Why Mental Status Standards are Recommended on Medical Surgical Units in Hospitals?

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Introduction

Knowing, demonstrating, and assessing are often guided by standards of performance in nursing care. Identification by questions found from research findings and nurse's experience can contribute and suggest new standards with an aim to promote best practice performance [1]. A recent double blinded randomized control research study demonstrated that altered mental status (AMS) is inconsistently measured by hospital registered nurses (RNs) [2]. This discovery demonstrated that nurses caring for patients on medical surgical units had misconceived the patient's cognitive function, by asserting patients were cognitively eligible for decision making. Thus, referring and recommending to the investigator to consider their patient for study participation. Although, when the researcher performed a cognitive screening using the mini-mental state examination (MMSE), a standard tool, findings indicated 26.47% of these patients failed the MMSE [3].

The population studied were patients with pneumonia, an illness scenario known to effect cognition [4]. The study's screening criteria clearly set parameters to measure cognition. And per literature review the MMSE is the most often administered psychometric screening assessment for evaluation of cognitive functioning [5].

As to be expected, practice challenges nurses to measure cognition consistently, since nurses perform consents, assess for disease status, activities, and monitor for crucial safety issues. We believe these findings are useful in suggesting implementation of standards for measuring AMS. The importance of measuring AMS is practical, based and its rationale which is seeded in the latest best practice goals and "to do what is right." Additionally, the expectation for nurses to perform cognitive measures are needed in order that patients are aware of what is being asked by nurse while being informed of care, request to consent, and standards of screening for memory changes or decision-making. The purpose of this paper is to promote use of consistent cognitive tools, standards, and measures. The present findings referenced along with the literature supports nurses using cognitive tools in acute care hospitals. These findings raise the question, "when will nurses begin to be consistent in practice and measure cognition during assessments?"

Research and Consents

Cognitive impairment is important to consider when enrolling individuals as subjects into studies. However, also important in daily assessments and evaluations of patients with various disease and conditions. We found patients diagnosed with pneumonia are at higher risk for temporary cognitive changes due to the severity of the disease. Mentation is affected when oxygen saturation is altered via hypoxemia from a respiratory infection [4,6].

A Nursing Study

In the study, 766 patients were screened, with 156 eligible and enrolled, resulting in allocation *N* =156 [2]. Our study's admitting diagnoses were: types of pneumonia, rule out (r/o) pneumonia, or sepsis with pneumonia *N* =156 or 20.21% of 766 patients screened were enrolled. Participants were between 55 and 99 years of age, with a mean age of 72.5. The study population had high acuity of illness and comorbidities which are known to affect cognitive status. Multiple studies have addressed the tools for use and detection of cognitive impairment and their benefits.

The research protocol criteria limited consenting participants, if MMSE scores were below 25. And AMS based on MMSE, was the standard of measure for cognition in our study, and utilized to confirm patients' decision-making and or to determine cognitive impairments. Additionally, screening included review

of the history and physical (H&P) and if diagnoses of dementia or cognitive impairment, these patients were excluded.

Cognitive Tools

Although, we considered the Confusion Assessment Method (CAM), [7] Montreal Cognitive Assessment (MOCA) tool and Delirium [8] Rating (DRS-98R) for the study the MMSE was selected [9]. A study by Pang and Yu [10] found linear regression analysis revealed an r value of 0.83 (P<0.05). The MMSE and the RUDAS mean performance times were measured and both were similar for use in practice. Patient satisfaction was similar for both tests [10]. Since, the CAM or MOCA tools are often used in intensive care units and not in medical-surgical units. Therefore, we applied the mini mental state exam (MMSE) in screening patients with pneumonia for study eligibility as it measures cognitive functioning using specific tasks which include: orientation, serial subtraction, working memory, delayed recall, and multi-step instructions [3].

Mini Mental State Exam (MMSE)

Cognitive impairment is significant to consider when enrolling individuals as subjects into studies. Patients diagnosed with pneumonia are at higher risk for temporary cognitive changes due to the severity of the disease [6]. Following strict criteria, subjects whom were unable to consent to participate in the study and/or if they had altered mental status secondary to dementia or found to have cognitive changes affecting their judgment as reflected in the medical record were excluded [2].

The selection of the MMSE was a result of comparison to the MOCA scale, and although less sensitive than the MOCA instrument, the MMSE was accepted. The MMSE's purpose was to screen potential subjects for dementia and had been used successfully in transition research [3,11]. All patients have responses to illness that may affect their cognition, this study confirmed the use of a tool provides factual information on such a response.

MMSE was developed in 1975 and is a tool often used to screen study subjects for dementia [2,12]. The MMSE tool had 5 questions and 11 criteria to calculate mental challenges with a potential highest score of 30. A score of 30-29 indicates the person is cognitively normal, 28-26 indicates the person has borderline cognition and a score of 25 or lower indicates there is a memory issue [2], The MMSE according to Naylor and Bowles, 2005 [11], measures executive functions, memory, conceptual thinking, and language. Transition research made it a good tool and was recommended as an option in daily practice [11,13]. Our screening assessments of 766 patients diagnosed with pneumonia found the highest reason for exclusion from study participation due to cognition impairments as delineated: **(Table 1)**.

