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Teamwork among health sciences student in Universitas Sumatera Utara which exposed in interprofessional education (IPE) learning

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Abstract. The important issue that causes medical error is poor communication between professions in providing health services, ineffective teamwork collaboration, and unintegrated health services. The World Health Organization (WHO) trigger the Interprofessional Education learning model as an integrated education system in health science students. The purpose of this study is to assess the teamwork formed after the IPE learning was applied to health science students at the professional level at the Universitas Sumatera Utara. Method. This research is a pre and post test design that was carried out by IPE learning in the area of Puskesmas Tuntungan Medan. The sample size is 20 students consisting of students from the faculty of medicine, nursing, pharmacy and public health at Universitas Sumatera Utara. The assessment of teamwork using the Team Work Score (TWS) questionnaire. Data analysis uses dependent t test. The results of this study indicate that the level of teamwork increases after IPE learning. There is a relationship between IPE learning and increased leadership skills, team structure, situation monitoring, group support, and communication ($p < 0.05$). There is an increase in teamwork, after the application of IPE learning to health science students.

1. Introduction

Today the demands of the community for quality health services are increasing. The health problems and challenges faced are increasingly complex therefore needs a solution that involves more than one profession through collaboration practices [1] [2] [3].

The practice of collaboration between health professionals in Indonesia is still far from the ideal word. There is still an overlapping role between health professionals [1]. One of the efforts to perform effective collaboration between professions is the practice of collaboration from the beginning through the learning process, namely the Interprofessional Education (IPE).

Inter professional Education occurs when two or more health profession students learn from and about each other to enhance collaboration skills and quality of health services as future



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interprofessional team members [5] [6]. Students will be trained to take part in a team, how to contribute, listen to opinions, discuss for a purpose, developing mutual trust not only with students in the same department but also with other health program students through IPE. Students will be trained to take part in a team, how to contribute, listen to opinions, discuss for a purpose, developing mutual trust, and reduce stereotypes [4] [7] [8]. The aim of IPE is for students to learn how to function in interprofessional teams and make knowledge, skills, and value in their future practices, ultimately provide interprofessional patient care as part of a teamwork and focus on improving patient outcomes. [1]

One of the competencies students must have in IPE is collaboration. Teamwork is an activity or effort carried out by several people to achieve a common goal [9] [10]. There are five components that can assess team work in the IPE program that is: team structure, leadership, situation monitoring, group support, and communication. [11]

Improved health services are needed by preventing the existence of disparities between health professionals and creating better communication. For that reason, researchers want to see the teamwork of students in the health science family at the University of North Sumatra if presented with Interprofessional Education (IPE) learning.

2. Methods

This research is an experimental quantitative research, pre and post test design. Research subjects were Faculty of Medicine Universitas Sumatera Utara students who participated in the IPE program in July-Augustus 2018, where respondents undergo an IPE program with faculty of medicine, nursing, pharmacy, and public health students (PHS). Initially students were given a pretest using a questionnaire. Then students are given a lecture on IPE, and then given a simulation tutorial on IPE. After that, students are sent to the Puskesmas (Public Health Center). Students learn together to discuss cases in the Puskesmas, do a home visit of TB patients and DM patients and then do learning at the posyandu (Maternal and Child Health Center) in Puskesmas of Tuntungan Medan. Learning methods are developed by the research team by applying the concept of IPE learning. This program was implemented for the past one month, 8-10 session. Students were again given a posttest to assess the ability to cooperate in an interprofessional team by students.

The sampling using Simple random sampling method with 20 respondents. The exclusion criteria in this study are the backward response from the research process because of things like illness, going out of town, student exchanges, and conferences abroad for 6 months or 1 semester. The type of data used in this study is primary data obtained through the Teamwork Score (TWS) questionnaire. The TWS questionnaire is an evaluation sheet to assess the ability of work together in an interprofessional team by students. This questionnaire was modified by Sharder, et al in 2013 from the STEPPS team which was translated and reused by Zakiyatul in 2014 and has been modified and will be tested for validity and reability by researchers. This study was approved by the committee of ethics of the Faculty of Medicine/General Hospital H. Adam Malik Medan, Universitas Sumatera Utara. Analysing data by using paired t test.

