Adverse Drug Event Reporting in Intensive Care Units: A Survey of Current Practices

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BACKGROUND: With the incidence of adverse drug events (ADEs) and adverse drug reactions (ADRs) higher in the intensive care unit (ICU) than other areas of the hospital, it is suspected that ADE/ADR surveillance systems differ between ICU and non-ICU areas. However, there is a lack of information about ADE/ADR identification, reporting, and evaluation strategies in the ICU. Understanding the frequency with which institutions incorporate standardized operational ADE/ADR definitions, triggers, and evaluation tools in this population will facilitate benchmarking between hospitals.

OBJECTIVE: To determine whether ADE/ADR identification, reporting, and evaluation strategies differ between ICU and non-ICU populations and to characterize ADE/ADR reporting strategies in the ICU.

METHODS: A validated survey was mailed to pharmacy directors at 590 randomly selected hospitals in the US having at least one ICU. A reminder was sent one week after the surveys were mailed. Five weeks later, a second survey was mailed to hospitals that did not respond.

RESULTS: The response rate was 22% (132/590); institutions were predominantly community (68.2%), with 199 or fewer (54.5%) operational beds and 19 or fewer (60.6%) ICU beds. ICU types included mixed medical/surgical (62.1%), medical (48.5%), surgical (31.8%), coronary (29.5%), neonatal (22.7%), and cardiothoracic (15.2%). Operational definitions for ADEs and ADRs varied little between ICU and non-ICU areas, as 92.4% of institutions used the same term for both settings. Triggers were used to identify ADE/ADRs hospital-wide (75%) and were usually the same between ICU and non-ICU areas (88.6%). ADE reporting was nearly always voluntary (94.7%), using paper reports (88.6%), phone calls (22.7%), e-mail (12.1%), Intranet (12.1%), Web-based/Internet (10.6%), or PDA (1.5%). Only 22% of hospitals tracked ICU-specific data.

CONCLUSIONS: ADE identification, reporting, and evaluation strategies are similar between ICU and non-ICU areas. Few institutions currently track ICU-specific ADE/ADR data. The institution of ICU-specific ADE detection and prevention strategies may improve the safety of critically ill patients.

KEY WORDS: adverse drug event, adverse drug reaction reporting systems, critical care, intensive care units.

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Detection and prevention of adverse events for hospitalized patients is a major focus of quality improvement efforts within healthcare institutions. Clinicians first realized the scope and severity of adverse events during hospitalization when the Harvard Medical Practice Study in 1991 reported that 3.7% of all interventions in the hospital resulted in disabling injuries, of which 13.6% were fatal.[1] Medication use was the most common source of adverse events in this study (19.4%).[2] Adverse drug events (ADEs) account for more than 100 000 deaths annually, ranking them the fourth most common cause of death in hospitalized patients.[3] The cost associated with this drug-related morbidity and mortality has been estimated to range as high as $140 billion.[4]

The intensive care unit (ICU) has the highest incidence of ADEs among patient care units in the hospital. Cullen et al.[5] observed the combined incidence of preventable and potential ADEs in the ICU to be nearly twice that of non-ICU areas (19 vs 10 ADEs per 1000 patient days, respectively). The authors also reported that the severity of ADEs was greater in ICU than in non-ICU settings, with more

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life-threatening events occurring in critically ill populations. The higher incidence and greater severity of ADEs in the critically ill is most likely a reflection of the complexity of care in the ICU environment, the high number of medications used in this population, and the increased vulnerability of the acutely ill to drug toxicity.

Most hospitals in the US have mechanisms in place for tracking ADEs. Survey data indicate that ADE tracking systems are typically overseen by hospital pharmacy departments and most ADEs are spontaneously reported[6]; however, there is a lack of detailed information about current ADE identification, reporting, and evaluation strategies. Understanding the frequency with which institutions have incorporated standardized operational ADE/adverse drug reaction (ADR) definitions,[2,7-14] triggers [defined as signals (actions, drugs, laboratory results) that can aid clinicians in identifying ADRs/ADEs],[9,15,16] and evaluation tools will facilitate benchmarking between hospitals.

