

Kertas Asli/*Original Articles*

Final Year Allied Health Profession, Midwifery and Nursing Students' Attitudes Towards Interprofessional Education

(Sikap Pelajar Tahun Akhir Profesion Kesihatan Bersekutu, Kebidanan dan Kejururawatan Terhadap Pendidikan Interprofessional)

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ABSTRACT

Evaluation of pre-qualifying interprofessional education (IPE) programmes is important in exploring its effectiveness. The University of the West of England Interprofessional Questionnaire (UWE IPQ) has been rigorously validated, yet few studies using this tool have been published. We aimed to explore the attitudes of final year allied health profession (AHP), midwifery and nursing students towards IPE in this study. Differences between students' attitudes towards IPE according to gender, undergraduate programmes, academic background and experience were also explored. A total of 103 participants, AHP (n = 10), midwifery (n = 19) and nursing (n = 74) students took part in the study. This study design used a cross-sectional questionnaire survey, and was conducted within the Faculty of Health Sciences, University of Southampton. The validated UWE IPQ was administered to a volunteer sample of final year AHP, nursing and midwifery students in June 2010. Findings revealed that majority of the students rated their communication and teamwork skills (76.7%), interprofessional learning (74.8%) and interprofessional relationships (92.2%) positively, but they held negative attitudes towards interprofessional interactions (69.9%). Significant differences were found between participants' attitudes towards interprofessional learning in relation to undergraduate programmes ($p = 0.01$) and prior working experience in health and social care ($p = 0.03$). IPE has shaped the students' views regarding their collaborative learning and teamwork. Therefore, introducing IPE initiative from the beginning of the pre-qualifying stage at universities would motivate them to become interprofessional collaborative-ready professionals.

Keywords: Interprofessional education; pre-qualifying programme; the University of the West of England Interprofessional Questionnaire (UWE IPQ); students' attitudes

ABSTRAK

Penilaian program pendidikan interprofessional (PPI) peringkat pra-kelayakan adalah penting dalam mengukur keberkesannya. Soal selidik Interprofessional University of the West (UWE IPQ) telah disahkan kesahihan, tetapi penggunaannya agak kurang di dalam kajian penilaian PPI. Kajian ini bertujuan untuk menilai sikap pelajar tahun akhir profesion kesihatan bersekutu (PKB), kebidanan dan kejururawatan terhadap PPI. Perbezaan antara sikap pelajar terhadap PPI mengikut jantina, program sarjana, latar belakang dan pengalaman akademik juga dinilai. Seramai 103 peserta terdiri daripada pelajar PKB (n = 10), kebidanan (n = 19) dan kejururawatan (n = 74) mengambil bahagian dalam kajian ini. Reka bentuk kajian ini menggunakan kajian rentas soal selidik dan dijalankan di Fakulti Sains Kesihatan, University of Southampton. Soal selidik UWE IPQ telah diberikan kepada pelajar tahun akhir PKB, kejururawatan dan kebidanan pada bulan Jun 2010. Hasil kajian menunjukkan bahawa majoriti pelajar menilai kemahiran berkomunikasi dan kerja berpasukan (76.7%), pembelajaran interprofessional (74.8%) dan hubungan interprofessional (92.2%) mereka secara positif, tetapi mereka mempunyai sikap negatif terhadap interaksi interprofessional (69.9%). Terdapat perbezaan yang signifikan antara sikap peserta terhadap pembelajaran interprofessional berhubung dengan program sarjana muda ($p = 0.01$) dan pengalaman bekerja sebelum ini dalam penjagaan kesihatan dan sosial ($p = 0.03$). PPI telah membentuk pandangan pelajar mengenai pembelajaran secara kolaboratif dan kerja berpasukan. Oleh itu, memperkenalkan PPI dari peringkat awal pra-kelayakan di universiti akan memberi persediaan kepada pelajar untuk menjadi kolaboratif interprofesional.

