Journal of Critical Care 30 (2015) 678–684

Contents lists available at ScienceDirect

Journal of Critical Care

journal homepage: www.jccjournal.org

Guidelines and Outcomes

Balancing care and teaching during clinical activities: 2 contexts, 2 strategies

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ARTICLE INFO

Keywords:
Clinical supervision
Clinical learning
Bedside teaching
Multidisciplinary rounds
Medical crises
Critical care

ABSTRACT

Purpose: The goal of this study was to better understand how clinical supervisors integrate teaching interactions with medical trainees into 2 types of clinical activities in the critical care setting: multidisciplinary rounds and medical crises.
Methods: We conducted a qualitative, observational study based on an ethnographic approach. We observed the teaching interactions among clinical supervisors and medical trainees during 12 multidisciplinary rounds and 74 medical crises in 2 academic hospitals. Grounded theory methods (theoretical sampling and saturation, inductive thematic coding, and constant comparison) were used to analyze data.
Results: Two models of integration of teaching interactions into clinical activities are described: the in series model, typical of multidisciplinary rounds and characterized by well-structured learning bubbles uninterrupted by patient care, and the in parallel model, common during medical crises and involving multiple, short learning flashes intricately related to and frequently interrupted by patient care. By adopting a model over the other, supervisors appeared to adapt to 2 contexts that differed in terms of priority, supervisor's understanding of events, and social context of interactions. Each model presented complementary opportunities and limitations for learning.
Conclusions: Modern views of medical apprenticeship and clinical teaching need to take into account the specific clinical context in which learning occurs. Teaching interactions that differ in structure and content in response to changing clinical circumstances could impact learning in unique ways. Learning outcomes resulting from different models of integration of teaching into clinical activities need to be further explored.

1. Introduction

Clinical supervisors are expected to assume 2 responsibilities during clinical activities: ensuring safe and timely care delivery and creating learning opportunities for trainees [1-3]. Such responsibilities may be challenging in today's clinical environments, especially in the acute care setting [4-7]. Two bodies of literature have partially addressed issues relevant to the educational role of clinical supervisors: studies on bedside teaching and on workplace learning.

Bedside teaching has been the object of multiple studies in medical education [8-11]. This literature has highlighted important aspects of clinical supervisors' role in bedside teaching: a consistent decline in the occurrence of bedside teaching [12-14], perceived challenges and barriers to bedside teaching [8,10,15,16], perceived and measured benefits of bedside teaching [8,11], the increasing role of patients and peers in bedside teaching [8,17], and specific strategies to improve bedside teaching [9,11,18,19]. However, these studies have focused narrowly on 1 aspect of the educational role of the clinical supervisors and do not reflect other important supervisors' responsibilities in the clinical environment, such as being a role model, providing access to authentic clinical activities, and offering clinical guidance.

Studies on workplace learning have considered broader issues related to clinical learning [20-22]. Informed by sociocultural theories of learning, the literature on workplace learning has emphasized the contextual and distributed nature of knowledge and learning and has revisited the educational role of senior practitioners in the workplace [23-25]. In complex and dynamic clinical environments, where most of the knowledge is tacitly embedded in observable activities, trainees particularly benefit from the assistance of senior clinicians to make sense of their experiences [26,27]. Providing access to authentic activities, role models, guidance, direct instruction, and feedback has been recognized, in addition to teaching per se, as key strategies to promote work-based learning [10,26-28]. However, workplaces such as hospital clinical wards present specific challenges for clinical supervisors [10,15,16,28-30]. The lack of time dedicated to learning and strategies to facilitate teaching interactions in time-pressured clinical environments has been the object of few publications [16,28,30]. The critical care environment is characterized by different types of time-pressured

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http://dx.doi.org/10.1016/j.jcrc.2015.03.002
0883-9441/

clinical activities. Observational studies in the critical care setting are lacking, limiting our understanding of how clinical supervisors can fulfill their educational roles during various acute clinical activities. Such understanding is crucial for the improvement of the clinical learning experience of critical care trainees.

The goal of this article was to better understand how clinical supervisors integrate teaching interactions (in the broader sense described in the workplace learning literature) into patient care activities within 2 different clinical contexts encountered in critical care: multidisciplinary rounds and medical crises. We also paid attention to the contextual factors that characterized each clinical activity and to the implications of these interactions for clinical learning. Our hope was to illustrate, for the medical educators and teachers working in acute care environments, how clinical teaching is enacted during daily clinical activities (ie, what does modern apprenticeship looks like in the acute setting) and to identify new lines of inquiry for educational researchers interested in understanding and improving clinical learning.

2. Methods

This article represents 1 phase of a broader observational, qualitative program of research based on constructivist grounded theory methodology [31]. This methodology aims to construct theories regarding social phenomena and relies on the consideration of multiple perspectives and on the reflexivity of the researcher. However, the study presented here used predominantly an ethnographic approach to address the research question [32] and was aimed at providing rigorous descriptions and sound interpretations of the observed interactions among supervisors and trainees in different clinical contexts, rather than producing a substantive theory.