While clinicians are generally aware that a higher frequency of ADEs occurs in the ICU, it is unclear whether the intensity and methods employed for ADE identification, reporting, and assessment differ between ICU and non-ICU populations. The objective of this study was twofold: to determine whether ADE identification, reporting, and evaluation strategies differ between ICU and non-ICU patients and to characterize current ICU ADE reporting strategies in US hospitals.

Methods

Members of the Clinical Pharmacy and Pharmacology section of the Society of Critical Care Medicine developed a survey composed of the following sections: institutional demographics, operational definitions, ADE occurrence, surveillance techniques, and evaluation procedures. Five critical care pharmacists reviewed the survey for face validity and made recommendations for question addition or deletion. The survey was then completed by 2 pharmacists who routinely conduct ADE surveillance and evaluation but were not involved in the design process. Their suggestions were incorporated into the final version of the survey (Appendix I; www.hwbooks.com/pdf/appendices/H088.pdf).

After we obtained institutional review board approval, the validated, teleform-formatted survey was mailed to pharmacy directors at 590 hospitals with one or more ICUs. These hospitals were randomly selected in SPSS from the 3431 acute care hospitals in the US. The cover letter included a request to direct the survey to the employee best suited to respond. A reminder was sent one week after surveys were mailed. Returned surveys were scanned into an Excel database, where results were compiled based on a coding system for each institution. Five weeks later, a second survey was mailed to hospitals that did not respond.

Descriptive statistics analysis for the comparison of ICU and non-ICU data was performed using SPSS version 12.0. Frequency distributions were computed for each survey item to describe the variation among hospitals.

Results

The survey response rate was 22% (132/590). At least one survey was received from 38 different states. Most hospitals that responded to the survey were either community teaching or non-teaching institutions (68.2%). Table 1 shows additional demographics for the responding institutions. A board-certified critical care physician provided services 24 hours per day in 42.4% (n = 56) of the institutions. At 32.3% of institutions, a critical care pharmacist was available and usually (75%) participated in ICU patient care rounds. These personnel were not any more common in larger (greater than >400 operational beds) hospitals (n = 18), with 10.6% (n = 14) having board-certified physicians and 9.0% (n = 12) having a critical care pharmacist.

OPERATIONAL DEFINITIONS

The variability in operational definitions used to describe ADEs at the respondent institutions was consistent with the variability that currently exists in the literature.[17-19] Institutions usually either stratified adverse events as being

Table 1. Demographics of the Responding Hospitals

Category	Institutions, n	% of Total (N = 132)
Type of institution[a]		
non-teaching community	64	48.5
teaching community	26	19.7
private nonprofit	17	12.9
university teaching	9	6.8
private for-profit	8	6.1
VA/military/government	4	3.0
Operational hospital beds,[a] n		
1–199	72	54.5
200–399	39	29.5
400–599	12	9.1
600–799	2	1.5
800–999	3	2.3
≥1000	1	0.8
Operational ICU beds,[a] n		
1–19	80	60.6
20–39	23	17.4
40–59	7	5.3
60–79	7	5.3
80–99	5	3.8
100–119	4	3.0
≥120	3	2.3
Types of ICUs		
mixed medical/surgical	82	62.1
medical	64	48.5
surgical	42	31.8
coronary	39	29.5
neonatal	30	22.7
cardiothoracic	20	15.2
pediatric	15	11.4
neurologic	11	8.3
trauma	11	8.3
burn	7	5.3

ICU = intensive care unit; VA = Veterans Affairs.
[a]Data missing from some responses.

ADEs or ADRs (42.4%) or simply defined all adverse events as ADRs (40.2%). Of the ADE definitions listed in the survey, the most common definition employed by institutions (Table 2) included incidents with potential injury related to a drug (52.3%), although it should be emphasized that most (56%) institutions used more than one definition. Sixty-seven (50.8%) institutions provided additional ADE definitions; however, few (6.8%) used ADR definitions not provided on the survey and that were specific to the institution. The frequency with which published ADR definitions are used is provided in Table 3. Many (49.2%) institutions applied several different ADR definitions in their surveillance programs. Use of operational definitions varied little among ICU and non-ICU areas, with 92.4% of respondents using the same terminology throughout their institution.