Kata kunci: Pendidikan interprofessional; program pra-kelayakan; soal selidik Interprofessional University of England (UWE IPQ); sikap pelajar

INTRODUCTION

Interprofessional education (IPE) is a situation when students of two or more professions learn with, from and about one another to improve collaboration and the quality of care (Barr 2002). In the United Kingdom, it was stipulated that IPE should be integrated into all undergraduate health and social care programmes by 2004 (Department of Health 2002a; 2002b). The World Health Organisation (WHO) (2010) highlighted that IPE is a necessary step in promoting a collaborative practice-ready health workforce that refers to health and social care professionals who have received effective training in IPE. This collaborative practice-ready health workforce is believed to promote effective collaboration in health and social care practice, enhance career flexibility and prevent professional barriers (WHO 2010; Department of Health 2000).

From an educational perspective, the aim of IPE is to provide opportunities for students to understand the roles of other professionals that enable them to work as a team, prepare students to work across professions and replace the roles of other professionals in certain situations if needed (Finch 2000). It is also believed that IPE helps students to develop effective communication between professional groups (Forte & Fowler 2009) and thus will lead to change in the attitudes and perceptions towards other professions (Barr 2002).

Evaluation of IPE is important in identifying whether an IPE initiative has been successful in delivering what it was supposed to deliver (Lyons 2011). Besides, it can determine the effectiveness of IPE initiative, inform educational development and influence policies towards future educational practice (Hammick et al. 2007). However, only a limited number of instruments with well-developed psychometric properties and adequate time spent on development are available in the IPE field which are the Readiness for Interprofessional Learning Scale (RIPLS), an alternative remodelled sub-scale of the Interdisciplinary Education Perception Scale (IEPS) and the University of the West of England Interprofessional Questionnaire (UWE IPQ) (Thannhauser et al. 2010; Carpenter & Dickinson 2008).

We proposed a preliminary study to explore students' attitudes towards IPE following an exposure to the IPE initiative using the rigorously validated UWE IPQ (Pollard et al. 2005) as a measurement tool. This preliminary study relates to the IPE initiative for the health and social care undergraduate students in the Universities of Southampton and Portsmouth. This New Generation Project (NGP) model was commenced in October 2003 and its objective was to expose students to interprofessional learning experiences, which can promote collaborative practice and the teamwork skills of health and social care professionals (O'Halloran et al. 2006). Therefore, the use of the validated UWE IPQ appeared to be most appropriate as it was able to explore the objective of the NGP model in delivering IPE initiative and its findings were likely to contribute to the development of evidence based practice in relation to IPE. We aimed

to evaluate attitudes towards interprofessional education among final year of the Further and Higher Education Qualification Level 6 (FHEQ 6): allied health profession; midwifery; and nursing students.

EXPERIMENTAL METHODS

STUDY DESIGN

This quantitative study design used a cross-sectional questionnaire survey to explore final year allied health profession, midwifery and nursing students' attitudes towards IPE using the validated UWE IPQ. Convenience sampling was used to recruit students within the Faculty of Health Sciences, University of Southampton. The questionnaire was administered to the students at one point in time. Ethical approval for the study was granted by the Faculty of Health Sciences Ethics Committee, University of Southampton in April 2010 (ethics reference number: SoHS-ETHICS-2010-016).

PARTICIPANTS

The sample size estimation for this preliminary study was 100 students after considering logistical problems during data collection, as most of students had finished their lecture sessions and run up with the final examinations. One hundred and three participants completed the questionnaires during the study. This sample included full time and part time final year students from undergraduate programmes, including allied health profession, midwifery and nursing, who were above 18 years old.

DATA COLLECTION

Data collection was conducted within the Faculty of Health Sciences, University of Southampton in the academic year 2009/2010 from May 2010 to July 2010. Recruitment via the use of self-administered questionnaires in the lecture sessions was conducted to midwifery and nursing students by the researcher. Overall, the time required for data collection procedure via face-to-face contact was approximately 20 minutes.

Alternatively, as no lectures were timetabled for allied health profession students during data collection period, recruitment packs consisting of an invitation letter, participant information sheet, questionnaire and a stamped, addressed envelope were administered to them. Fifty recruitment packs were left at the Faculty of Health Sciences' office with prior consent from the administration team. Students were invited to take part in this study by members of the administration team when they handed in their assignments and each participant was asked to return the questionnaire in the stamped, addressed envelope provided by end of July 2010. These two methods of recruitment were used due to logistical issues associated with programme timetabling.