We selected participant observation as our data collection strategy. Purposive sampling guided the choice of our study sites and periods of observation. Our objective was to observe a variety of teaching interactions during multidisciplinary rounds and medical crises. We chose to observe the clinical activities of physicians (including subspecialty residents, critical care fellows, and critical care attending physicians) working in the medical-surgical critical care unit of 2 tertiary, academic hospitals in Toronto, Canada. These centers presented both a high rate of intensive care unit (ICU) admissions and a solid reputation in terms of the quality of the learning experience offered to their trainees. Multiple blocks of 6 to 12 hours of observation were completed by the principal investigator (a practicing critical care physician) and by a research assistant (a practicing critical care nurse) during daytime, evening, and nighttime clinical activities. Prolonged blocks of observation were planned to account for the unpredictable nature of the occurrence of medical crises in the critical care environment. The 2 observers completed 2 observation sessions jointly at the beginning of the data collection process to develop a common primary focus of observations and similar note-taking strategies. Each institutional ethics board approved this study, and each participant enrolled provided a written consent at the beginning of each period of observation. The need for patient consent was waived by the ethic boards because patients were not the primary object of our observations and rarely contributed to the exchanges among participants (patients were noncommunicative given the severity of their condition).

Between December 2010 and June 2012, the observers spent a total of 350 hours in the 2 ICUs under study. The observers focused their observations on the teaching interactions among critical care residents, fellows, and attending physicians during medical crises in the critical care environment. We defined teaching interactions as any exchanges between clinical supervisors and trainees that provided trainees with increased direct access to a clinical activity, explicit role model or guidance, direct instruction, or feedback. Medical crises involved unpredictable, yet defined clinical events, where a newly or already admitted ICU patient experienced an immediately life-threatening condition. During the first few weeks of observation, we witnessed many routine episodes of care such as multidisciplinary rounds. Daily multidisciplinary rounds represented planned clinical events involving the systematic review of the medical issues of each patient admitted to the critical care unit. Those bedside interactions typically included a brief presentation of the patient by the resident, input from the bedside nurse, updates and suggestions from other healthcare professionals (dietitian, respiratory therapist, pharmacist, and physiotherapist), and a final discussion about the diagnosis and management plan by the medical team. We observed that the teaching interactions occurring during these rounds were different from the ones observed during medical crises. We thus decided to broaden the context of our observations to include multidisciplinary rounds in addition to the acute episodes of care. Data relating to 74 medical crises and 12 multidisciplinary rounds contributed to the current article.

Interactions among participants could not be audio recorded for technical reasons (extremely noisy environments and constant physical mobility of our participants). Each observer, therefore, wrote detailed records of the interactions at the time of observation of the clinical activities. Additional contextual details were added, as needed, immediately after an event. Short conversations with the participants were initiated by the observers, as needed, to clarify certain aspects of their observations. The details of such conversations were also immediately included in the field notes. Detailed descriptive field notes, on-the-spot interpretive reflections, and investigators' personal impressions and reflections were, therefore, documented during the observations, and they form part of this analysis.

As part of the iterative process, the field notes were transcribed and analyzed concurrently with further data collection that was guided by our preliminary analysis. Grounded theory methods (theoretical sampling; line-by-line, focused, and theoretical coding; constant comparison; memo writing and audit trails; and end of data collection with saturation of the themes) were used [33]. The 2 observers met on a monthly basis to compare and discuss their observations. Furthermore, multiple, planned interdisciplinary meetings between coinvestigators from different disciplines were held to provide multiple perspectives for the development and refinement of the coding structure and models emerging from the data. NVivo 9 software (QSR International Pty Ltd, Cambridge, MA) was used to facilitate the storage and analysis of our data.

3. Results

Two models of integration of teaching interactions into clinical activities were identified during multidisciplinary rounds and medical crises: an in series model and an in parallel model. By model of integration, we mean a strategy used by our participants to include teaching interactions within patient care activities and to negotiate the transitions between the 2 during an episode of care. The following sections present and compare the 2 models. For each model, we describe the clinical conditions in which participants' teaching interactions emerged, the structure and content of the teaching interactions observed for each model, and potential implications in terms of clinical learning (see Table 1 for a summary of our findings). The quotes represent the observed interactions between residents (R), critical care fellows (F), critical care staff physicians (S), and critical care nurses (RN).

3.1. Multidisciplinary rounds: in series model

During multidisciplinary rounds, teaching interactions emerged in a clinical context where patient care and learning were equally prioritized, supervisors appeared to have developed a relatively stable conceptualization of the patient, and care was discussed by a large group of individuals. Such conditions appeared to favor an in series model of integration, which presented specific implications in terms of learning.

3.1.1. Clinical context in which interactions emerged

Multidisciplinary rounds were perceived by our participants as clinical situations where both patient care and learning should be