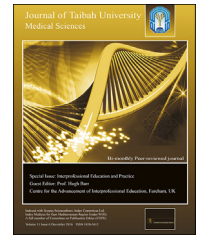




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Original Article

Designing interprofessional simulation based faculty development in a new women and children's hospital in the Middle East: A pilot study



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المخلص

أهداف البحث: تسلط هذه الدراسة الضوء على معلومات للمعلمين في المجال السريري المهمين في تصميم مبادرات مبنية على المحاكاة لتطوير أعضاء هيئة التدريس في مجال التعليم المتداخل بين التخصصات.

طرق البحث: تم استخدام مجموعة واحدة قبل وبعد تصميم الاختبار، مع عينة مقبولة لفحص العلاقة بين معرفة المشاركين بالتعليم المبني على المحاكاة، والتغذية الراجعة الفاعلة، وأثر التعلم الإلكتروني ما قبل الدورة على السلوكيات المعرفية للمشاركين قبل الاختبار وإنجازاتهم.

النتائج: كانت هناك تحسنات ذات قيمة في الدرجات الإجمالية لأسئلة متعددة الاختيار بين النتائج قبل وبعد الاختبار. ولم تتحسن قدرة المشارك على تطبيق التغذية الراجعة نظرياً، مع التركيز على استخلاص المعلومات بشكل كبير على مدى الدورة. النتائج التي تم الحصول عليها والمتعلقة بعناصر الاختبار في المواضيع قبل الدورة كانت أعلى في الاختبار الابتدائي من التي كانت متعلقة بالدورة. يحتاج الأطباء الوافدون المستقربون من أنحاء العالم إلى التعليم الخاص بأعضاء هيئة التدريس الذي تغذيه الممارسة المتمدة والإرشاد، لتكوين الكفاءة في تطبيق نظرية التعلم المبني على المحاكاة. ستتحسن النتائج التي يحققها المشاركون بالتعرض المبكر لمفاهيم التعلم الإلكتروني قبل الدورة.

الاستنتاجات: لا يكفي يومان من تطوير عضو هيئة التدريس في مجال التعلم المبني على المحاكاة لتحقيق كفاءة المشارك في التغذية الراجعة نظرياً وتطبيقياً. وينبغي على البحوث المستقبلية النظر في ذلك بتصميم بحثي أكثر صرامة.

الكلمات المفتاحية: تطوير عضو هيئة التدريس المبني على المحاكاة؛ التعليم المتداخل بين التخصصات؛ معلمي الطب؛ التعلم المبني على المحاكاة؛ التغذية الراجعة

Abstract

Objectives: This study sheds light on information for clinical educators interested in designing interprofessional simulation based faculty development initiatives.

Methods: A one group pre- and post-test design with a convenience sample was used to examine the relationship between participant knowledge of simulation based learning and effective feedback and the impact of pre-course eLearning on participant cognitive entry behaviours and achievement.

Results: There were significant improvements in aggregate MCQ scores, [$t(39) = 4.08, p < 0.000$] from pre- to post-test. Participant ability to apply the theory of feedback, with a focus on debriefing, did not improve significantly over the course. Achievement scores related to items on pre-course topics were higher on the pre-test than course-related items. Incoming clinicians recruited from around the world need faculty education fuelled with deliberate practice and mentorship to develop competence in the application of simulation based learning (SBL) theory. Participant achievement scores will benefit from early exposure to concepts in pre-course eLearning.

Conclusion: Two days of SBL faculty development is not adequate for achieving participant competence with the theory and application of feedback. Future research should examine this with a more rigorous research design.

Keywords: Feedback; Interprofessional education; Medical educators; Simulation based faculty development; Simulation based learning

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Introduction

Interprofessional faculty development (FD) is central to clinician educator and institutional success, yet is rarely a focus in hospital settings.¹ This becomes more concerning when opening a new hospital in a Middle Eastern country with a diverse group of healthcare professionals (HCPs). At Sidra Medical and Research Center (SMRC), the frontline unit leadership will be expected to support the orientation needs of incoming interprofessional staff. To do this successfully and ensure a cohesive and consistent patient care model, frontline leadership needs to be familiar with the education plan inclusive of institutional practice, team roles and effective use of simulation based learning (SBL). Senior leadership at SMRC has endorsed a two day FD course as a required standard for frontline leadership involved in the three month orientation and onboarding process. The aim of the course is to familiarize incoming faculty with (a) the theory of SBL (b) effective use of feedback, (c) Sidra interprofessional practice and (d) team roles to optimize a safe patient opening. Our research questions were (a) is two days of faculty development sufficient for the application of simulation based learning theory and the provision of effective feedback and (b) does pre-course eLearning boost participant cognitive abilities at the start of the course and lead to higher levels of achievement at the end of the course.