SURVEILLANCE PROGRAMS

Identification of Events

Triggers are signals that indicate the presence of a potential ADE/ADR and can be used to aid clinicians in identifying ADEs/ADRs.[15,17,20] Triggers were commonly (75%) used hospital-wide in surveillance programs as a means to identify ADEs/ADRs. A list of triggers and the frequency of their use is illustrated in Table 4. Five institutions reported using triggers that were not listed in the survey. These additional triggers included near-miss reports, increased international normalized ratio, pharmacist review of orders and progress notes, use of epinephrine, and antidiarrheal prescriptions for patients on antibiotics. Most (88.6%) institutions used the same triggers in the critical care units as the rest of the hospital.

In addition to triggers, the use of institutional surveillance programs relies heavily on voluntary reporting for the identification of ADEs/ADRs, although 29% of institutions reported using additional methods to identify ADEs/ADRs such as chart review, pharmacist medication administration record reviews, and automated computer searches. A rule-based computer system was used to identify ADEs/ADRs in only 10.6% of hospitals.

Method of Reporting

Adverse event data were obtained most commonly (94.7%) by voluntary reporting. Institutions relied on paper reports (88.6%), phone calls (22.7%), e-mail (12.1%), Intranet (12.1%), Web-based/Internet (10.6%), or personal digital assistant (PDA) (1.5%) systems for voluntary reporting. Computer programs used to assist clinical documentation included MEDMARX, Zynx, STARS Web, MIDAS, MSM, or proprietary software developed at the institution. Reward systems were used by 12.1% of institutions to increase reporting frequency and incorporated incentives such as cafeteria bonuses, pizza parties, thank you letters, and pay-for-performance.

ICU ADE Reporting

ICU-specific ADE/ADR data were documented in the minority of institutions (22%; n = 29), and documentation was not more frequent in larger (>400 operational beds) institutions, with 6.8% (9/132) tracking ADEs/ADRs. The median incidence of ADEs/ADRs in the ICU per year was 11 (range 1–870) from the 55 institutions that reported rates. This was a small proportion of those occurring hospital-wide (132; 6–2985) in the 110 hospitals providing this information. The median number of ADEs/ADRS reported hospital-wide was similar for those 55 institutions reporting ICU specific data (median 123) compared with those that did not (median 166). It should be noted, however, that location of ADE/ADR occurrences was not routinely documented in most hospitals.

Evaluation of Reports

The initial assessment of reports is usually performed to verify the occurrence and further assess the impact of the event. Reports were initially assessed by multiple (55.3%) individuals or one (41.7%) individual who was usually

Table 2. ADE Definitions and Frequency of Use by Responding Hospitals

Reference	Term	Definition	Frequency (%)[a]
Jha (1998)[9]	potential ADE	incidents with potential injury related to a drug	52.3
Bates (1995)[7]	ADE	injuries resulting from medical interventions related to a drug	48.5
	potential ADE	medication errors with potential for injury but in which no injury occurred	42.4
Cullen (1997)[5]	preventable ADE	injuries resulting from medical interventions related to a drug that were later judged by a clinician as avoidable or preventable resulting from an error	39.4
FDA (2006)[10]	serious ADE	events relating to drugs or devices in which the patient outcome is death, life-threatening, hospitalization, disability, congenital anomaly, or required intervention to prevent permanent impairment or damage	11.4

ADE = adverse drug event; FDA = Food and Drug Administration.
[a]Several institutions used multiple definitions.

(81.8%) a pharmacist and less often (7.3%) a nurse. Multiple member review teams for ADE/ADR evaluation usually consisted of nurses, pharmacists, pharmacy technicians, physicians, and risk management employees. Full-time-equivalent (FTE) allocation for institutions with an individual reviewer ranged from 0 to 1.0 (median 0.3). The FTE allocation for a multiple member review team ranged from 0 to 9.7 (median 0.7).

