

Developing Interprofessional Learning Package for Undergraduate Students in Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Centre (UKMMC)

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ABSTRACT

Introduction: In Malaysia, the concept of Interprofessional Learning is not yet established, however it has begun to develop over the past few years. **Methods:** Three scenarios were developed for undergraduate students from medicine, nursing and emergency medicine; Acute Myocardial Infarction (AMI), Chronic Obstructive Pulmonary Disease (COPD) and trauma. The Interprofessional Learning Package (IPLP) adopted scenario - based learning and hybrid simulation; mannequin and simulated patient which focused on patient management. Each session employed experiential, interactive and contextualised sessions. The created learning sessions required the students to work in a small interprofessional team. The IPLP was validated by a panel of experts. **Results:** Content analyses were carried out for analysing the strategies that were performed during the development process. Focused group discussion showed that nursing students had positive views towards interprofessional learning. Document analysis on the curriculum showed that there were loopholes where the programmes needed to improve and expose students to interprofessional learning in order to achieve the faculty learning outcomes. Literature review gave an idea on the creating of the scenario and panel experts' input was also important as it reflected the created scenarios which were common sense and logically designed. **Conclusion:** This study managed to develop the Interprofessional Learning (IPL) package with simulation and scenario approached which can encourage students to learn with, from and about other programmes as well as managing a patient as a team.

Keywords: *Interprofessional learning, Simulation, Scenario based, Learning theories*

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INTRODUCTION

The World Health Organization (WHO) states that “Interprofessional Education (IPE) occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care”(1). Implementing a multidiscipline learning approach is not an easy task (2) and it has been mentioned as challenging in learning approaches by some of the lecturers (3). Sharing knowledge and ideas with other health care professionals was seen as one of the ways to deliver quality care to the patients (4) and interprofessional shared learning (SL). In addition, IPL is not only pertaining to share the knowledge but also encourage the students to become assertive (5) and understand more about their own professional roles (6). Therefore, the students must have clear pictures on team working, collaboration as well as interprofessionalism. Through IPL, students are able to be exposed to collaborative practices (7).

Simulation is seen as one of the approaches in practising working as a team in patient management and is one of the most effective teaching and learning approaches in medical education (8). Managing patient in the clinical area requires a health care team in order to optimise quality of care delivered to patients. Emergency ward is one of the clinical wards that involved more than one profession at one time in patient management. Health professionals are dynamic, collaborative and working together to ensure the quality of care is delivered to the patients (9). However, while studying, students were not being exposed to learn together in managing patient, but they need to collaborate with other professions once they start to work. In other words, they have to work together under one roof as a team while delivering care to patients. In this article, we described our experience of developing and validating interprofessional learning package for undergraduates from medicine, nursing and emergency medicine in Faculty of Medicine, Universiti

Kebangsaan Malaysia Medical Centre (UKMMC).

We created the clinical scenarios and learning outcomes for the sessions. Scenarios related to chest pain (Acute Myocardial infarction), shortness of breath (Chronic Obstructive Pulmonary Disease) and trauma were developed. All scenarios involved a simulated patient and the chest pain and shortness of breath also used a mannequin as hybrid simulation for a cardiac arrest sequence in the created scenarios.

The objective of the study was to develop an interprofessional learning package for undergraduate students of Faculty of Medicine, UKMMC.

METHODOLOGY

The methodology of this study consist of two parts; the development and the reliability and validity steps. The development of the IPLP started with the setup of the interprofessional committee with representatives from nursing, medicine, medical educationists and academicians. Further, the strategies of development process were identified by the team. The following step was the reliability and validity and the developed learning package was validated prior to the implemented of the learning packages. Overall of the methodology of this study is summarised in a framework of action.

The Development of IPLP

We developed an Interprofessional Learning package which contained scenarios creation on three conditions i.e. Acute Myocardial Infarction (AMI), Chronic Obstructive Pulmonary Disease (COPD) and trauma. During the development of the learning package, we used four strategies in order to have a clear picture on the scope of the learning package. The strategies that we used were; (i) document analysis;

(ii) literature review; (iii) focus group discussion; and (iv) panel expert view.

Results

Document Analysis

The document analysis (Table 1) showed that some of the learning outcomes for those programmes under the Faculty of Medicine, would not be able to be achieved by some of the students. The learning outcomes stated that they would be exposed to collaborative practice and work with other health professionals in health promotion and disease prevention. The nursing and Emergency Medicine (EMed) students, for example, they do not have any exposure to

learn with other health professional students from different programmes. In fact for nursing programme, the learning outcomes do not mentioned anything about working with other professional. However, for EMed, it is stated in their programme learning outcomes that they will be able to work with other health professional teams. Our medical students got their exposure during their second year under the Comprehensive Health Care Module, whereby they learned with Pharmacy students from the Faculty of Pharmacy. In future, after the students have graduated, they must work together in managing their patients even if they do not work with any of the three programmes, they have to work with other health professionals such as physiotherapists, radiographers etc.

