there was no significant relationship with respondents' gender, marital status, professional activity, and number of ICU admissions per year.

Table 1: Respondents' characteristics

Characteristics	*n* (%)
Gender	
Male	51 (79.7)
Female	13 (20.3)
Marital status	
Single	19 (29.7)
Female	45 (70.3)
Professional activity	
Mostly in theatre	6 (9.4)
Mostly in ICU	1 (1.6)
Both in ICU and theatre	57 (89.1)
Number of ICU admissions per year	
≤300	43 (67.2)
>300-500	14 (21.9)
>500	7 (10.9)

ICU=Intensive Care Unit

Table 2: Perceived reasons for inappropriate admissions

Reason	0 - least usual reason	1	2	3	4	5 - most usual reason
Clinical doubt	24 (37.4)	4 (6.3)	14 (21.9)	16 (25.0)	3 (4.7)	3 (4.7)
Limited decision time	18 (28.1)	7 (10.9)	12 (18.8)	22 (34.4)	3 (4.7)	2 (3.1)
Assessment error	14 (21.9)	12 (18.8)	15 (23.4)	11 (17.2)	5 (7.8)	7 (10.9)
Pressure from senior	4 (6.3)	4 (6.3)	11 (17.2)	14 (21.9)	16 (25.0)	15 (23.3)
Pressure from referring physician	7 (10.9)	4 (6.3)	8 (12.5)	16 (25.0)	18 (28.1)	11 (17.2)
Pressure from hospital management	8 (12.5)	1 (1.6)	10 (15.6)	12 (18.8)	16 (25.0)	17 (26.6)
Pressure from patient's family	23 (35.9)	16 (25.0)	10 (15.6)	8 (12.5)	3 (4.7)	4 (6.3)
Threat of legal action	35 (54.7)	11 (17.2)	5 (7.8)	6 (9.4)	2 (3.1)	5 (7.8)
Beliefs/religion	53 (82.8)	6 (9.4)	3 (4.7)	1 (1.6)	1 (1.6)	0 (0)

ICU=Intensive Care Unit

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Table 3: Chi-square test showing respondents' characteristics with each factor as a reason for inappropriate admission

Variable	Clinical doubt *n* (%)	Limited decision time *n* (%)	Assessment error *n* (%)	Pressure from senior *n* (%)	Pressure from referring clinician *n* (%)	Pressure from hospital management *n* (%)	Pressure from patient's family *n* (%)	Threat of legal action *n* (%)	Belief/ religion *n* (%)
Gender									
Male	32 (80.0)	36 (78.3)	40 (80.0)	48 (80.0)	45 (78.9)	46 (82.2)	14 (34.1)	22 (75.9)	3 (27.3)
Female	8 (20.0)	10 (21.7)	10 (20.0)	12 (20.0)	12 (21.1)	10 (17.9)	27 (65.9)	7 (24.1)	8 (72.7)
Marital status									
Single	16 (40.0)**	15 (32.6)	14 (28.0)	18 (30.0)	14 (24.6)**	17 (30.4)	14 (34.1)	8 (27.6)	3 (27.3)
Married	24 (60.0)	31 (67.4)	36 (72.0)	42 (70.0)	43 (75.4)	39 (69.6)	27 (65.9)	21 (72.4)	8 (72.7)
Professional activity									
Theatre	5 (12.5)	6 (13.0)	6 (12.0)	6 (10.0)	6 (10.5)	5 (12.2)	5 (12.2)	3 (10.3)	2 (18.2)
ICU	0 (0)	0 (0)	0 (0)	1 (1.7)	1 (1.8)	1 (1.8)	1 (2.4)	1 (3.4)	0 (0)
Both	35 (87.5)	40 (87.0)	44 (88.0)	53 (88.3)	50 (87.7)	50 (89.3)	35 (85.4)	25 (86.2)	9 (81.8)
Number of ICU admissions/year									
≤300	26 (65.0)	30 (65.2)	34 (68.0)	40 (66.7)	40 (70.2)	38 (67.9)	24 (58.5)	23 (79.3)	6 (54.5)
>300-500	10 (25.0)	10 (21.7)	11 (22.0)	13 (21.7)	12 (21.1)	12 (21.4)	12 (29.3)	4 (13.8)	3 (27.3)
>500	4 (10.0)	6 (13.0)	5 (10.0)	7 (11.7)	5 (8.8)	6 (10.7)	5 (12.7)	2 (6.9)	2 (18.2)

**Chi-square test, $P<0.05$. ICU=Intensive Care Unit

Table 4: Possible actions following request for admission in a setting of full ICU