Table 3. ADR Definitions and Frequency of Use by Responding Hospitals

Source	Definition	Frequency (%)
WHO and ASHP (1995, 1998)[13,14]	any unexpected, unintended, undesired, or excessive response to a drug that: requires discontinuing the drug (therapeutic or diagnostic) requires changing the drug therapy requires modifying the dose necessitates admission to a hospital significantly complicates diagnosis negatively affects prognosis results in temporary or permanent harm, disability, or death	67.4
Karch (1997)[12]	an effect that is noxious and unintended and occurs at doses normally used in humans for prophylaxis, diagnosis, or therapy, excluding failure to accomplish the intended purpose	53.0
JCAHO (2006)[11]	any undesirable response associated with the use of a drug that either compromises therapeutic efficacy, enhances toxicity, or both	41.7
Kramer (1979)[8]	an undesirable clinical manifestation that is consequent to and caused by the administration of a particular drug	39.4

ADR = adverse drug reaction; ASHP = American Society of Health-System Pharmacists; JCAHO = Joint Commission on Accreditation of Healthcare Organizations; WHO = World Health Organization.

Persons performing the initial ADE/ADR assessments may use objective evaluation tools to help with verification and provide consistency in this process. Many (57.6%) hospitals routinely used ADR detection tools such as internally developed scoring systems (25%), the Naranjo criteria (17.4%), or Medwatch forms (15.9%) to assist in the evaluation and confirmation of ADRs. Of the hospitals using an ADR detection tool, only one reported using a different tool for the ICU; this tool was developed internally.

An evaluation of the outcome associated with each event is important. Most (75.8%) institutions evaluated individual ADEs for outcome severity. The tools used to aid in the outcome evaluation were Medwatch forms (15.2%), institution-specific tools (32.6%), and others (4.5%); 11.4% did not know which tool was used and 36.4% of the institutions did not respond. The "other" category included assessments such as MEDMARX and review by a pharmacy and therapeutics committee.

A secondary review of collected reports occurred at 81.1% of institutions. Secondary re-

Table 4. Triggers Reported

Trigger	Investigation Prompted by Trigger	Frequency (%)
Diphenhydramine use	general drug allergy	65.9
Naloxone use	narcotic overdose	57.6
Flumazenil use	benzodiazepine overdose	55.3
Phytonadione use	drug-induced bleeding	53.0
Protamine use	drug-induced bleeding	37.9
Voluntarily reported medication errors	associated ADR or ADE	36.4
Sodium polystyrene sulfonate use	drug-induced hyperkalemia	35.6
Corticosteroid use	general drug allergy	34.8
Unexpected discontinuation of drug	associated ADR or ADE	34.8
Dextrose 50% use	drug-induced hyperkalemia	31.1
ADE ICD-9 codes	associated ADR or ADE	27.3
Abnormal drug concentration	associated ADR or ADE	26.5
Elevated serum creatinine level	drug-induced acute renal failure	21.2
Abnormal electrolyte concentrations	drug-induced electrolyte abnormalities	20.5
Cardiac or respiratory arrest information related to drug administration	associated ADR or ADE	15.2
Reports from automated dispensing devices (eg, Pyxis)	associated ADR or ADE	12.1
Abnormal physiologic responses (BP, HR)	drug-induced hemodynamic instability	12.1
Oral metronidazole use	drug-induced *Clostridium difficile*	11.4
Lepirudin use	detection of heparin-induced thrombocytopenia	7.6
Argatroban use	detection of heparin-induced thrombocytopenia	5.3
Autopsy reports	associated ADR or ADE	0.8

ADE = adverse drug event; ADR = adverse drug reaction.

views are typically performed to determine whether systematic changes within the institution are needed to prevent repeat occurrence of the adverse event and develop a safer environment. Secondary reviewers included a pharmacy and therapeutics committee (67.4%), medication safety committee (19.7%), patient safety committees (17.4%), nurse managers (12.9%), administrators (10.6%), ADE/ADR committees (9.8%), attending physicians (5.3%), and others (12.1%). Those listed in the "others" category included pharmacists, quality assurance committees, risk management committees, and managers.

