

# EVALUATING INTERPROFESSIONAL EDUCATION PRINCIPLE IN A LONGITUDINAL COMMUNITY-BASED PROGRAM FOR 3 SCHOOLS OF HEALTH PROFESSIONS: MEDICINE, NURSING, AND NUTRITION

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## ABSTRACT

**Background:** Interprofessional education (IPE) is a method offered to support the collaboration of two health professions or more in order to create an ideal teamwork. This study aims to evaluate students' interprofessional attitudes during the implementation of IPE in a community-based program among 3 health professions students.

**Method:** Second and third year undergraduate students from three health profession schools in Faculty of Medicine, Universitas Gadjah Mada, medicine (n = 50), nursery (n = 50), and nutrition (n = 50), were recruited in 2015. Students were sent to a community setting in a small group of 10 consisting of those three schools' students. They were assigned to a certain family and followed them longitudinally in a curriculum called the Community and Family Health Care program. Quantitative data were collected with a survey using Interprofessional Attitude Scale instrument containing 5 subscales (27 items): teamwork, roles and responsibilities; patient-centeredness; interprofessional biases; diversity and ethics; and community-centeredness. The items used 5-level Likert scale. Descriptive analysis was performed for the quantitative data and comparison among those three groups used Kruskal-Wallis test.

**Results:** Most of the students strongly agreed they learned a lot about interprofessional attitudes during this program (mean scores of each subscale: 3.85, 4.19, 3.18, 3.83, and 3.99, respectively). There were significant differences among mean scores of each subscale ( $p < 0.05$ ). Medical and nursery students had higher mean scores compared to nutrition students, except in the subscale of community-centeredness ( $p = 0.197$ ).

**Conclusion:** IPE can be implemented successfully in a longitudinal community-based education curriculum and benefits undergraduate students in studying interprofessional attitudes. The program should be evaluated and improved to assure all students to get equal benefits.

**Keywords:** Interprofessional education, community-based, undergraduate student

## ABSTRAK

**Latar belakang:** Pendidikan interprofesional (IPE) adalah metode yang dapat mendukung kolaborasi dua profesi kesehatan atau lebih agar bisa menciptakan kerja tim yang ideal. Penelitian ini bertujuan untuk mengevaluasi sikap interprofesional mahasiswa selama pelaksanaan IPE dalam program berbasis masyarakat di antara 3 mahasiswa profesi kesehatan.

**Metode:** Mahasiswa tahun ke- dua dan tiga dari tiga sekolah profesi kesehatan di Fakultas Kedokteran Universitas Gadjah Mada, pendidikan kedokteran (n = 50), keperawatan (n = 50), dan gizi (n = 50), direkrut pada tahun 2015. Mahasiswa diterjunkan dalam sebuah komunitas dalam kelompok kecil yang beranggotakan 10 orang

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terdiri dari tiga mahasiswa sekolah tersebut. Mereka ditugaskan ke keluarga tertentu dan mengikuti mereka secara longitudinal dalam kurikulum yang disebut program *Community and Family Health Care*. Data kuantitatif dikumpulkan dengan survei menggunakan alat *Interpretational Attitude Scale* yang berisi 5 subskala (27 item): kerja tim, peran dan tanggung jawab; keterpusatan pasien; bias interprofesional; keragaman dan etika; dan keterpusatan masyarakat. Item menggunakan skala Likert dengan 5 tingkatan. Analisis deskriptif dilakukan untuk data kuantitatif dan perbandingan antara ketiga kelompok tersebut menggunakan uji Kruskal-Wallis.

**Hasil:** Sebagian besar dari mahasiswa sangat setuju bahwa mereka belajar banyak tentang sikap interprofesional selama program ini (skor rata-rata setiap subskala: 3,85, 4,19, 3,18, 3,83, dan 3,99). Ada perbedaan yang signifikan antara nilai rata-rata setiap subskala ( $p < 0,05$ ). Mahasiswa kedokteran dan keperawatan memiliki nilai rata-rata yang lebih tinggi dibandingkan dengan mahasiswa gizi, kecuali pada subskala keterpusatan masyarakat ( $p = 0,197$ ).

**Kesimpulan:** IPE dapat diimplementasikan dengan sukses dalam kurikulum pendidikan berbasis masyarakat longitudinal dan memberi manfaat bagi mahasiswa sarjana dalam mempelajari sikap interprofesional. Program ini harus dievaluasi dan diperbaiki untuk meyakinkan semua mahasiswa mendapatkan manfaat yang sama.

**Kata kunci:** *Interprofessional education, community-based, mahasiswa S-1*

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## INTRODUCTION

Health professions are faced with patients' problems every day. In practice, health care providers do not work alone. They work together in a team with other health professions to solve these problems. This teamwork education is called interprofessional education (IPE).

IPE is a method offered by World Health Organization (WHO) to support the collaboration of two health professions or more in order to create an ideal teamwork.<sup>1</sup> IPE is a learning activity followed by two professions or more who learn about, from, and with each other to enable effective collaboration and improve health outcomes.<sup>2</sup> IPE-based learning process has been implemented in several countries (24.6% of 42 countries in the world) for physicians (10.2%), nurses or midwives (16%), nutritionists (5.7%) and other health workers education.

IPE provides opportunities for students with different educational backgrounds in the field of health (physicians, nurses, midwives, nutritionists) to work together. A good teamwork is aimed to solve problems so that students are ready to deal with clinical practice. IPE-based learning also helps students to improve strong professional relationship and appreciation in their respective roles of health personnel.<sup>3,4</sup>

This study aims to evaluate interprofessional attitudes of students during the implementation of interprofessional education in a community-based program among three health professions students.

