



## Research Briefs

# Interprofessional simulation-based education program: A promising approach for changing stereotypes and improving attitudes toward nurse–physician collaboration



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## ABSTRACT

An effective working relationship between physicians and nurses is enhanced by fostering positive perceptions and collaborative attitudes between the two professions. This brief paper examines the effect of an interprofessional simulation-based communication education program in enhancing medical and nursing students' perceptions of each other's profession and their attitudes toward nurse–physician collaboration. Pretest–Posttest design was conducted on 96 medical and nursing students who demonstrated the existence of professional stereotypes in the baseline data. This study showed that by promoting open communication, shared information and decision-making, mutual respect, and trust during the interprofessional simulation training, a positive transformation on the stereotypes and attitudes toward nurse–physician collaboration can be achieved.

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## 1. Introduction

Nurse–Physician collaboration is an important aspect of good quality patient care and health outcomes (World Health Organisation, 2010). The diverse attitudes held by nurses and physicians toward nurse–physician collaboration are affected by several factors including communication, professional respect, unequal power, role expectations and competing priorities (Hughes & Fitzpatrick, 2010; Thomson, 2007). Traditional views, often stereotypes, of health professional have been highlighted as threats to the nurse–physician working relationship. These views support the perception that physicians should assume a dominant and directive role, while nurses play a more subservient role in patient care (Casanova et al., 2007).

Interprofessional education has been shown to promote teamwork and positive interprofessional attitudes (Coster et al., 2008). Casanova et al. (2007) advocated an interprofessional education program that applied effective communication strategies to develop a healthy culture of respect and communication between nurses and physicians. The development of teamwork and communication skills using

simulation is becoming a popular method of instruction for interprofessional education. Although interprofessional simulation has been shown to improve teamwork and communication skills among nurses and physicians, little is known about changes in their attitudes toward each other profession and nurse–physician collaboration. The attitudes of medical and nursing students are particularly crucial as negative attitudes among them may hamper future nurse–physician collaboration (Coster et al., 2008). The purpose of this study was to examine the effects of an interprofessional simulation-based communication education program on medical and nursing students' perception on each other health profession and their attitudes toward nurse–physician collaboration.

## 2. Methods

### 2.1. Study design and sample

A prospective, quasi-experimental pretest and post-test design was used in this study. The study was approved by a university's institutional human research ethics board. All third year nursing students ( $N = 79$ ), and third and fourth year medical students ( $N = 23$ ) who attended the interprofessional simulation-based communication education program were invited to participate in the study by completing the survey questionnaires. Their participation in the survey was voluntary. They were assured that their decision to participant or not

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to participate will not affect their training. They were given a participant information sheet that explained the purpose of the study.

## 2.2. Procedure

The education program, which focused on the use of communication tools, was conducted at a simulation laboratory located in a large university. Prior to the program, all students provided their demographic data and were invited to complete pre-test questionnaires which comprised the Student Stereotypes Rating Scale (SSRQ), and the Jefferson Scale of Attitudes Toward Physician–Nurse Collaboration (JSATPNC).

The students were divided into 10 groups comprising of six to seven nursing students and two to three medical students in each group. Each group was facilitated by a nursing and medicine faculty and underwent two 15 minute simulation scenarios: a ward round scenario of a patient with early clinical signs of sepsis; and a life-threatening scenario of a patient in septic shock. Prior to the simulation, the students were introduced on communication strategies from well-established curriculum known as Team Strategies and Tools to Enhance Performance and Patient safety (TeamSTEPPS) (Ferguson, 2008). These strategies included: 1) Situation, Background, Assessment & Recommendation (SBAR) tool to communicate assessment findings and critical information to team members; 2) call-out strategy to help team member to understand the treatment plan; 3) check-back strategy to verify and acknowledge the treatment plan; and 4) feedback to address team members' performance and concerns. The students were expected to adopt these communication strategies in the simulation scenarios. In each scenario, while two to three participants undertook the hands-on experience, the rest observed the scene from a video captured monitor. Following each hands-on experience, a debriefing session was held by the facilitators to lead the participants to reflect on their experiences, particularly on the use of communication strategies. During debriefing, the contributions of team member were highlighted to promote understanding and to build mutual respect. To allow the students to apply what they learned from the debriefing session on the communication strategies, the same scenario was repeated with the students exchanging roles as observers and role players so that all students had some hands-on experience. After completion of the program, the students were invited to complete a post-tests questionnaire on stereotypes and attitudes.

