

## EVALUATING INTERPROFESSIONAL SIMULATION ON ATTITUDES AND COMPETENCIES OF UNDERGRADUATE STUDENTS OF NURSING, PHYSIOTHERAPY AND OCCUPATIONAL THERAPY

### Hypothesis

This study hypothesized that the implementation of the interprofessional education (IPE) program would demonstrate an increase in the students' perceived readiness for interprofessional collaboration, their attitude towards IPE and their interprofessional competencies.

**Objective:** The objective was to determine the effect of the IPE program on perceived readiness for interprofessional collaboration, attitude towards IPE and the interprofessional competencies.

### Methods

A single-group pre-post interventional study with three time points – before the first simulation, after the first simulation and after the second simulation. The intervention employed was mainly interprofessional simulation using standardized patient involving undergraduate students from three disciplines – nursing, physiotherapy and occupational therapy. The participants took turns to care for and interact with a standardized patient in a clinical scenario. Other interventions included online powerpoint lectures and online discussion forum.

### Results

Total 85 participants were recruited – 32 nursing students, 30 physiotherapy students and 23 occupational therapy students. 21 interprofessional groups participated in the first simulation session while 18 participated in the second simulation session, with one to two students from each discipline, formulating an interprofessional group of even composition. Quantitative data was collected via self-reported Likert surveys, including the Readiness for Interprofessional Learning Scale (RIPLS) and Attitude towards Interprofessional Healthcare Team Scale

Outcomes (Measurement)	T0 (baseline)	T1 (After 1 <sup>st</sup> Simulation)	T2 (After 2 <sup>nd</sup> Simulation)	T1 – T0	Cohen's d	p (within-group difference)	T2 – T0	Cohen's d	p (within-group difference)
<b>Perceived readiness (Mean RIPLS score)</b>									
All disciplines (N = 85)	3.99 (0.379)	4.21 (0.354)	4.29 (0.399)	0.22 (0.412)	0.53	< 0.001	0.31 (0.427)	0.73	< 0.001
Nursing (n = 32)	4.00 (0.403)	4.21 (0.368)	4.34 (0.446)	0.21 (0.418)	0.50	0.011	0.34 (0.455)	0.75	0.002
Physiotherapy (n = 30)	3.91 (0.304)	4.16 (0.332)	4.24 (0.379)	0.26 (0.376)	0.69	0.001	0.34 (0.427)	0.80	< 0.001
Occupational therapy (n = 23)	4.02 (0.412)	4.26 (0.370)	4.32 (0.384)	0.24 (0.440)	0.55	0.013	0.30 (0.424)	0.71	0.002
<b>Attitude toward IPE (Mean ATIHCCTS score)</b>									
All disciplines (N = 85)	3.83 (0.354)	3.99 (0.332)	4.17 (0.427)	0.16 (0.342)	0.47	< 0.001	0.33 (0.463)	0.71	< 0.001
Nursing (n = 32)	3.82 (0.337)	3.98 (0.309)	4.19 (0.516)	0.17 (0.276)	0.62	0.003	0.35 (0.566)	0.62	0.007
Physiotherapy (n = 30)	3.74 (0.246)	3.93 (0.297)	4.10 (0.353)	0.19 (0.299)	0.64	0.002	0.36 (0.348)	1.03	< 0.001
Occupational therapy (n = 23)	3.97 (0.457)	4.07 (0.367)	4.24 (0.415)	0.10 (0.454)	0.22	0.282	0.27 (0.487)	0.55	0.013
<b>Interprofessional Competency (Mean competency score)</b>									
All disciplines (N = 85)	1.96 (0.448)	2.28 (0.454)	0.32 (0.547)			< 0.001			
Nursing (n = 32)	1.78 (0.42)	2.17 (0.388)	0.39 (0.656)			< 0.001			
Physiotherapy (n = 30)	2.00 (0.267)	2.29 (0.460)	0.33 (0.480)			< 0.001			
Occupational therapy (n = 23)	2.17 (0.576)	2.38 (0.498)	0.24 (0.539)			< 0.001			

Table 1: Outcome Measures Across the Study Timepoints and Within-group Changes at T1 and T2 With Respect to T0

Data for outcome variables are presented as the mean (standard deviation)

(ATIHCCTS). Interprofessional competencies were assessed using facilitator-rated modified Ottawa Scale. Qualitative data was collected via open-ended questions and presented as word clouds and focus group interviews. For all three disciplines, IPE had a significant effect on perceived readiness from T0 [Mean=3.99 (SD±0.379)] to T2 [Mean=4.29 (SD±0.399)],  $p < 0.001$  and attitude towards IPE from T0 [Mean=3.83 (SD±0.354)] to T2 [Mean=4.17 (SD±0.427)],  $p < 0.001$ . IPE had a significant effect on interprofessional competencies from T1 [Mean=1.96 (SD±0.448)] to T2 [Mean=2.28 (SD±0.454)],  $p < 0.001$ . Occupational therapy students demonstrated the highest interprofessional competency, which might be related to the earlier exposure of clinical placement. The words 'communication', 'experience' and 'understand' frequently appeared in the word clouds. Focus group interviewees mentioned themes of realistic scenario, novel learning experience and increased understanding of other disciplines.

### Conclusion

An interprofessional simulation program had a positive impact on attitude and interprofessional competencies. Participants viewed IPE as a valuable experience to interact with other disciplines.

### Implication

In the future, more IPE interventions should be done by institutions to encourage interprofessional collaboration.

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Characteristics	All (N = 85)	NUR (n = 32)	PT (n = 30)	OT (n = 23)
Mean age (years) †	21.5 (2.65)	21.5 (1.46)	21.6 (3.3)	21.39 (3.07)
<b>Sex</b>				
Female	52 (61.2)	21 (65.6)	13 (43.4)	18 (78.3)
Male	33 (38.8)	11 (34.4)	17 (56.6)	5 (21.7)
<b>Year of study</b>				
2	42 (49.4)	0	24 (80)	17 (73.9)
3	27 (31.8)	16 (50)	6 (20)	6 (26.1)
4 or above	16 (18.8)	16 (50)	0	0
<b>IPE experience</b>				
No	57 (67.1)	21 (65.6)	28 (93.3)	8 (34.8)
Yes	28 (32.9)	11 (34.4)	2 (6.7)	15 (65.2)
<b>Discipline</b>				
Nursing	32 (37.6)	/	/	/
Physiotherapy	30 (35.3)	/	/	/
Occupational therapy	23 (27.1)	/	/	/

Table 2: Characteristics of Study Sample

NUR = Nursing PT = Physiotherapy OT = Occupational Therapy