This observation suggests that nurses must use valid tools to assess cognition in practice. The often-usual practice not sufficient. We concur with multiple studies that have validated the adoption in practice of sound cognitive screening tools during assessments [14-16]. Assessments that lack utilization of standard cognitive

Table 1 Cognition impairments as delineated.

Cognitive Impairments Categories	Dementia	93	12.13%
	Alzheimer's	5	1.30%
	Memory Loss	10	0.52%
	Other cognitive deficit (e.g. confusion)	4	11.86%
	Total Cognitive Impairments	203	26.47%

tools are not appropriate in science based practice and therefore use of brief Ax4 measures alone are no longer enough for nurses (**Appendix**).

Challenges

In the study, a definitive diagnosis of cognitive impairment (CI) ranked as the highest screen-out reason for non-eligibility, and eliminated enrollment (26.47%). Additionally, during screening, the PI noted identification of CI using MMSE. Staff RNs were informed of MMSE scores and/or enrollment by the PI. During screening for enrollment, it was observed that some patients were documented as cognitively aware, alert, and oriented times four (Ax4: person, place, time and situation). Yet, when the principal investigator (PI) screened these patients, they were unable to pass the MMSE [3].

This observation suggested that further nursing studies to examine AMS assessments and use of tools to measure cognitive soundness is recommended, as alert x 4 may not be enough for patient engagement and decision-making. Literature has recently addressed such need for clarification to improve consistent practice in mentation measurement [6]. In addition to factors such as degree of the illness, age, or other reference points, sound mentation measurement tools must be used, or the patient may fail to internalize the framed message. Recent secondary analysis by Tate and Snitz [6] explored N=3,069 patients hospitalized with pneumonia, and found that the pneumonia increased their risk for dementia. The findings showed that 17% of patients with pneumonia develop dementia. Although many studies have been done using framed messages (IV), none, prior to this study, have been explored using subjects with pneumonia. Also, decision-making choices that affect behavior outcomes using the communication strategies are limited with dementia. However, every patient with a cognitive impairment may demonstrate improvement in cognition as a disease improves, how can we measure, document, and modify practice to mandate consistent measurement? We do this first by understanding the physiology of illness and disease [17,18].

Physiology of Cognition

Another challenge is the way infections of the lungs compromise the oxygen and carbon dioxide exchange, followed by symptoms of confusion and irritability [6]. These patients may have a degree of infection so severe that it limits their ability to participate in a study. The challenge is to screen out those with this level of severity. To minimize differences, in our study we used a screening criteria defining exclusions, such as dementia, or "too sick" to participate. It is important to note that hospital readmissions include all types of pneumonia patients.

In using assessment strategies, the patient must be cognitively alert and able to receive communicated messages. When patients are cognitively impaired, family members who are caretakers become recipients of the nursing assessment findings. According to Janssens [19], older persons with diseases such as pneumonia are 30% correlated with comorbidities and cognitive impairment (p. 226). Purposeful uses of standard measures with patients known as cognitive tools are considered therapeutic interventions which are needed in practice [2].

Literature has recently addressed such needs for clarification to improve consistent practice in mentation measurement [6,14]. In addition to factors such as degree of the illness, age, or other reference points, sound mentation measurement tools must be used, or the patient may fail to understand the questions as requested by nurses during assessments. Diseases effect decision-making and cognition, as a secondary analysis N=3,069 noted by Tate and Snitz [6] whom found that pneumonia increased their risk for dementia. The study surmised 17% of patients with pneumonia develop dementia. Ultimately, decision-making capacity choices, thus are affected and impacted by diseases, resulting in cognitive changes. Therefore, using consistent measures related to mental status are needed in daily practice at the bedside.

Conclusion

Cognition measures at the bedside vary in their applications based on the types of patient units. Literature, demonstrates for example, intensive care units, and preoperative areas are integrating cognitive screening, however medical surgical units lag behind in adaption [14,15]. We suggest hospitals medical surgical units adapt standard cognitive screening tools for nurse's use during assessments based on their units' standards of practice. Nurses must not assume patient is cognitively sound and able to consent, or able to make decisions. Relevant standards must be implemented, such as cognitive tools to reflect best practice by nurses on all units.

Many tools are used and applications vary by the type of nursing units. For example, intensive care units use CAM measures, while new tools are being introduced [9,16]. What is lacking is adoption of standards in the medical surgical-nursing units. The literature highly suggests that in the millennium; practice improvement in application of cognitive measures is vital [10]. We must implement consistent cognitive standards of practice in our assessment on all nursing units not just intensive care. Why, because to measure cognition is a safe practice requirement for multiple reasons, and a patient protection from content for medications, procedures, or enrollment in studies, etc. However, tools must have validity and reliability and proven to measure cognition. Nursing administrators and nurses on all units including medical-surgical units must begin adoption, recording cognitive measures, to assess formally cognition on all assessments using standard tools. Thus, RNs and physicians' documentation can accurately reflect cognition assessments outcomes based on application of sound consistent tools. Nurses must think beyond their perceptions and use the evidence based practice standards when assessing mental status to better assist in determining sound decision-making abilities of their patients. The findings of our study add to the literatures emphasis on the vital importance related to cognition tools use in practice [5,7,13]; Mandates for use of cognitive screening are recommended across all units to represent best practice.

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