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ORIGINAL ARTICLE

Student reflections on interprofessional education for patient safety

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Abstract

Objective: To evaluate what students have learned from their participation in the interprofessional education for patient safety course.

Materials and Methods: The interprofessional education for patient safety extra-curricular course was established for health sciences students from three faculties (Medicine, Nursing and Pharmaceutical Sciences). Learning activities were comprised of a half-day workshop, project-based learning, project presentation and writing reflection essays. A qualitative analysis of student reflection essays was performed using conventional content analysis.

Results: A total of 452 students, divided into 40 groups, participated in the program. Qualitative analysis of 40 essays revealed 23 themes, which were categorized into 7 main categories: 1) interprofessional education program, 2) patient-centered care, 3) professional values, 4) professional roles and responsibilities, 5) communication skills, 6) teamwork and 7) enhancing other non-technical skills. Students had a positive attitude towards the interprofessional education program.

Conclusion: Students have learned and achieved inter-professional core competencies and non-technical skills.

Keywords: communication skill, health sciences, interprofessional education, patient safety, reflection, teamwork

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การสะท้อนคิดของนักศึกษาต่อการศึกษาแบบสหวิชาชีพ เพื่อความปลอดภัยของผู้ป่วย

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บทคัดย่อ

วัตถุประสงค์: เพื่อประเมินสิ่งที่นักศึกษาได้เรียนรู้จากการเข้าร่วมหลักสูตรการศึกษาแบบสหวิชาชีพเพื่อความปลอดภัยของผู้ป่วย

วัสดุและวิธีการ: กิจกรรมเสริมหลักสูตรการศึกษาแบบสหวิชาชีพเพื่อความปลอดภัยของผู้ป่วยได้จัดทำขึ้นสำหรับนักศึกษากลุ่มวิทยาศาสตร์สุขภาพจาก 3 คณะ (แพทยศาสตร์ พยาบาลศาสตร์ และเภสัชศาสตร์) กิจกรรมการเรียนรู้ประกอบด้วย การประชุมเชิงปฏิบัติการเป็นเวลาครึ่งวัน การจัดการเรียนการสอนโดยใช้โครงงานเป็นฐาน การนำเสนอโครงงาน และการเขียนรายงานสะท้อนคิดจากการเรียนรู้ วิเคราะห์ข้อมูลเชิงคุณภาพจากรายงานสะท้อนคิดของนักศึกษาโดยใช้การวิธีการวิเคราะห์เนื้อหาแบบดั้งเดิม

ผลการศึกษา: นักศึกษาเข้าร่วมกิจกรรมจำนวน 452 คน แบ่งเป็น 40 กลุ่ม ผลการวิเคราะห์เนื้อหาเชิงคุณภาพ สรุปได้ 23 หัวข้อ ซึ่งจัดกลุ่มได้ 7 กลุ่มได้แก่ 1) หลักสูตรการศึกษาแบบสหวิชาชีพ 2) การดูแลโดยยึดผู้ป่วยเป็นศูนย์กลาง 3) คุณค่าแห่งวิชาชีพ 4) บทบาทของวิชาชีพ 5) ทักษะการสื่อสาร 6) การทำงานเป็นทีม และ 7) การเสริมสร้างทักษะที่ไม่ใช่เชิงเทคนิคอื่น ๆ ซึ่งนักศึกษามีทัศนคติเชิงบวกกับหลักสูตรการศึกษาแบบสหวิชาชีพ

สรุป: นักศึกษาได้เรียนรู้และบรรลุสมรรถนะหลักของการศึกษาแบบสหวิชาชีพ และทักษะที่ไม่ใช่เชิงเทคนิค

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Introduction

Collaborative practice among healthcare professionals with effective teamwork is essential for patient safety. The World Health Organization (WHO) and its partners acknowledge inter-professional collaboration in education and practice as an innovative strategy to alleviate the global health workforce crisis.[1] By the definition of WHO, the interprofessional education (IPE) occurs "when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes".[1] It is a necessary step in preparing a collaborative practice-ready health workforce.

