



Undergraduate Study Program in Pharmacy **INTERPROFESIONAL EDUCATION FOR ENHANCE LIFE-LONG LEARNING**

Interprofessional education (IPE) is the teaching strategy based on problem-based learning (PBL) that involve the students from other health professional to collaborate during the learning process for ensuring the student have experience, skills and knowledge in association with patient care, while the basic analytical and critical thinking are useful to solve the real world clinical cases by gathering evidence based medicine (EBM) and offering the best recommendation for the patient.

In order to achieve expected learning outcome (ELO) in study program (SP) Pharmacy, various method are used as the approach to achieve cognitive, psychomotor and affective knowledge and skills. In addition, the student should be motivated for life-long learning so that they can pursue further knowledge continuously, independently and deliberately for either personal or professional reasons. One of the learning strategies is using problem based learning (PBL) in collaboration with others health professional students during the learning process.

The collaboration is done for several subjects i.e Pharmacotherapy 1, Applied Pharmacotherapy, Molecular Biology between the students of Medical School and Nursing school of Universitas Muhammadiyah Surakarta. The objective of this activity is to encourage students for having a good collaboration as a health professional team and good communication with other health professionals in community service.

IPE starts by formulate the course learning objective for students in Pharmacy, Medical School and Nursing School (Table 1). A case problem related to the health issue in the community then given to the group of students and they start discuss to solve the problem based on their expected profession as a pharmacist, medical doctor and nurse. The basic analytical and critical thinking were used to solve the real world clinical cases by gathering evidence based medicine (EBM) and offering the best recommendation for the patient. The assessment was carried on by their writing report and performance during community service using assessment rubrics (Table 2).

Table 1. The example of course learning outcome (CLO) at interprofessional education in Pharmacotherapy 1.

Course Learning Objective		
Pharmacy Students	Medical Students	Nursing Students
<p>The students should :</p> <ol style="list-style-type: none"> 1. Be able to study medical problems that arise in chronic renal failure (CRF) patients. 2. Be able to understand and explain pharmacological therapy and mechanism of action for drugs in CRF. 3. Be able to conduct rational therapy evaluations and drug related problems (DRP) after providing therapeutic recommendations in cases of CRF 4. Be able to monitor therapy (effectiveness and side effects) 5. Has capability for doing inter disciplinary collaboration with others health professional (medical doctor and nursing). 	<p>The students should :</p> <ol style="list-style-type: none"> 1. Be able to explain the organs involved that are associated with symptoms in cases of CRF 2. Be able to explain changes in the physiological to pathological condition of CRF. 3. Be able to explain the definition, epidemiology and etiology of CRF. 4. Be able explain the principle of treatment of therapy for chronic renal failure patients including hemodialysis therapy and its indications and kidney transplants. 5. Has capability for doing inter disciplinary collaboration with others health professional (pharmacist and nursing). 	<p>The students should :</p> <ol style="list-style-type: none"> 1. Be able to understand the concept of CRF starting from the definition, etiology, pathophysiology and emerging nursing problems. 2. Know and understand the supporting checks needed for CRF. 3. Be able to understand the nursing process in CRF patients (assessment to evaluation). 4. Be able to make nursing care documentation related to CRF cases 5. Has capability for doing inter disciplinary collaboration with pharmacist and medical doctor.

"As pharmacist candidates, the students should improve and update their knowledge related to the health issues within the community. By using IPE, it is expected that it will enhance the student's self-confidence to work as health professional."

Table 2. The assessment rubric for IPE in Pharmacotherapy 1

No	Point	Maximum Score
1	Writing report	40
2	Presentation	15
3	Individual activity	15
4	Answering question(s) related to the problem	15
5	Individual attitude	15