Discussion

Our survey is the first to offer insight into current practices regarding the identification, reporting, and evaluation of ADEs/ADRs in the ICU and compare these data with those from non-ICUs. One of our most important findings is that ICU-specific data are rarely tracked. This is surprising when it is established that the incidence of ADEs in the ICU is much higher than in non-ICU areas.[5] Critical care clinicians acknowledge the importance of tracking ICU-specific antibiograms out of concern for identifying resistance trends and designing the most optimal empiric antiinfective regimen.[21] We propose that using the same approach with ADE data could lead to improvements for the ICU patient.

The current lack of standardized definitions for adverse events in clinical practice has a number of implications for the ICU clinician. It may compromise the ability to evaluate potential ADEs and hinder benchmarking activities between hospital units or different institutions. Differentiation between ADEs and ADRs in the literature is challenging and often causes uncertainty in clinical practice. The primary difference between ADE and ADR definitions is that ADEs denote injury.[17,18] It is important for institutions to clearly outline definitions for ADE, ADR, and injury so that data are accurately collected and consistently evaluated.

The list of triggers that was used in our survey was obtained from the literature.[9,15-17,20] The current practice of using triggers to detect ADEs/ADRs on a hospital-wide basis and not specifically for the ICU may lead to an underestimation of adverse events in the ICU. Future efforts should focus on identifying triggers that are most commonly associated with ADEs in the ICU that could include the use of diagnostic testing or laboratory abnormalities (in addition to the more routinely used medication triggers like naloxone).

Voluntary ADE/ADR reporting is an essential component of both institutional and postmarketing medication surveillance systems. The challenges for institutions to reach an adequate intensity of monitoring are well established in the literature.[22,23] While the frequency of ADEs in the ICU is at least twice that of other non-ICU areas, one would expect more voluntary reports to be generated from critical care units. However, most institutions cannot accurately determine the number of ADEs that occur in their ICU. In the interest of optimizing resources, the ICU would be a good environment for developing programs focused on increasing voluntary reporting. Only a handful of institutions appear to have simplified the voluntary reporting process by implementing Web-based or PDA systems, and few have formally incorporated incentives to boost reporting frequency. A number of systems, including computer surveillance, are recommended for identifying ADEs/ADRs, although few are commonly employed in clinical practice.[9,24]

The ADE/ADR review process in institutions usually involves an initial review by a pharmacist and then a secondary review, most often by the pharmacy and therapeutics committee. ADR detection tools are often used to assist in the evaluation of the ADE/ADR reports. Many tools are available; however, none has been designed that accounts for the many unique attributes of critically ill populations.[8,12,25] Only one institution reported using an ICU-specific evaluation tool, and this tool had been developed internally. Our results indicate that the most commonly used identification tools are internally developed scoring systems. Of available published instruments, the Naranjo criteria are the most frequently used.[25] While the Naranjo scale has been found to be valid and reliable in a small sample of ADRs obtained from the literature, its validity and reliability in the critically ill are questioned.[26] An ADE identification tool specifically designed for the ICU is needed to assist in the determination of ADEs in this population.

Quality improvement initiatives should occur as a result of ADE surveillance. Evaluating outcomes provides an understanding of the seriousness of events and should facilitate plans to appropriately allocate resources for ADE prevention. Some institutions lack a uniform approach for evaluating patient outcomes and do not routinely perform evaluations when an ADE/ADR is confirmed. The ADE/ADR surveillance programs should differentiate between ICU and non-ICU events so that specific systematic improvements can be designed for each environment. An effective ADE program should incorporate both an ICU-specific ADE detection and prevention component. Prevention strategies must include markers that identify the event before it results in injury[19]; therefore, surveillance methods that extend beyond voluntary reporting should be employed.