INSTRUMENT

The study used the validated University of the West of England Interprofessional Questionnaire (UWE IPQ) to determine students' attitudes towards IPE (Pollard et al. 2005). Permission to use the UWE IPQ was obtained from the author, Doctor Katherine Pollard, University of the West of England. This questionnaire consists of four scales: the Communication and Teamwork Scale which explores how students evaluate their own communication and teamwork skills (nine statements with a 4-point Likert scale); the Interprofessional Learning Scale which explores students' attitudes towards IPE (nine statements with a 5-point Likert scale); the Interprofessional Interaction Scale which evaluates students' perceptions of interactions between different health and social care professionals (nine statements with a 5-point Likert scale); and the Interprofessional Relationships Scale which assesses students' perceptions of their relationships with colleagues from their own and other professional disciplines (eight statements with a 5-point Likert scale). Statements are scored from 1 (strongly agree) to 4 or 5 (strongly disagree). Final scores for the Communication and Teamwork Scale range from 9 to 36. Scores from 9-20, 21-25 and 26-36 indicate respectively positive, neutral and negative self-evaluation of relevant skills. Final scores for the Interprofessional Learning Scale and Interprofessional Interaction Scale range from 9-45. Scores from 9-22, 23-31 and 32-45 represent respectively positive, neutral and negative attitudes. Final scores for the Interprofessional Relationships Scale range from 8-40. Scores from 8-20, 21-27 and 28-40 indicate respectively positive, neutral and negative responses (Pollard et al. 2004, 2005, 2006). Permission to use the UWE IPQ from its authors was obtained prior to the study.

This questionnaire was chosen for this study because it has good psychometric properties and is sensitive to change (Carpenter & Dickinson 2008). Pollard et al. (2004) investigated the test-retest reliability to examine the stability of the Communication and Teamwork Scale, Interprofessional Learning Scale and Interprofessional Interaction Scale and they found acceptable correlation coefficients (r) and internal consistency (α) for those three scales which $r = 0.78$, $\alpha = 0.76$; $r = 0.86$, $\alpha = 0.84$; $r = 0.77$, $\alpha = 0.82$ respectively. The test-retest reliability for the Interprofessional Relationships Scale also showed acceptable results for correlation coefficients and internal consistency ($r = 0.83$, $\alpha = 0.71$) (Pollard et al. 2005). Overall, all four scales of the UWE IPQ were good with correlation coefficients and internal consistency scores above 0.70; therefore, this indicated that the internal validity and reliability for the UWE IPQ were acceptable.

DATA ANALYSIS

Analysis was conducted using SPSS version 17. Demographic data were analysed using descriptive statistics. Inferential

statistics using non-parametric tests were used as data were nominal, categorical and ordinal. The Chi Square Test was used to analyse the difference between demographic variables. Meanwhile, Fisher's Exact Test was used when the expected frequencies were too low to use Chi Square Test. The Mann-Whitney U Test was used to analyse scale score differences between participants' attitudes towards IPE and their demographic variables. The Kruskal-Wallis Test was used to analyse scale score differences between participants' attitudes towards IPE and programmes of study. The statistically significance level was set at 5% ($p < 0.05$) in this study.

RESULT

RESPONSE RATES

A total of 103 participants completed the questionnaires. Recruitment via face to face of self-administered questionnaires in the lecture sessions yielded a response rate of 100% ($n = 93$). Meanwhile, 50 questionnaire packs were left at the Faculty of Health Sciences Office, of which 25 packs were taken away and 10 completed questionnaires were returned, which resulted in a response rate of 40% ($n = 10$).

DEMOGRAPHIC CHARACTERISTICS

Majority of students (71.8%, $n = 74$) who participated in the study were registered in the Bachelor of Science (Honours) Nursing Programme followed by Midwifery Programme (18.4%, $n = 19$) and Allied Health Profession Programme (9.7%, $n = 10$). Participants' ages varied across the total sample ranging from 20 to 54 years with a mean age of 25.76 years ($S.D. = 8.44$). Allied health profession students had the highest mean age (mean age = 26.20 years, $S.D. = 10.21$), followed by nursing (mean age = 25.80 years, $S.D. = 8.54$) and midwifery students (mean age = 25.37 years, $S.D. = 7.41$). The majority of participants across all undergraduate programmes were female (91.3%, $n = 94$). All the male participants (8.7%, $n = 9$) were nursing students. Most participants did not have a higher educational background (96.1%, $n = 99$). Approximately half of the participants had previous experience of working in health and social care (48.5%, $n = 50$).