3. Results And Discussion

3.1. Characteristics of Respondents

Table 1. Characteristics of respondents

Characteristics of Respondents		n	%
Faculty	Medical	5	25
	Nursing	5	25
	Pharmacy	5	25
	Public health	5	25

Gender	Women	14	70
	Men	6	30
Age	20	4	20
	21	8	40
	22	7	35
	23	1	5

3.2. Ability to cooperate (teamwork) in the interprofessional student team before and after undergoing the IPE program

Table 2. The average value of the ability to work of interprofessional students before and after undergoing IPE

Ability test	n	Value Average
Pre-test	20	97,4
Pos-test	20	112,6

Based on the results of paired t dependent test, there was an increase in the average interpersonal ability of students before and after being given IPE learning, where the pre-test average score was 97.4 to 112.6 in the post-test assessment. From these results it can be concluded that there is an increase in interprofessional ability after students undergo the IPE program.

3.3. Comparison of interprofessional cooperation skills assessed before and after the IPE program

Table 3. Differences in the average value of interprofessional teamwork before and after the IPE learning program.

Assessed ability	Value difference	<i>p</i>
Role in team structure	-1,6	0,002
Leadership ability	-2,1	0,017
Ability of situation monitoring	-4,8	0,001
Group support	-2,25	0,007
Communication ability	-4,4	0,001
Total	-15,2	0,001

Statistical test results show that there are significant differences in the ability to cooperate in interprofessional student teams between before and after being given interprofessional education (IPE) to all students with p value = 0.001 ($\alpha = 0.05$).

The ability to perform the role of team structure profession has a significant difference ($p = 0.002$). With collaboration carried out by students in a certain period of time made students realize their respective roles and are more aware of the different roles so that overlapping between professions can be avoided. This is not in line with the research conducted by Fuadah which states that detention about these roles and responsibilities of a profession can be influenced by how long the IPE program will take, because in a short time students have not experienced maximum role internalization [12].

The value of leadership in the team had a significant difference compared to before implementation of IPE program ($p = 0.017$). Good leadership will be formed after students are faced with the same problem at the same time so that responsibility in the division of labor is equally formed naturally. This is in line with the research conducted by Hakimian where students who have received IPE learning have a better perception of intra and interprofessional collaboration and sharing of resources [13].

The ability to actively monitoring of situation during the learning process, where participants are actively involved in every opportunity, looks different significantly compared to prior intervention ($p=0,001$). The desire to be actively involved is influenced by differences in expertise with other professions so that it triggers curiosity and wants to be greater involved. This is in line with research conducted by Balqis (2018) which states that IPE students have a positive perception about teamwork so they are willing to share information and resources with other professions [14].

Support among team members increased compared to before ($p = 0.007$). The existence of mutual support activities makes communication between members more effective so that professional abilities will increase. This is in line with research conducted by Fuadah (2014) where respondents after being given IPE learning can conduct strong cooperation and collaboration between professions [12].

Increased of communication skills between team members have a significant difference compared to before ($p=0,001$). This effective communication ability is created because the objectives of each profession are same, namely to meet the needs of patients. According to Yulizawati the ultimate goal of interprofessional education is communication by expressing opinions competently and hearing the opinions of team members so they can work collaboratively for the health of patients [15].

4. Conclusions and Suggestions

There is a relationship between IPE learning and increased leadership skills, team structure, situation monitoring, group support, and communication. There is an increase in teamwork, after the application of IPE learning to health science students.

The use of interprofessional education (IPE) learning strategies can be used so that students learn how to function in the interprofessional team from the beginning also as to create better health care outcomes. Therefore, the application of IPE should be applied in the current curriculum.

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