## METHOD

We recruited second and third year undergraduate students from three health profession schools in Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta, Indonesia [medicine ( $n = 50$ ), nursery ( $n = 50$ ), and nutrition ( $n = 50$ )] using stratified random sampling in 2015. Those students were sent to a community setting in small groups of 10 consisting of students from different schools. They had to complete certain assignments in the community and each group was assigned to a certain family and followed them longitudinally in their curriculum called *Community and Family Health Care (CFHC)* program. This program was integrated every year along with their curriculum.

Quantitative data were collected via a survey questionnaire using *Interprofessional Attitude Scale (IPAS)* to reflect students' current thoughts about interprofessional competencies. It consists of 27 items and containing 5 subscales, namely teamwork, roles and responsibilities (9 items); patient-centeredness (5 items); interprofessional biases (3 items); diversity and ethics (4 items); and

community-centeredness (6 items). The items used 5-level Likert scale, ranging from “strongly disagree” to “strongly agree”.<sup>5</sup> To evaluate the implementation of interprofessional education - Community and Family Health Care (IPE-CFHC), open-ended questions were given to the respondents, such as the advantages and the disadvantages of the program and also their suggestions for improvement.

Univariate analysis was used to describe the distribution of the subjects and the overview of the respondents’ attitudes from the subscales of

teamwork, roles and responsibilities; patient-centeredness; interprofessional biases; diversity and ethics; community-centeredness. Quantitative data were analyzed descriptively and the comparison among the three groups were analyzed using Kruskal-Wallis test.

## RESULTS AND DISCUSSION

One-hundred-and-fifty second-year and third-year undergraduate students participated in this study. Table 1 presents the characteristics of the subjects.

Table 1. Characteristics of subjects

Charasteristics	N	%
<b>Age:</b>		
• 18 years old	4	2.7
• 19 years old	31	20.7
• 20 years old	104	69.3
• 21 years old	11	7.3
<b>Health Study program:</b>		
• Medicine	50	33.3
• Nursery	50	33.3
• Nutrition	50	33.3
<b>Gender:</b>		
• Male	22	14.7
• Female	128	85.3
<b>Grade:</b>		
• 2 <sup>nd</sup> year student	50	33.3
• 3 <sup>rd</sup> year student	100	66.7
<b>Hometown:</b>		
• Yogyakarta	47	31.3
• Java Island	73	48.7
• Outside Java Island	30	20.0

By scoring 1-5 for “strongly disagree” to “strongly agree”, the results showed that most of the students from all three schools agreed that they had learned a lot about interprofessional attitudes in this program in all subscales, except in the subscale of interprofessional biases (mean scores of each subscale =  $3.85 \pm 0.519$ ,  $4.19 \pm 0.433$ ,  $3.18 \pm 0.569$ ,  $3.83 \pm 0.549$ , and  $3.99 \pm 0.461$ , respectively).

As shown in Table 2, there were significant differences among the students of all three schools in each subscale ( $p < 0.05$ ). Medical and nursery students had higher mean scores compared to nutrition students, except in the subscale of community-centeredness ( $p = 0.197$ ).

Table 2. Mean scores from three schools in each subscale

Subscales	Mean			P value
	Medicine (n = 50)	Nursery (n = 50)	Nutrition (n = 50)	
• Teamwork, roles and responsibilities	3.94	4.15	3.46	0.000
• Patient-centeredness	4.29	4.25	4.04	0.001
• Interprofessional biases	2.97	2.96	3.62	0.000
• Diversity and ethics	4.05	4.08	3.36	0.000
• Community-centeredness	3.92	4.10	3.95	0.197

Based on the results of this study, most of the undergraduate students from the three schools had learned a lot about interprofessional attitudes during the implementation of the CFHC program, but medical and nursery students had more advantages compared to nutrition students.

CFHC is an interprofessional training which applies IPE in an educational setting. Students' experience in implementing IPE will help them to be able to solve real community problems by applying theories given in lectures. Clifton *et al.* (2007) reported that students who experienced IPE had positive changes on practical and professional behaviors,<sup>6</sup> for instance, students acquire better skills to communicate assertively. This is in accordance with previous statements saying that the implementation of IPE in an educational setting helps students improving their interpersonal and personal skills to communicate.<sup>7</sup>

IPE builds appreciation, understanding, and roles of the relating professions. Interprofessional education applied in St. George's Hospital, University of London, Kingston University, and Brunel University showed similar advantages for the students. Besides able to appreciate the importance of interpersonal and personal skills to communicate, students also get the experience on how to work together with other members of the team. Therefore, that gives more knowledge about different professions in a multidisciplinary team on their roles in patient management.<sup>7</sup> The same was also reported by Clifton *et al.* (2007) saying that IPE could give more positive attitudes and contribution perception from other professions to be able to care and treat patients.<sup>6</sup>

It can be concluded that CFHC as an implementation of IPE gives positive benefits for students, especially in knowledge increase, different attitudes and perception about interprofessional roles, and communication development, either personal or interpersonal. This program should be evaluated and improved to assure that all students from different schools get equal benefits from the program.

## CONCLUSION

IPE can be implemented successfully in a longitudinal community-based education curriculum and benefits undergraduate students in studying interprofessional attitudes. The program should be evaluated and improved to assure all students from different schools to get equal benefits.

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