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2010

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Publication Details

Smith, N., Rhodes, K. & Vella, S. (2010). Use of simulation to deliver assertiveness training to medical students. SimTect Health 2010: Education and Innovation in Healthcare (pp. 69-70).

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Keywords
simulation, deliver, assertiveness, training, students, medical

Disciplines
Medicine and Health Sciences

Publication Details
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This conference paper is available at Research Online: http://ro.uow.edu.au/medpapers/33

The use of Simulation to Deliver Assertiveness Training to Medical Students

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Introduction

Patient safety is an aspect of medical care that is of increasingly recognised importance in minimising errors and harm to patients. Effective teamwork, including good communication skills, is an important component of this. (1). Teaching practitioners how to speak up and create an environment in which they can express concerns is one method to enhance patient safety (2). Research in this area in undergraduate students has not been previously reported.

This study was designed to investigate the impact of teaching assertiveness to medical students in a prospective, randomised, cross-over, controlled design. We chose to study the possible effect of this training intervention over a 3 month period to look for longer term effects on performance. Both qualitative and quantitative data were collected; a self-rated questionnaire scale and an observer-rated observation of simulated clinical performance. A semi-structured interview as the last part of the study allowed a deeper exploration of the learning experience.

Aims

i) To investigate the effectiveness of a training package to improve assertiveness demonstrated by medical students when faced with challenging situations during medical simulation exercises.
ii) To evaluate the students' views on the effectiveness of the training package

Methods

76 second year medical students underwent 2 sessions of simulation on a moderately high fidelity manikin in groups of 3 or 4. Deliberate errors were introduced in both sessions and the videotapes of their performance were rated for the level of assertiveness in the students' response to these errors. The errors were either medical (eg wrong name on an ABG) or interpersonal (eg an interfering relative).

The students were randomly divided into two groups. The control group received only a standard debriefing after their first simulation. The intervention group received a teaching package on assertiveness which included a background discussion and the use of a specific tool; the 2 challenge rule (3). To ensure educational equity, the control group received the teaching package after their second simulation. Students completed a 24 point questionnaire on their attitudes to teamwork at 3 time points – prior to the study and any simulation experience, after their first simulation but before the study started, and after the study was completed.

The videotapes were rated by an external observer using a previously developed 5 point scale (3). T-tests were used to compare the means of the control and intervention groups (using non-parametric version because of small numbers). Qualitative data was gathered from focus groups held after the study was completed and was analysed using grounded theory.

Results

No significant differences were found between the questionnaires at the three different time points, even in the 8 questions that related specifically to assertiveness.

Analysis of the videos showed no significant difference in the rating of assertive behaviour between the control and intervention groups. Both groups did score higher in the second session than in the first, with the intervention groups higher than the control, but this did not reach statistical significance (p=0.75).

An unanticipated finding was that the students' level of assertiveness differed according to the type of challenge. They handled the interpersonal challenges much more effectively than the medical challenges. The baseline scores of in the interpersonal challenges were high in all groups prior to the intervention, and increased even further to show a significant difference (p = 0.03) in the second session.

The qualitative data showed that the students did value the assertiveness teaching and felt an increase in their confidence in challenging errors over the study period. However, this was mainly related to the increase in clinical knowledge and experience they had gained from both their clinical work and from their learning in simulation itself rather than from the assertiveness training (7/8 groups):

"it's not like I feel more confident to speak, it's that I'll now feel more confident that I will see an error"

The assertiveness package was also thought to be useful by the majority of students, who felt that it gave them a specific tool to use when needed (5/8 groups):

"using that two step method as a student you could say (to a colleague), oh, what methods do you use now to assess that you've done the right thing, rather than saying look mate, you've stuffed up."

Half of the students also commented that being exposed to errors was in itself a very powerful learning experience (4/8) and all thought that this should be retained in our future teaching programme:

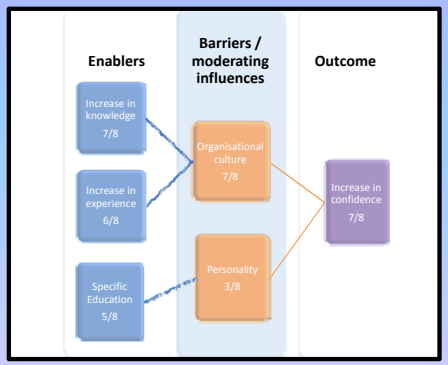
"You handed me the … results, from a completely wrong patient and I didn't notice and then you came back and said that that was actually the wrong patient and I'll never forget …makes you remember it as opposed to just being told"

Table 1. Mean scores (x/5)

	Baseline	Control group	Intervention group
overall	2.7	3.2	3.8

Table 2. Mean scores (x/5) according to type of scenario

	First session	Second session -both groups combined
Medical scenarios	2.3	2.6
Interpersonal scenarios	3.4	4.9



Discussion

We have shown that a single assertiveness training package did not significantly increase either assertiveness attitudes or behaviours in response to a clinical challenge in our second year medical students when measured over a period of three months. Having a solid base of clinical knowledge and experience from which to judge a clinical error or challenge was felt to be more useful than a specific training package in giving the students confidence to speak up for patient safety.

Possible reasons for our results include:

i) Students were simply too junior to recognise common medical errors (eg oesophageal intubation) and therefore did not perceive them to be an opportunity for challenge. This did not change significantly over the three month study period in either control or intervention groups. The qualitative focus group data supports this concept.
ii) The students in our graduate entry medical programme have a baseline high level of interpersonal communication skills. There are a number of possible reasons for this including the selection requirements of the school, our focus on communication teaching, or our curricular emphasis on small group learning methods. Learning a specific tool may have increased the effectiveness of their assertiveness in situations which they readily recognised as requiring it.
iii) A single brief intervention may not be sufficient to cause underlying change in attitudes or behaviours. This surmise is not unreasonable. Our students, although still very junior, also identified several important factors that can mitigate against the transfer of patient safety attitudes to the workplace and until lessons learned in the lab are supported by experience in the real world such teaching is unlikely to be fully effective.

Most prior studies in this area have shown significant differences in teamwork attitudes and behaviours immediately before and after a training intervention - a situation in which an improvement would be expected. Using a control group and a longer time period, we have shown that such changes in teamwork, and assertiveness in particular, are not necessarily retained or demonstrated over time.

Summary

The students did value both the assertiveness training package and the exposure to errors in addition to the medical knowledge they gained from simulation itself.

"Knowing that this is in the WHO pt safety curriculum really helps....made me realise that these concepts are not part of what is 'optional' in learning medicine... I have moved them into the 'mandatory' basket of what makes a good doctor"

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