









Does Classroom-based Crew Resource Management Training Have an Effect on Attitudes between Doctors and Nurses? Chan CKW¹, So HKE¹, Ng WYG¹, Ma WLT², Chan PKO³, Chan KLK⁴, Leung SH¹, Ho LY¹

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BACKGROUND

Crew Resource Management (CRM) training has become a common teaching method for healthcare organizations. It was first developed in the aviation industry to improve safety behaviors and minimize human error.¹ Since it has high face validity, many healthcare organizations have adopted this training program to improve patient's safety. CRM focuses on teamwork, threat and error management, and interpersonal communication.²

OBJECTIVES

To evaluate participant reactions and attitudes to CRM teamwork classroom-based training by comparing before and after the intervention of this training course; and to explore potential differences in attitudes across the different healthcare professionals.

METHODS

Between 26 January and 27 March 2015, a randomly selected sample of 240 healthcare professionals offering direct patient care were recruited to undergo a 4-hour CRM classroom-based training program. The program was led by 2 CRM certified instructors and it primarily divided into five main parts which were as follows: (1) Introduction; (2) Leadership; (3) Communication; (4) Assertiveness; and (5) Situational Awareness. Each part was specially designed to suit the needs of the hospital and each part included a lecture followed by various games, videos and open discussion. Participants were asked to complete a 22-item Human Factors Attitude Survey (HFAS) before and after training and a 10-item end-of-course evaluation. Paired sample *t* tests was used to assess differences between the participants' pretest and posttest scores on each item. The training took place in Multidisciplinary Simulation and Skills Centre at Queen Elizabeth Hospital,

Hong Kong.



Lecture on leadership



Communication using SBAR



*healthcare professionals with direct patient care, including the following ranks: associate consultants, resident specialists, residents, advanced practice nurses, registered nurses, and enrolled nurses



Case sharing - Speak up for patient safety



Situational awareness – evacuation!!!



Games involving teamwork

RESULTS

A total of 167 (70%) from 17 specialists underwent the classroom-based training and 164 (68.3%) completed (139 nurses, 25 doctors) the HFAS and end-of-course evaluation. The nurses were of similar age to the doctors (38.2 vs 36.9; P=0.83) and were more likely to be women -(75.6% vs 24.6%, P<0.001). HFAS findings indicated that $\frac{2}{3} \geq \frac{2}{3}$ nurses valued the experience highly compared to doctors. Except for 2 items, HFAS responses among the nurses ² revealed a significant attitude shifts (P<0.05) towards leadership, teamwork, decision making, communication, feedback, situational awareness and assertiveness. On the other hand, HFAS results indicated pre-existing positive leadership, decision attitudes making, to and communication among doctors and only 9-items revealed a significant attitude shift (P<0.05). The overall mean scores of usefulness, relevance of training, and patient safety enhancement, on a Likert Scale from 1 to 5, were 4.02±0.61, 4.06±0.68, and 4.06±0.65 respectively.



Q21: The team formation and decision-making skills of team leaders are as important as their technical skills.Q14: The staff in my own department need training to "speak up" when they see something that is not right.Q11: A debriefing and critique of procedures and decisions after each event is an important part of developing and maintaining effective team coordination.

Q1: Team leader and team members can improve decision-making skills through training.

Q7: It is necessary for the team leader to explicitly tell team members that he/she wants their input.

CONCLUSION

Overall, the CRM classroom-based training program appeared to have a positive effect on healthcare professionals' attitudes toward the leadership, communication, situational awareness, assertiveness and teamwork. The implementation of such program is feasible and acceptable, especially for nurses, in a public hospital setting in Hong Kong.

REFERENCES

¹Cooper GE e. Resource management on the flight deck. Moffett Field, CA: NASA. 1980. ²Grogan EL, Stiles RA, France DJ, Speroff T, Morris JA, Jr., Nixon B, et al. The impact of aviation-based teamwork training on the attitudes of health-care professionals. Journal of the American College of Surgeons. 2004;199(6):843-8