Table 1: The summary of document analysis

Faculty Learning Outcomes	Programmes	Findings
Faculty Learning Outcomes that reflects Interprofessional Learning:	Nursing	Learning outcomes do not mentioned about the Interprofessional Learning.
1. Work collaboratively within a multi-professional team with integrity and enthusiasm and to assume leadership role when appropriate.	EMed	IPL exposure – no exposure opportunity in the curriculum. Learning outcomes mentioned to be able to work as a team with other professionals.
2. Lead and collaborate with other health professionals in health promotion and disease prevention.	Medicine	IPL exposure – no exposure opportunity in the curriculum. Learning outcomes – almost same with the faculty learning outcomes. IPL exposure – opportunity to be exposed through Comprehensive Health Care (CHC) module.

Literature Review

The literature review showed the topic of interest that could involve the three programmes in emergency situations. In reality, the emergency ward needs a minimum of a doctor, a nurse and a medical assistant to work as one team. The topics chosen were based on the previous study by Selasawati et al. (10). They mentioned the top three cases; heart problem, respiratory problem and trauma usually

seek for emergency treatment. Through the thoroughly literature review, the team decided to identify the items that should be included in the learning package. The learning package should consists of; title or scope of the scenario, learning outcomes of the session, the story of the case, instructions to students, simulated patient and technician in charge of the laboratory. Items that are in the learning package have been developed.

Focused Group Discussion

Focused group discussion (FGD) was carried out among nursing students because it is good to have their views towards learning with other health care programmes (Table 2). As mentioned by Students 1 and 2 that they should learned together and share ideas with other professional which confirmed by Student 4 that “currently we are not taught to communicate with other professionals, it depends on our own initiative”. Student 8 felt that the experience of learning with other programme, will prepare them for their future life. Findings from the FGD showed that nursing students had positive views towards IPL. One of the student, (Student 4), agreed to be exposed early as this is an exposure in preparing them for the future working environment (11). Thus, this FGD showed that there is suggestion to consider at the year of study on the exposure towards IPL. The EMed students were unable to join the FGD as they were posting outside of the faculty during the group discussion.

Panel Expert View

Panel expert view suggested that the best approach for encouraging the students to learn together is via IPL and the learning sessions need to encourage the students to be more active in learning activities (Table 3). Besides, the expert felt that, since IPL involved more than two programmes, emergency ward is the suitable clinical setting because in reality usually more than two professions working together for the management of patient.

Therefore, the approach that this learning package will be using is simulation with creation of scenarios with the top three cases

that usually seek for emergency treatment. Based on the Emergency Medicine textbook, the scenarios were created by using hybrid simulation; mannequin and simulated patient. The reason for choosing the hybrid method was for the learning package to reach the fidelity of certain conditions such as vital signs deteriorates which can be manipulated by using high fidelity mannequin.

Three scenarios were developed; AMI, COPD and trauma. The IPLP was designed from the adaptation of von Reyn (12) model. The learning package consisted of the learning outcomes, pre requisite, prop, instruction to students, simulated patient, confederates and technician. The used of clinically scenarios pertaining to emergency situation aimed to promote collaborative practice among the students. This enabled them to share their skills and knowledge with other health care professionals.

Each learning session was based on interprofessional scenario-based that employed experiential, interactive and contextualised strategies. The AMI and COPD sessions utilised the high technology Laerdal mannequin and simulated patient while trauma session used simulated patient only. Each of the learning sessions required the students to manage the patient via team working and engaged the skills and knowledge of each profession.

Each team was required to manage the patient according to the patient’s condition. This learning session continued with the debriefing session whereby the students and facilitator reflected on the performance, contributions and discussed the best practice management that they could employ if they were given a second chance.

Table 2: The summary of focus group discussion

Students	Comments	Theme
Student 1	"... we should learn skill from other health professional students."	Positive view towards IPL
Student 2	"We can learned together...we would not feel awkward to share ideas..."	
Student 8	"Learn through this experience, it can prepare us for the future..."	Suggestion for early exposure on IPL
Student 4	"Currently we are not taught to communicate with other professionals, depends on our own initiative."	
Student 4	"We need the teamwork in order to deliver a quality care to patient."	
Student 5	"It is good to expose us early..."	

Table 3: The panel experts view

Comments	Findings
Best to introduce IPL among three programmes e.g. Medical, nursing and emergency medicine students.	1. IPL is suitable approached to expose students to learn together.
Emergency ward is the suitable place as it usually has all those three programmes at one time.	2. Method of implementation of the learning experience.
If need more than two programmes, emergency ward is the suitable place for this situation.	3. Suitable scenario that involved working as a team in managing patient.
The situation can be created as nearly to real as possible.	
Think about using patient or mannequin.	
It depends on the learning outcomes of the package.	

Reliability and Validity of the IPLP

The developed IPLP was validated by panel experts who looked critically at the feasibility and logically of the scenarios developed for the content validity. The panel experts consisted of the consultant of Emergency Medicine, Nursing Manager and Medical Assistant Supervisor who were experts in the clinical area pertaining to emergency ward. Besides that, the developed scenarios were also given to a group of health care professionals from different backgrounds to look at the created scenarios, description of the story, learning outcomes as well as the instructions for

the face validity. They gave feedback regarding the developed scenario. Since the developed learning package was unable to measure using statistical analysis, this study used a previous developed module as a benchmarking to ensure its reliability.