We, as health sciences professionals, realized the importance of patient safety, and would like to prepare our health sciences students to be an effective collaborative practice-ready health professional in the future. Therefore, we designed an innovative "Interprofessional Education for Patient Safety Course", for health sciences students, and have implemented it as an extra-curricular program since 2017. We followed the 2011 WHO Multi-professional Patient Safety Curriculum Guide, which was developed for educators in the field of health sciences to assist in their teaching of patient safety.[2]

Reflective writing helps students to explore their knowledge, attitudes, skills, belief, values and implication for future practice[3-6] Students can link their experiences with professional development.[6] It can also assist medical educators to assess if expected learning competencies are being achieved.

This study aimed to perform a qualitative analysis of student reflection essays on what they have learned from their participation in the innovative inter-professional education for patient safety program.

Materials and Methods

This study was registered with the Institutional Review Board of the Faculty of Medicine, Prince of Songkla University (REC.62-141-12-1) with exempt review based on the institutional policy.

In the academic year 2017, we developed and implemented an innovative interprofessional education (IPE) for patient safety course as an extra-curricular program for health sciences students. This program included 6th

year medical students (6-year curriculum), 4th year nursing students (4-year curriculum) and 5th year pharmacy students (6-year curriculum). Representative staff members from three faculties (Medicine, Nursing and Pharmaceutical Sciences) worked together to establish the innovative IPE course for patient safety. Essential content was purposefully selected to achieve the goals of patient safety.

The contents of the IPE for patient safety course were retrieved from the WHO Patient Safety Curriculum Guide, Multi-professional Edition, including 1) What is patient safety?; 2) Human factor; 3) Medication safety; 4) Infection prevention and control; 5) Effective team player; and 6) Learning from errors to prevent harm. All related documents were freely downloaded from the website: http://www.who.int/patientsafety/education/mp_curriculum_guide/en/.[2]

The objectives of the IPE course for patient safety were that the students should be able to: 1) describe the definition and importance of patient safety; 2) describe the meaning of human factors and their relation to patient safety; 3) discuss and comment on the movie entitled "Just an ordinary day, using the principles of patient safety and interprofessional practice; 4) describe

what students have learned from project-based learning at the assigned wards in regards to patient safety, focusing on medical safety and infection control, patient risk, and health professional roles (physician, nurse and pharmacist); and 5) write a reflection essay.

Course preparation consisted of 4 parts, which were 1) faculty preparation; 2) student preparation; 3) learning activities; and 4) report writing.

I. Faculty preparation

Before starting the IPE for patient safety course, a short course training for faculty members was established. Staff members, who were responsible as being group facilitators, were trained in concerns to IPE; including the topics of: why IPE?, how to teach IPE for patient safety?, facilitator's role, and reflection for the facilitating learning.

II. Student preparation

The students were prepared by the team leaders from the three faculties regarding the concept of patient safety and learning process before attending the IPE course.

III. Learning activities

In the academic year 2017, the IPE for patient safety course was set twice at 6 months apart. There were 452 students that participated in the course (212 in the first, and 240 in the second round). In each round, the students were divided into 20 groups with 12-13 students from 3 faculties in each group, with the proportion of medicine: nursing: pharmacy of 4-5:5-6: 3, and 3 facilitators from 3 faculties (1:1:1). There were 40 groups throughout the whole academic year. The learning activities were comprised of a half-day workshop, project-based learning and project presentation.

Workshop

The half-day workshop consisted of: 1) check-in activity; 2) team-based learning; and 3) learning from the movie. The purposes of the "check-in activity" were to let students from different faculties introduce themselves, and comfortably interact with each other as well as to learn non-technical skills by playing the "spaghetti and marshmallow" game together. Students could learn how to be a good leader, a follower, and teamwork and communication skills. For team-based learning, each group was assigned to do the 10-item MCQ examinations concerning patient safety. The use of Individual Readiness Assurance Test (IRAT) and Team Readiness Assurance Test (TRAT) enabled students to understand the concept of patient safety as well as teamwork. Finally, the highlight of the workshop was learning from the movie entitled "Just an ordinary day", created by WHO, focusing on the topic namely "Learning from error" in the WHO Multi-professional Patient Safety Curriculum Guide, free-downloading from the website: https://youtu.be/FYLH9Xg5yXM.[7] After the movie, the students were asked to discuss what they had learned and proposed their ideas to prevent harmful events during the process of healthcare, based on the situation in the movie.

Project-based learning

The 6-week project-based learning was assigned for each group to identify patients' risks in the wards, focusing on medication safety and infection control, as well as to propose their ideas or innovations to reduce preventable risks. Students from three faculties arranged

their free time for collaborative learning and group working until the job was accomplished. Before the formal project presentation, two meetings were scheduled in each group for discussion and work planning, in accordance with the feedback, comments, and recommendations given by the facilitators.