The presence of board-certified critical care physicians improves outcomes for ICU patients.[27,28] Likewise, pharmacist participation in physician-led multidisciplinary patient care rounds improves clinical and economic outcomes and reduces the occurrence of ADEs in the ICU.[29,30] Our findings indicate that these clinicians did not provide critical care services at most surveyed institutions. We suggest that the routine inclusion of board-certified critical care physicians and pharmacists in the multidisciplinary team caring for critically ill patients has potential for improving patient safety outcomes.

Although this survey is representative of 38 states, there are limitations to national generalization since some states had only one institution respond. The inherent limitation of any survey with a 22% response rate is the possibility that nonresponders may have different results than responders. Unfortunately, we did not have the hospital demographics of the nonresponders to make comparisons with responders. Our response rate is comparable to that of other national surveys obtaining information on critical care patients.[31,32] If the institutions having a developed surveillance system were the more likely responders, then the incidence of ICU-specific reporting may be even lower than the results suggest. The results of this survey also highlight a number of potential areas for research including the identification of more practical approaches for the prevention of ADEs/ADRs in the ICU, the completion of a root-cause analysis to further understand the differences in ADEs/ADRs between ICU and non-ICU environments, the development of reliable and valid tools for the determination of ADEs/ADRs specific to the critical care environment, and the comparison of the impact on patient safety of using various surveillance procedures between ICUs and non-ICUs.

Conclusions

Despite the higher number of ADEs occurring in ICU areas, adverse event identification, reporting, and evaluation strategies differ little between ICU and non-ICU areas. Based on the findings of our survey, we propose that ICU-specific data be tracked, enabling hospital system changes to be made in the critical care environment. Implementation of an ICU-specific adverse event detection system could identify areas of avoidable drug-related risk for critically ill patients. Operational definitions need to be standardized for each hospital, and it is practical for the ICU and general hospital wards to use the same definitions. The ICU would be an optimal location for developing voluntary reporting incentives based on the frequency of events. In addition, use of sensitive and specific ICU triggers in addition to volunteer reporting will further help to identify ADEs/ADRs. The addition of a critical care review committee as part of the secondary ADE/ADR evaluation process should be incorporated. The evaluation process should include an outcomes assessment. Development of ADE prevention strategies could have a positive impact on patient safety.

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EXTRACTO

TRASFONDO: Debido a que la incidencia de eventos adversos a medicamentos (ADEs, por sus siglas en inglés) y de reacciones adversas a medicamentos (ADRs, por sus siglas en inglés) es mayor en las unidades de cuidado intensivo (ICU, por sus siglas en inglés) que en otras áreas del hospital, se sospecha que los sistemas de vigilancia de ADE/ADR difieren entre las ICU y las otras áreas de cuidado del hospital. Sin embargo, existe una falta de información en relación a las estrategias de identificación, reporte y evaluación de ADE/ADR en las ICU. El entender la frecuencia con que las instituciones incorporan definiciones, indicadores y herramientas de evaluación estandarizadas para ADE/ADR en las ICU facilitará el establecer puntos de referencia entre hospitales.

OBJETIVO: Determinar si las estrategias de identificación, reporte, y evaluación de ADE/ADR difieren entre poblaciones de ICU y otras unidades y describir las características de las estrategias para reportar ADE/ADR en ICUs.

MÉTODOS: Un cuestionario validado fue enviado por correo a los directores de servicios de farmacia de 590 hospitales seleccionados de manera aleatoria en los Estados Unidos que tenían por lo menos una unidad de cuidado intensivo. Se envió un recordatorio una semana después del envío original de los cuestionarios. Cinco semanas después, se envió el cuestionario de nuevo a los hospitales que no habían respondido.