IPLP Framework of Action

The framework of the action of the development process is in Figure 1. Overall, three main idea that need to put together starting from; the developing of the learning packages that contributed from the document analysis, literature review, focus group discussion and panel experts

opinion. The learning package went through the validity and reliability steps. At the same time, the planning and thinking of the implementation of the learning packages also were included in this framework. These steps comprised of the technology, fidelity of the scenarios and schedule of those programmes involved. Each programme has their own schedule, therefore, this study

tried to avoid any overlapping of the initial programme schedule. In order for the action planning, the logistic is also an essential, because the using of high technology approached. The suitable place will be the simulation laboratory that have high technology mannequin to implement the learning packages in order to enhance the fidelity of the session.

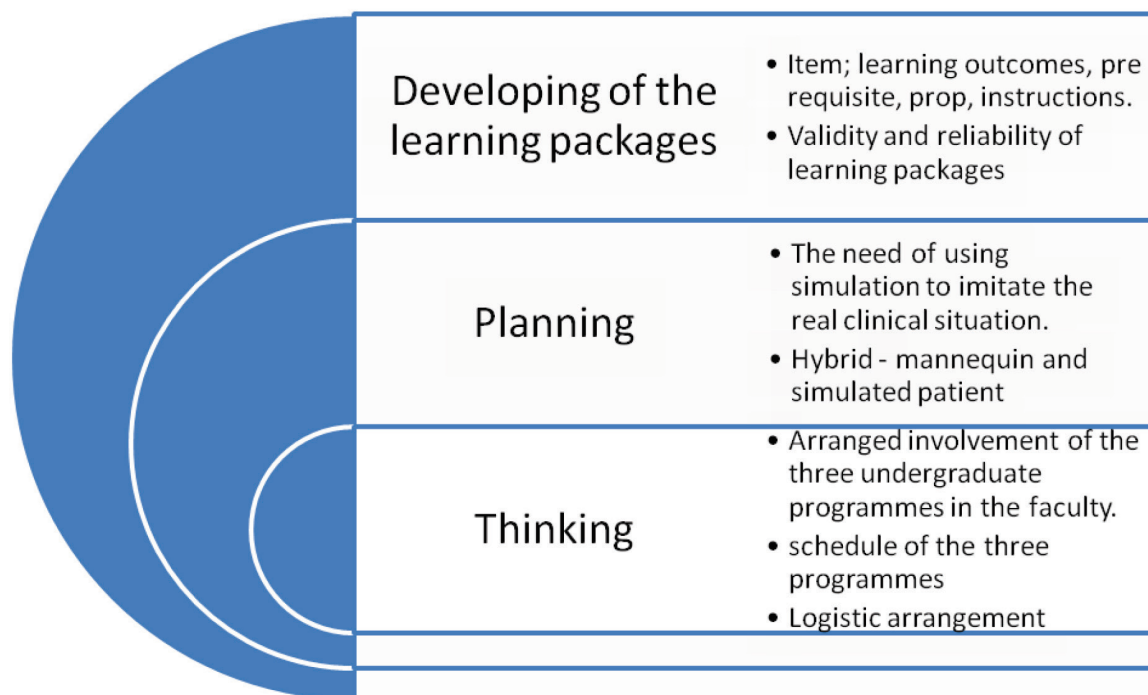


Figure 1: Framework of action.

DISCUSSION

The aim of this study was to develop an interprofessional learning package. This study showed that the few strategies which had been carried out were suitable to be used in the development of IPLP. Focused groups gave positive responses even though the FGD was carried out among nursing students only. Document analysis showed that the medical students had been exposed to multidisciplinary practices since they were in Year 2. However, a previous study by Hall (13) showed that early students' exposure would blur their own professions but the medical students in this study performed well, they knew their roles as a doctor.

Previous studies showed that the exposure of IPE could be expanded to other medical problems such as asthma, mental health, community programme etc. This study was unable to explore more on other scenarios since the IPL did not exist in the current curriculum. Therefore, the students had no idea on learning together. Simulation with scenario approach was chosen since it allows the students to repeat and undergo the process without feeling threatened. As adults, the students will learn if the learning environment is conducive and supportive to them Knowles (14) and Rothgeb (15) added that the supportive environment enhances the students to think critically and able to solve a problem.

Planning and preparation of the learning session are important in order for the students to achieve their learning outcomes. The scope of the exposure suited with the idea from (16) as they mentioned that the right topic is very important in implementing IPL.

CONCLUSION

This study aimed to develop IPLP and evaluate the implementation of IPLP. Three scenarios were created through a story on a patient who was seeking treatment in the emergency ward. Simulation was seen as a suitable approach since it could imitate the realism of the situation or environment. It is important to have the imitation of the reality as it could influence the learning process. In conclusion, this research shows that IPL package designed was able to be implemented among medical, nursing and emergency medicine students who perceived that IPL was effective for communication and teamwork, IPL interaction and relationship.

CONFLICT OF INTEREST

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