Project presentation

On the presentation day, each group was assigned to present their project for 10 minutes, followed by a 20-minute discussion with the commentators. Commentators were invited from the Healthcare Accreditation Institute of Thailand, nurse supervisors and pharmacists in the hospital, head nurses and doctors working in quality assurance. We also had a contest on the presentation day, and presented a reward to the group with the best presentation.

IV. Report writing

After completing the course, all groups were asked to submit a report with group reflection essay on their learning experience. In the process of students' reflection, each group arranged a meeting and had brainstorming for what they have learned from the innovative course and then summarized all the expressed ideas in the report.

Data analysis

The students' reports were comprehensively reviewed by all the authors from three faculties. A qualitative analysis of student reflections was performed, using conventional content analysis; including 4 stages: decontexualization, recontexualization, categorization and compilation. Only the reflection part was anonymously retrieved for analysis. The analysis details were as follows. The authors initially read through the transcripts to identify meaning units of the students' expression in the text, meaning units were then condensed, and each unit was labeled with a code. Finally, the codes were inductively generated, with themes and categories being identified, and approved by all authors.

Trustworthiness was ensured through headings of credibility, dependability, transferability and confirmability. The researcher's activities to achieve the criteria were as follows: 1) credibility: achieved through long engagement during the study activity, by spending sufficient time building rapport and interacting with students; 2) dependability, explanation and implementation of a reliable, clear and concise research design; thus, it can be tracked from methodology to results; 3) transferability: purposive sampling of the 40 student group essays; and 4) confirmability: the researchers applied bracketing by identifying and setting aside any preconceived beliefs and opinions about the topic being researched. All documents were kept safe for reference's sake.

Results

A total of 40 papers were fully reviewed and coded. There were 23 themes in the student reflection essays, which were classified into 7 main categories: 1) IPE program, 2) patient-centered care, 3) professional values, 4) professional roles and responsibilities, 5) communication skills, 6) teamwork and 7) enhancing other non-technical skills; as shown in Table 1.

Table 1 Student reflections on the Inter-Professional Education for Patient Safety Course

Category	Theme
Interprofessional education program	• Program design • Understand health care system • Prepare for future practice
Patient-centered care	• Patient safety • Patient oriented • Risk identification and management
Professional values	• Respectful attitude on other professions • Share professional values
Professional roles and responsibilities	• Understand other professional roles and responsibilities • Share knowledge and experience among professions • Recognize limitations of each profession
Teamwork	• Inter-professional teamwork • Collaboration • Build relationship among professions
Communication skills	• Inter-professional communication • Communicate with patients, friends, teaching staff, nurses, pharmacists and other professionals • Listen to other professions
Enhancing other non-technical skills	• Critical thinking and problem solving • Situation awareness • Social skill • Creativity • Time management • Management skills

I. IPE program

The students had a positive attitude towards the course design, particularly the project-based learning, as being helpful by improving their understanding of health care systems as well as their roles in future careers, and the roles of other health professionals and collaboration.

For example:

"The IPE project-based learning is useful. It helps the learners realize the importance of patient safety, understand our roles in the future as well as the health care systems"

"The IPE course is good. It offers an opportunity for students and teachers to work together."

"It is a new learning experience for the learners to work together with hospitality."

"Learning from real situations in the IPE course lead us to apply for inter-professional practice in the future."

Some groups of students expressed that time constraint was the limitation of the course, since it was an extra-curricular program.

II. Patient-centered care

Students emphasized the influence of IPE on improvement in patient care. All health professions have the common goals of providing the best care to their patients. The examples of their reflections are as follows:

"Working with different careers will enhance the quality of patient care. It will reduce patient risks."

"IPE can reduce medical errors."

III. Professional values

Students appreciated their professional values. They developed respectful attitudes to other professions.

IV. Professional roles and responsibilities

Students conveyed that their understanding of other professional roles and responsibilities was improved. They had an opportunity for sharing their experiences for improving patient care.

V. Communication skills

Students expressed that their communication skills were better improved with friends, supervisors, other professions and the patients. Effective communication helped them establish the common goals that focused on patient safety and improving quality of care.