ASSOCIATIONS BETWEEN DEMOGRAPHIC VARIABLES

Table 1 shows that majority of allied health profession (80.0%, $n = 8$) and midwifery (68.4%, $n = 13$) participants did not have previous experience in health and social care. In contrast, most participants from the nursing programme (56.8%, $n = 42$) had previous working experiences in this area. The Chi-square test confirmed that there was a statistically significant difference between participants' health and social care experiences and their undergraduate programmes ($p < 0.05$) with a medium effect size.

The majority of male participants (88.9%, $n = 8$) had previous experiences in health and social care settings. In contrast most female participants (55.3%, $n = 52$) had no previous experience in health and social care. The Fisher's exact test revealed that there was a statistically significant difference between previous working experiences and gender ($p < 0.05$) with a small effect size (Table 1). Similarly, the Fisher's exact test confirmed that there was a statistically significant difference between participants' health and social care experiences and higher educational background ($p = 0.05$) with a small effect size as shown in Table 1. Most participants (53.5%, $n = 53$) who did not

have previous health and social care experiences were without higher academic background.

ANALYSIS OF SCALE SCORES

Figure 1 illustrates that majority of participants rated their communication and teamwork skills (76.7%, $n = 79$), interprofessional learning (74.8%, $n = 77$) positively, and inclined more positively towards interprofessional relationships (92.2%, $n = 95$). However, most of them held negative attitudes towards interprofessional interaction (69.9%, $n = 72$).

TABLE 1. Previous working experience in health and social care

Variable	Health and social care experience				<i>p</i>
	Yes		No		
	<i>n</i>	%	<i>n</i>	%	
Undergraduate programmes ^a :					
Allied health profession	2	20.0	8	80.0	0.02*
Midwifery	6	31.6	13	68.4	
Nursing	42	56.8	32	43.2	
Gender ^b :					
Male	8	88.9	1	11.1	0.01*
Female	42	44.7	52	55.3	
Higher educational background ^c :					
Yes	4	100.0	0	0.0	0.05*
No	46	4.5	53	53.5	

^a $\chi^2 = 7.45$, $d.f. = 2$, Cramer's $V = 0.27$; ^bFisher's exact test, $\Phi = 0.25$; ^cFisher's exact test, $\Phi = 0.21$

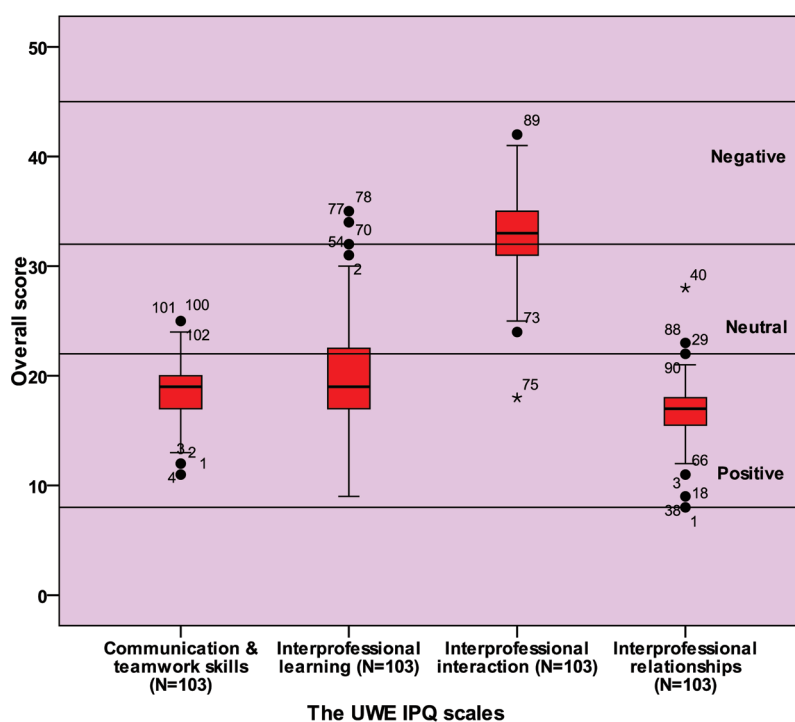


FIGURE 1. The UWE IPQ scores across the whole sample

There were statistically significant differences in participants' scores for the Interprofessional Learning Scale in relation to previous working experience in health and social care settings and undergraduate programmes, $p < 0.05$ (Table 2). However, the majority of participants