RESULTADOS: La tasa de respuesta fue de 22% (132/590). Los participantes en la encuesta pertenecían mayormente a instituciones comunitarias (68.2%) con un número de camas en uso menor o igual a 199 (54.5%) y un número de camas de ICU menor o igual a 19 (60.6%). Los tipos de ICUs eran médico-quirúrgico (62.1%), médico (48.5%), quirúrgico (31.8%), coronario (29.5%), neonatal (22.7%), y cardiotorácico (15.2%). Las definiciones operacionales para ADEs y ADRs variaron poco entre los ICU y las otras unidades hospitalarias; 92.4% de las instituciones usaban el mismo término en ambos escenarios. Factores desencadenantes eran utilizados para identificar ADE/ADRs a nivel hospitalario (75%). Estos eran usualmente iguales entre las unidades de cuidado intensivo y otras unidades del hospital (88.6%). El reporte de eventos adversos fue casi siempre voluntario (94.7%), mediante el uso de hojas (88.6%), llamadas telefónicas (22.7%), correo electrónico (12.1%), Intranet (12.1%), Internet (10.6%), o asistentes digitales personales (PDAs, por sus siglas en inglés) (1.5%). Sólo 22% de los hospitales mantienen un sistema de seguimiento de datos sobre ADE/ADR específicos para la unidad de cuidado intensivo.

CONCLUSIONES: Las estrategias de identificación, reporte, y evaluación de eventos adversos son similares entre las unidades de cuidado intensivo y otras unidades hospitalarias. Pocas instituciones mantienen un sistema de seguimiento de datos específicos de ADE/ADR en los ICU. El establecimiento de estrategias de detección y prevención de eventos adversos específicos para ICU puede resultar en una mejoría en la seguridad de pacientes críticamente enfermos.

Homero A Monsanto

RÉSUMÉ

INTRODUCTION: Considérant l'incidence d'effets et de réactions indésirables (EI) plus élevée dans les unités de soins intensifs (USI) que dans toute autre unité hospitalière, il est raisonnable de croire que le système de surveillance diffère entre ces diverses unités. Cependant, il existe un manque important d'information au sujet de leur identification, de leur rapport, et de leur stratégie d'évaluation au sein des USI. La compréhension de la fréquence avec laquelle les institutions utilisent des définitions standardisées et opérationnelles d'EI, des éléments déclencheurs et des outils d'évaluation aux SI devrait faciliter la comparaison entre hôpitaux en établissant un point de repère.

OBJECTIF: Déterminer si les stratégies d'identification, de rapport, et d'évaluation d'EI diffèrent entre les USI et les autres unités ainsi que caractériser les stratégies de rapport d'EI à l'USI.

MÉTHODOLOGIE: Un sondage validé fut posté aux directeurs de pharmacie de 590 hôpitaux américains choisis au hasard et qui possèdent au moins une USI. Un rappel fut posté une semaine après que le sondage fut envoyé. Cinq semaines plus tard, un second sondage fut envoyé aux hôpitaux n'ayant pas répondu.

RESULTATS: Le taux de réponse fut de 22% (132/590); les institutions étaient de type communautaire (68.2%) avec 199 lits ou moins (54.5%) et 19 lits de soins intensifs ou moins (60.6%). Le type de soins intensifs inclut un mélange de patients médicaux et chirurgicaux (62.1%), de patients médicaux (48.5%), de patients chirurgicaux (31.8%), de patients coronariens (29.5%), de nouveaux-nés (22.7%), et de patients cardiothoraciques (15.2%). Les définitions opérationnelles des EI varient peu entre les USI et les autres unités puisque 92.4% des institutions utilisent les mêmes définitions. Des éléments déclencheurs sont utilisés pour identifier un EI à travers l'hôpital (75%) et sont les mêmes pour l'USI et les autres unités (88.6%). Le rapport de cas est presque exclusivement volontaire (94.7%) et utilise soit un rapport écrit (88.6%), un rapport téléphonique (22.7%), un rapport courriel (12.1%), un rapport intranet (12.1%), un rapport internet/WEB (10.6%), ou un rapport utilisant un ordinateur personnel (1.5%). Seul 22% des hôpitaux évaluent les données spécifiques à l'USI.

CONCLUSIONS: L'identification d'EI, le rapport, et les stratégies d'évaluation sont similaires entre les USI et les autres unités. Quelques hôpitaux maintiennent des données spécifiques à l'USI. La mise en place de stratégies de détection et de prévention d'EI à l'USI peut améliorer la sécurité de ces patients.

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