## 2.3. Instruments

The 9-item SSRQ with 5-point Likert scales, ranging from 1 (very low) to 5 (very high), was used to measure the participants' perception towards each other's health profession. The nine characteristics were: interpersonal skills, professional competence, leadership, academic ability, being a team player, being an independent worker, confidence, decision making and practical skills. The tool was evaluated in a previous study for content validity and test–retest reliability. The content validity was established by a panel of academics, health and social care professional, and pre-registration students. The SSRQ was piloted with a group of pre-registration for test–retest reliability. Items that were not reliable over time were removed (Hean, Clark, Adams, & Humphris, 2006). With the 9-item SSRA, our study reported a high internal consistency with a Cronbach's alpha of 0.76 to 0.88.

The 14-item JSATPNC with 4-point Likert scales (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) was used to determine the participants' attitudes toward physician–nurse collaboration. There were 4 subscales: shared educational and collaborative relationships, caring as opposed to curing, nurses' autonomy and physician's authority. A previous study reported a high internal consistency of Cronbach's alpha 0.84 to 0.85 and supported the content validity of the scale (Hojat et al., 1999). A high internal consistency of Cronbach's alpha 0.85 to 0.87 was obtained in this study.

## 2.4. Analysis

Descriptive statistics were computed for the demographic variables. Pre-test and post-test were analysed using paired t-test. Independent sample t-test was applied to evaluate differences between groups on change scores. Correlational analysis was used to determine the relationship between the study variables.

## 3. Results

### 3.1. Sample characteristics

Of the 102 students who participated in the training, 23 (100%) medical students and 73 (92.4%) nursing students completed the questionnaires. Most of the participants were female (71.9%) with an average age of 22.23 years old ( $SD = 1.11$ ). There were significantly ( $p < 0.001$ ) more female in the nursing than medicine group.

### 3.2. Effect of intervention on SSQR scores

At baseline, the medicine participants rated the nursing profession higher for the traits of interprofessional skills ( $M = 4.48$ ,  $SD = 0.59$ ) and team player ( $M = 4.52$ ,  $SD = 0.51$ ), and lower on academic ability ( $M = 3.83$ ;  $SD = 0.65$ ), and ability to make decisions ( $M = 3.49$ ,  $SD = 0.75$ ). In contrast, the medicine profession was rated by the nursing participant higher on academic ability ( $M = 4.42$ ,  $SD = 0.60$ ) and lower on interprofessional skills ( $M = 3.03$ ,  $SD = 0.76$ ) and team player ( $M = 3.27$ ;  $SD = 0.79$ ).

Following the training, while the medicine participants rated nursing profession significantly higher on the traits of academic ability ( $t = 4.60$ ,  $df = 22$ ,  $p < 0.01$ ), work independently ( $t = 2.34$ ,  $df = 22$ ,  $p < 0.05$ ), and clinical decision making ( $t = 3.76$ ,  $df = 22$ ,  $p < 0.01$ ), the nursing participants rated the medicine profession significantly higher on the traits of interprofessional skills ( $t = 9.18$ ,  $df = 72$ ,  $p < 0.001$ ), ability to be a team player ( $t = 8.37$ ,  $df = 72$ ,  $p < 0.001$ ), and practical skills ( $t = 3.45$ ,  $df = 72$ ,  $p < 0.01$ ).

Table 1 shows that the participants demonstrated a significant improvement in total post-test scores from baseline scores for perception of the other health profession.

### 3.3. Effect of intervention on JSATPNC scores

Both nursing and medical participants demonstrated a significant improvement in post-test scores from baseline for their total score on attitudes toward nurse–physician collaboration (see Table 1). Except for the subscale score on “sharing educational and collaborative relationships” ( $t = 2.16$ ,  $df = 94$ ,  $p < 0.05$ ), the medical and nursing group did not differ significantly on other subscale scores.

### 3.4. Correlation between study variables

No significant relationship ( $r = 0.07$ ,  $p = 0.51$ ) was identified in their perception of each other's health profession and attitudes on nurse–physician collaboration at baseline. However, after the intervention, there was significant positive correlation ( $r = 0.33$ ,  $p < 0.01$ ) between the perception of each other's health profession and attitudes on nurse–physician relationship for the post-test scores.

## 4. Discussion

In this study, the differences in baseline rating on participants' perception of the nursing and medical profession were similar to the findings found in the previous studies. The two professional groups are clearly distinguished in terms of their academic ability, ability to make decision, interpersonal skills and being a team player. Despite differences in culture and the level of professional training, the

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