TABLE 2. Differences in participants' score of Interprofessional Learning Scale based on previous work experience and programme

Variable	Interprofessional Learning Scale	p
Health and social care experience	Mann-Whitney U: $U = 871.50, Z = -3.00, r = 0.30$	0.03*
Undergraduate programmes	Kruskal-Wallis: $\chi^2 = 13.93, df = 2$	0.01*

with and without previous working experience (90.0%, $n = 45$ and 60.4%, $n = 32$ respectively) held positive attitudes towards interprofessional learning.

Majority of participants from allied health profession (80.0%, $n = 8$) and nursing (82.4%, $n = 61$) programmes held positive attitudes towards interprofessional learning, with nursing participants indicating slightly more positive responses compared to allied health profession (Figure 2). In contrast most midwifery participants (52.6%, $n = 10$) held neutral attitudes towards interprofessional learning. However, no statistically significant differences were found between participants' scores for the Interprofessional Learning Scale in relation to gender and educational background ($p > 0.05$). Likewise, no differences in participants' attitudes towards the other three scales were found in relation to undergraduate programmes and demographic variables.

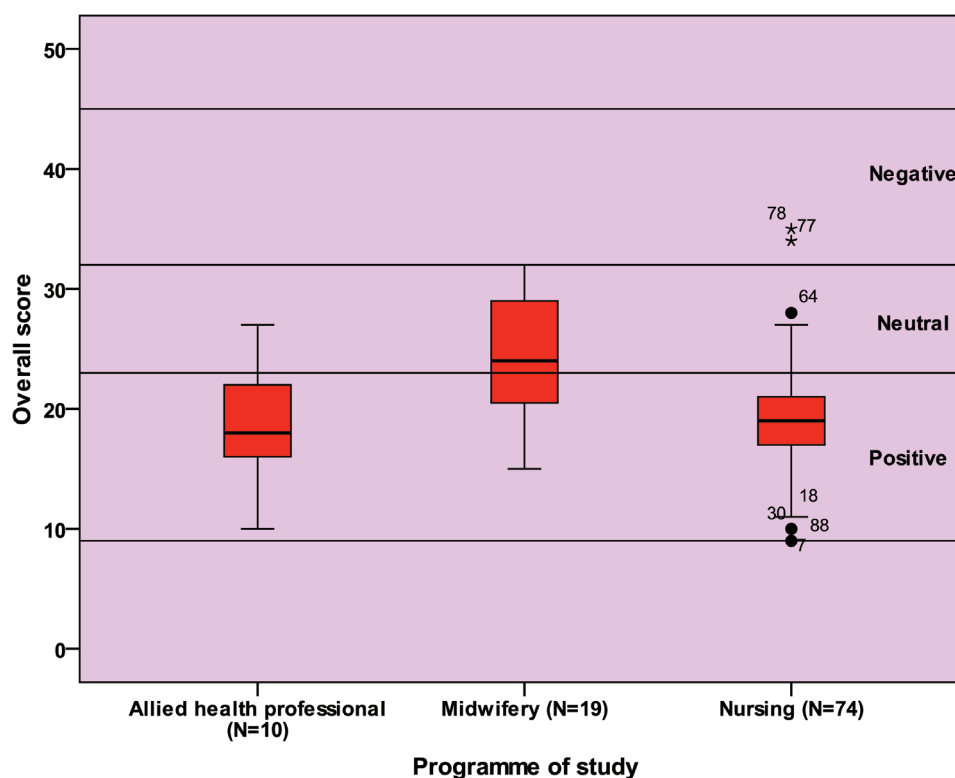


FIGURE 2. Interprofessional learning scores across undergraduate programmes of study

DISCUSSION

In this cross-sectional questionnaire survey study, we evaluated pre-qualifying IPE initiative amongst final year health and social care students from the University of Southampton. Our study findings showed that majority of participants across the whole sample reported positive attitudes towards interprofessional learning, communication and teamwork skills and interprofessional relationships. However, majority of them held negative attitudes towards interprofessional interaction. These

findings supported those of Pollard et al. (2005; 2006) who explored the effects of a pre-qualifying interprofessional curriculum using the same outcome measure (UWE IPQ). Pollard and colleagues (2005; 2006) found that most health and social care students held positive attitudes towards interprofessional learning, communication and teamwork skills and interprofessional relationships, but they held negative attitudes towards interprofessional interaction during their second year and at the end of their final year of study of interprofessional learning.