Actions	0 - least likely	1	2	3	4	5 - most likely
Transfer stable ICU patient to recovery room	19 (29.7)	3 (4.7)	7 (10.9)	11 (17.2)	7 (10.9)	17 (26.6)
Arrange for discharge of stable ICU patient	3 (4.7)	1 (1.6)	3 (4.7)	6 (6.9)	8 (12.5)	43 (67.2)
Create additional ICU bed	37 (57.8)	8 (12.5)	4 (6.3)	7 (10.9)	3 (4.7)	5 (7.8)
Delay new admission	17 (26.6)	3 (4.7)	15 (23.4)	10 (15.6)	10 (15.6)	9 (14.1)

ICU=Intensive Care Unit

Discussion

This survey revealed that inappropriate ICU admission was perceived as a common event by junior doctors working in ICUs in Nigeria and mainly attributed to pressure from seniors, referring clinician, and hospital management. In addition, we observed the married were more inclined to ascribing inappropriate admissions to clinical doubt and pressure from referring clinicians. In agreement with our finding, a Europe-wide survey,[5] the US cohort study,[6] French multicentre study,[7] and British survey[8] found that although ICU admissions were generally or commonly limited by bed availability, 78%, 64%, 40%, and 17.2% of ICU physicians, respectively, said they sometimes had reasons to admit patients that may not benefit from ICU care. Similarly, a study conducted among ICU physicians at all 20 ICUs in Milan, Italy, regarding inappropriate admissions and resource allocation observed that pressure from seniors and referring physicians were important factors responsible for inappropriate ICU admissions.[9]

The perception of respondents about inappropriate admission following pressure from senior colleagues reported in this survey is particularly worrisome since it is expected that senior ICU doctors should better appreciate problems associated with inappropriate admissions. However, it is not unlikely that those admissions regarded as inappropriate by junior ICU doctors were actually adjudged to be appropriate by the senior ICU doctors, but such decisions were not finally communicated to those junior doctors. In addition, it is not impossible that senior ICU doctors acting under instructions of the management team or for some other reasons can put pressure on junior doctors to admit patients inappropriately to the ICU.

In agreement with our study, pressure from the referring clinician also plays an important role in inappropriate admissions. This pressure has been attributed to the over-estimation of the probability of a patient having a favorable outcome by the referring physician.[10] We found that married respondents were mostly from ICU with admission <300 per year, there is a probability that inadequate experience and not just the marital status may be responsible for the opinion expressed about pressure from referring clinician.

Pressure from hospital management as a major influence on ICU admission in the current study poses a great challenge to ICU utilization. Patients that rightly require ICU care may end up being denied because of bed unavailability due to prior inappropriate admissions. Unfortunately, the ICU team is

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often blamed for any inability to effectively manage available resources by the same hospital management. Possible reasons responsible for this pressure from hospital management include poor understanding of ICU dynamics by some members of the management team and lack or inability to enforce ICU admission protocol by the ICU team. Anecdotal evidence showed some occasional disregard for ICU admission policies even when such existed. A USA study concluded that political power, medical provincialism, and income maximization do influence bed allocation more than patient need in the ICU.[4]

Other studies have indicated that pressure from patients and their families to "do everything possible"[11,12] and fear of legal action[11] are major influences on ICU decisions. Uncommon medical litigations in our society possibly due to inadequate understanding of patient rights and privileges by caregivers may be responsible for this low influence.

Bed shortage is a common ICU problem. Often, there are requests for ICU admission when no vacant bed exists. When ICU doctors find themselves in such dilemmas, varied forms of approaches ranging from internal rearrangement in the index hospital to referral/transfer to a nearby ICU with unoccupied beds are employed. Our survey revealed some practices with grave ethical implications. These include moving patients to the Post Anesthesia Care Unit (PACU) and creating additional ICU bed, both of which may have adverse consequences on patient care. The level of care (personnel and equipment) available in the PACU is often inadequate to support critically ill patients thereby predisposing such patients to worsening clinical conditions. Furthermore, there is a tendency for ICU doctors to wrongly assume that such patients are "stable" and, therefore, pay little attention to them. The creation of additional ICU bed ends up undermining the initial goal of allowing enough space between patients to reduce cross infection.

Even when patients are to be discharged from the ICU to the ward to accommodate a more severely ill patient, the possibility of inappropriate early discharge must be borne in mind, and objective measures must be in place to determine the fitness for discharge. A doctor has an ethical and professional obligation to patients already in the ICU no matter the pressure; this is supported by the 2003 International Consensus Conference in Critical Care.[13] This survey is limited by the fact that it did not determine the actual frequency of inappropriate ICU admissions, but a self-reporting of attitudes and opinions were investigated, the findings may therefore not correlate closely with practice.

Conclusion

Inappropriate admissions were perceived by junior doctors as a common event in ICUs in Nigeria and were mainly attributed to pressure from seniors, referring clinicians, and hospital management. A similar survey in senior ICU doctors will provide a balanced view. Every ICU should develop and strictly comply with the guidelines for ICU admission. Further work is necessary to determine the actual frequency of inappropriate admission in ICUs in Nigeria and the impact of such on ICU efficiency.

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Conflicts of interest
There are no conflicts of interest.

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