VI. Teamwork

Students had a positive attitude towards teamwork, as a key component for better patient care and health outcomes. Project-based learning can enhance their opportunity to build on effective teamwork and better collaboration. They had also learned how to be an effective team player. The example of their reflections is as follows:

"For inter-professional teamwork, we can share our experiences and make an appropriate plan of risk management to systematically solve the problems to reduce patient risk."

VII. Enhancing other non-technical skills

Students expressed that IPE enhanced their critical thinking, problem solving, situation awareness, social skills, creativity, time management and management skills. The examples of their reflections are as follows:

"We have learned so much in time management and management skills in order to make the assigned work successful, since we have a limitation of spare time."

"IPE lead us to create innovations for patient safety."

Discussion

By comprehensively reviewing the reflective writing reports of health sciences students from their participation in the innovative IPE for patient safety course, the results revealed that students have learned and achieved the core competencies of IPE; understanding patient safety concept as well as enhancing many non-technical skills. It indirectly reflects that our proposed innovative course was effective.

Focusing on the IPE course, preparation steps are of importance. Our group included representatives from three faculties (medical school, nursing school and pharmacy school) working together on the course design for IPE. The main obstacle was time constraint. It was

unlikely that we could embed the IPE into the current curriculum. Therefore, we decided to set as an extra-curricular course. Implementation of IPE into the existing curriculum was challengeable, due to the limitation of time and scheduling opportunities.[8] In previous studies, some implementers solved these barriers in a number of ways; such as making the IPE subject part of the core curriculum, incentivizing learning activities through grading points, or involving professionals and students in the early stages of IPE curriculum preparation.[9-13]

For the course preparation, selecting students and program establishment must be carefully planned. We selected the final-year students of the medical and nursing school and 5th-year students of the pharmacy school, because they have already realized their professional roles and responsibilities. Hence, they can apply their skills for inter-professional practice in the near future. Additionally, we believed that faculty preparation is also essential. Their role as a facilitator, not an instructor, must be strongly emphasized; otherwise students will not have the opportunities to express their ideas and innovative thinking.

Patient safety is one of the most important issues for health care professionals. So, it was chosen as a learning topic for the IPE course. Appropriate activities were arranged for specific purposes. We set a half-day workshop to help students understanding the concept of patient safety, using WHO learning materials. We strongly recommend that the movie, "Just an ordinary day", was an excellent tool for teaching this issue. Many medical errors happening in the movie led to a patient's death, which were preventable. We let each group reflect what they had learned, and propose their ideas to prevent this harmful event. From these activities, students can realize the value of teamwork, and learn to respect other professional roles.

Project-based learning was chosen as the main learning experience. It was very useful, since students can learn from real situations. They worked together to find out the pitfalls in patient care in the ward, focusing on medical errors and infection control as well as proposing their ideas or innovations to solve the problems. Each group had attended the ward about three to four times during 6 weeks, which took about one to two hours each time. We selected this scope, because it involves all three professional roles. Student stated that it was a new experience of learning, and it enhanced their communication skills, critical thinking and problem solving, situation awareness, social skill, creativity and management skills. They realized the importance of teamwork and respected other professional roles from this activity. Normally, healthcare professionals are educated in silos. They have limited opportunities to learn with other professionals, which makes inter-professional practice quite difficult in real practice.

Regarding project presentations, we had a presentation contest. We believed that rewarding the presenters would motivate the students to strive to do better. For this activity, presentation styles were freely allowed, so that students could enhance their innovation and creativity as well as teamwork and communication skills.

Reflective writing is an effective method to evaluate what students have learned from the IPE course for patient safety. Previous studies revealed that reflective writing has been used widely in various fields, and was effective for exploring the students' values, belief, attitudes, critical incidents, and implications for future practice.[3-6]

Finally, we think that the key success factors of the course are: 1) strong support from the leaders of all three faculties, 2) positive attitudes and commitment of teaching staff, and 3) good collaboration among faculties. However, our IPE program was just an initial step of

IPE in our institution. As education is dynamic, for sustainability of the IPE course, it should be implemented in a new-reformed curriculum.

Conclusion

Students' reflection on an innovative IPE for patient safety course was summarized. It suggests that a well-organized course with project-based learning can help students to achieve interprofessional core competencies as well as non-technical skills. Our hope is that our students are a collaborative-ready health workforce for patient safety. Future research, focusing on interprofessional practice of these students after graduation, should be conducted.

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Conflict of interest

None

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