The design, development, delivery, and evaluation of curricula are an integral component of FD. Moreover, this should be reviewed regularly to ensure a close match between learning objectives and emerging stakeholder needs.² The assumption that experienced HCPs are effective teachers puts the teacher, the mentee, the institution and its patients and families at risk.³ The risks are intensified when onboarding HCPs are internationally trained. This creates diversity and variation in practice, which can be challenging when developing a new hospital culture. To help HCPs transition effectively to SMRC, educational leadership has endorsed the use of SBL to create opportunities for new staff to practice the application of institutional standards with members of their team. Simulation Based Learning provides real practice context in a risk-free environment to create a venue for teams to practice task work and teamwork.⁴ This type of deliberate practice is used to educate, identify and close performance gaps, so that teams are able to effectively manage real patients.⁵

There is a paucity of literature to support FD in health professional education⁶ and no prior evidence to support FD in a newly developed tertiary care facility in a Middle Eastern culture has been reported. The role of FD in individual and organizational development has been a popular topic at medical education conferences, and from the first international conference on FD in the health professions, expert consensus released six recommendations to enhance

FD initiatives: (a) use a theoretical framework, (b) extend the focus to address various roles of clinicians, (c) recognize the role of FD in creating change, (d) incorporate work-based learning, (e) make FD an expectation, and (f) promote scholarship.⁶ These principles are core goals of our educational programme. Relevant theoretical frameworks include interprofessional education, experiential learning theory, and mastery learning.

Interprofessional education provides an opportunity for faculty to learn from, with, and about each other as they work collaboratively to develop the Sidra culture.⁷ Interprofessional education continues to be endorsed as an essential strategy in health professional education for enhancing effective team performance; minimizing communication issues that are frequently identified in many adverse events and less than optimal patient outcomes.^{8,9,10} Healthcare professionals need to feel confident, respected and valued for sharing their perspectives with the team so that they hopefully speak up when they notice something that could negatively impact patient safety.

Experiential learning theory emphasizes the importance of learning from experience. It is an umbrella term that integrates the concepts of deliberate practice, reflective practice, and mastery learning to achieve educational outcomes. Faculty learn through doing and in the process of doing they experience certain outcomes that inform their thought processes and resultant behaviours.^{11,12} From this perspective, experiential learning transitions the learner from a position of knowing to a position of doing in a relationship context (patient, team and/or system). Learning is required to improve understanding that results in best practice. Learners need repetitive opportunities to practice certain skills to master learning and transition from early beginner phases, as detailed in skill acquisition theory,¹³ to achieve recognition as an expert.¹⁴ Previous research suggests that up to 10,000 h of practice is required to achieve the status of an expert¹⁴; however, it is important to acknowledge the lack of consensus on this theory in different professions and specialties.

In a review of the literature addressing the relationship between simulation and FD, results from a small number of studies suggest that faculty need education on choosing the right simulation modality for the right learning objective,¹⁵ and more training in performance assessment.¹⁶ Evidence suggests value in using simulation for standardizing surgical training and assessment of team skills,¹⁷ and improving faculty debriefing and decision-making skills in surgery.¹⁸ In a resident as teacher program, participant self-reports suggest value in using simulation to enhance feedback skills.¹⁹ The majority of published literature is based on surveying institutional experiences and current practice,²⁰ and the educational theories related to deliberate practice,^{14,21,22} and mastery learning.²³ From these studies, it is clear that additional research is needed on the amount and type of FD, deliberate practice and specific competencies required to master learning.

Creating a safe educational environment to maximize learning has also been identified as important. This can be a challenge, particularly when individuals are expected to perform tasks in front of their peers or other interprofessional team members.²⁴ Unanticipated and undesirable outcomes from actions can create individual and team

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