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Intensive and Critical Care Nursing xxx (2017) xxx-xxx



Contents lists available at ScienceDirect

Intensive and Critical Care Nursing



journal homepage: www.elsevier.com/iccn

Review Delirium screening in intensive care: A life saving opportunity

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ARTICLE INFO

Article history: Accepted 30 April 2017

Keywords: Delirium Assessment Intensive care nursing Barriers

ABSTRACT

Background: Delirium is described as 'acute brain failure' and constitutes a medical emergency which presents a hazard for people cared for in intensive care units. The Scottish intensive care society audit group recommend that all people cared for in intensive care units be screened for signs of delirium so that treatment and management of complications can be implemented at an early stage.

Clinical implication: There is inconsistent evidence about when and how the assessment of delirium is carried out by nursing staff in the intensive care setting.

Aim: This narrative review explores the pathophysiology and current practices of delirium screening in intensive care. Consideration is given to the role of the nurse in detecting and managing delirium and some barriers to routine daily delirium screening are critically debated.

Conclusion: It is argued that routine delirium screening is an essential element of safe, effective and person centred nursing care which has potential to reduce morbidity and mortality.

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Implications for clinical practice

- Delirium is a prevalent issue associated with high risk of morbidity and mortality
- Validated tools are available to conduct reliable screening.
- Routine delirium screening is an essential element of safe, effective and person centred nursing care.
- Nurses are ideally situated to conduct effective delirium screening in the intensive care unit.

Introduction

A primary nursing concern is the provision of high quality and skilled evidence based care (NMC, 2015). Nowhere is this more apparent than in the intensive care environment, where arguably the hospital's sickest patients are found, often supported with one to one care (Woodrow, 2002). It is an area where dedicated and expert interventions are needed in order to improve health outcomes. The Scottish Intensive Care Safety Audit Group (SICSAG) (SICSAG, 2015) have recently outlined a number of key indicators to improve and ensure patient safety. In this article we focus on the risk of delirium; an acute fluctuating deterioration of cognition (Manning et al., 2012) and a widely recognised hazard for people cared for in Intensive Care Units (ICU) that leads to increased

* Corresponding author. E-mail address: elle.lamond@btinternet.com (E. Lamond). morbidity and mortality (Woodrow, 2002). Delirium is a condition requiring daily risk assessment (SICSAG, 2015).

'Think delirium' is a policy created in line with the most recent recommended clinical guidelines (NICE, 2010) which promotes the rapid diagnosis and effective treatment of an episode of delirium. If delirium is effectively identified and treated, significant financial and human cost could be saved (NICE, 2014). Current NICE (2010) guidelines recommend screening for those with risk factors such as being 65 or older, cognitive impairment or severe illness. SICSAG (2015) however recommend blanket screening in an ICU environment to address the needs of the critically ill and negate the significant risk of a patient slipping through the cracks.

This review of best practice was undertaken as part of an undergraduate nursing assignment to explore the topic of delirium in contemporary critical care [Box 1]. A literature search was carried out using MEDLINE and CINAHL and databases. Wider searching generated numerous hits [Box 2]. From reading and expert dis-

http://dx.doi.org/10.1016/j.iccn.2017.04.014

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Please cite this article in press as: Lamond, E., et al., Delirium screening in intensive care: A life saving opportunity. Intensive Crit Care Nurs (2017), http://dx.doi.org/10.1016/j.iccn.2017.04.014

ARTICLE IN PRESS

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Box 1: Aims of the review.

- To explore the pathophysiology of delirium and better understand its potential impact on patient outcomes
- To review current practice regarding delirium screening in ICU and consider frequency of assessment
- To consider some of the barriers to routine daily delirium screening

cussions, issues to do with effective assessment and barriers to assessment were identified as contemporary issues. This was supported by the literature (Page et al., 2009; Van Eikj et al., 2009; Scott et al., 2013; Elliott 2014). A further hand search of this literature yielded five pathophysiology results, assessment tool papers and three papers regarding barrier for consideration in depth. What follows is a narrative review which aims to present a rigorous synthesis of best practice.

Pathophysiology of delirium

Delirium was first described over 2500 years ago however its exact pathophysiology is poorly understood (Inouye et al., 2014). Its medical sequelae are still often misconstrued as a psychiatric condition. This poses particular risk in the acute care setting where less regard may be paid to such conditions and thus crucial diagnoses could be missed. Delirium is referred to as acute brain failure (Inouye et al., 2014) and constitutes a medical emergency (Manning et al., 2012). Even one episode of delirium between admission and day three in hospital carries a risk for unanticipated ICU admission or in hospital death (Hsieh et al., 2015). Delirium may manifest in a number of ways including delusions, disorientation, hallucinations or most commonly inattention. Delirium can occur in metabolic disorders, intoxication, deficiency diseases and infection. Three clinical subtypes of delirium have been identified [Box 3].

There is no clear cause for why delirium occurs. However there are a number of theories on the pathophysiology of delirium which points toward neurotransmission, inflammation and stressors on the brain (Inouye and Ferrucci, 2006).

Cholinergic Deficiency theory is the leading hypothesis which attempts to explain delirium. Acetylcholine is a neurotransmitter which plays a key role in attention and consciousness (Hshieh et al., 2008). Computerised axial Tomography (CT) scanning in patients with diagnoses of delirium is limited and images are not conclusive (Hshieh et al., 2008), but it is suggested that some areas of abnormality reflect areas of the cholinergic pathways. However, this theory fails to fully explain why delirium and cholinergic deficiency can present differently and additionally why targeted drug therapies have not provided an effective treatment.

Another competing theory is that of dopamine excess. Dopamine, also a neurotransmitter with many different effects on attention, cognition, movement and memory, is also associated with higher excitability of neurons (Tsuruta and Oda 2016). This is associated with hyperactive delirium in particular (Hshieh et al., 2008). It is known that the cholinergic and dopamine pathways in the brain overlap significantly and thus there may be a link the way in which these agents interact and the development of delirium.

Stress reactions can result in delirium. Where a person demonstrates agitation, their distress could be caused by delirium. It is recommended that people in hospital with agitation should be treated for delirium until other causes are excluded (Welch, 2016). What may appear to be trivial factors, such as a change of environment or sleep deprivation, can trigger serious health complications (Welch, 2016) particularly in the vulnerable patient which is the sort of patient who may be found in ICU. Arguably a stay in a stressful intensive care environment may accentuate this and nurses must give careful consideration to ensure patient safety.

Assessment is the cornerstone to effective, individualised patient care. It is a requirement that nurses can assess all patients of normal or worsening condition accurately (NMC, 2015). Recommended practice suggests that patients should be assessed by observation at least daily for changes in behaviour which might indicate delirium (NICE, 2010). Doing so might detect behavioural changes early enough to prevent the onset of delirium in the first instance. However it is stated in the guidelines that this assessment may rely on information provided by those who know the patient well for example family. This is something which may not be possible for all patients and might lead to inaccurate assessment. It is suggested that the accuracy of health professionals in diagnosing delirium without the use of a screening tool is poor (van Eijk et al., 2009). In order to fulfil this professional requirement nurses should ensure they utilise up to date and relevant tools to safely diagnose delirium.

Search Terms	Inclusion Criteria	Exclusion Criteria
Nurs*	Studies looking at tools used daily	Peadiatrics
Delirium	Studies based in Westernised medicine	Non-english papers
Assessment	Full text papers	Thesis
Assessment tools	Papers from 2006 onwards	Settings outwith critical care
Barriers	Academic papers	
Intensive care	Peer-reviewed	
Critical care		

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