Similarly, the findings from the present study concur with the findings of other which used a different measurement tool, the RIPLS, to explore students' readiness for interprofessional learning (Hind et al. 2003; El-Zubeir et al. 2006; Coster et al. 2008; McFadyen et al. 2010). These authors also found that most participants were positive about interprofessional learning and were willing to engage in interprofessional learning. Participants who had positive attitudes towards interprofessional learning may have been influenced by their past three years experiences in the IPE initiative. Perhaps students perceived IPE programme as relevant to their future practice in health and social care because it can promote their understanding of other professionals' roles, encourage sharing of information between different professionals and improve their collective knowledge towards a quality of patient care (Hallikainen et al. 2007; Nisbet et al. 2008).

Undergraduate programmes of study did appear to affect participants' responses towards interprofessional learning scale. Although majority of participants from allied health and nursing programmes held positive attitudes towards interprofessional learning, nursing participants indicated slightly more positive responses than allied health participants. In contrast, most midwifery participants reported neutral attitudes towards interprofessional learning. This finding was also consistent with studies of Pollard et al. (2005; 2006) and El-Zubeir et al. (2006), which revealed a significant difference between students' scores for the interprofessional scale in relation to programmes of study. More nursing students expressed positive attitudes towards interprofessional learning than other health and social care students (Pollard et al. 2005; 2006; El-Zubeir et al. 2006). One possible explanation for this is that nursing students may be more ready than students of other professions to learn about the roles of others and accept IPE initiatives (Morrison et al. 2004). Furthermore, the nature of their work might enable them to socialise and learn from and about the other colleagues from different professions during clinical placements in health and social care settings (Horsburgh et al. 2006).

In contrast, the students of other professions may be more protective of their own professional learning (Morrison et al. 2004). This may be due to their poor perceptions towards other professions such as less competent, academically weaker than theirs and have a low status in society which would affect the success of IPE initiative (Rudland & Mires 2005). Besides, it is possible to speculate that midwifery participants tend to work among themselves, especially in maternity wards, and might have less contact with other professional students during clinical placements. Therefore, these possible reasons may reflect their neutral attitudes towards interprofessional learning in the present study. Pollard et al. (2005) suggested that the possible factors which may influence the variations in students' views towards interprofessional learning include differences in curriculum organisation of each professional

programmes in terms of scheduling, assessments, knowledge and development of skills for professional roles. Hence, a significant difference was found between participants' attitudes towards interprofessional learning in relation to undergraduate programmes in this present study.

Our study results showed that there was a significant difference between undergraduate programmes in relation to previous working experience in health and social care, where more nursing participants had previous working experience than other participants. These findings indicate that nursing participants were likely to engage in health and social care settings before starting their undergraduate nursing programme. Therefore, this may be a possible explanation for nursing participants to be more positive about their attitudes towards interprofessional learning than participants from other programmes. There was a significant difference in participants' scores for the Interprofessional Learning Scale in relation to their previous experience of working in health and social care settings in our study findings. This finding shows that significantly more participants who had worked within health and social care held positive attitudes towards interprofessional learning than those who had not. This finding appears to support the studies of Pollard et al. (2005) and Coster et al. (2008) that found previous working experience in health and social care to be a significant predictor of interprofessional learning. Coster et al. (2008) believed that students with previous work experience might be more confident in learning and meeting other groups during an IPE initiative compared to those who have less experience of working in health and social care settings.

Significant differences between gender and educational background in relation to previous working experience in health and social care settings was found in our study and this supports the findings of the study by Pollard et al. (2004). Majority of the male participants who had previous experience of working in health and social care settings were more likely to engage with other students from different professions in interprofessional learning due to experiences gained in health and social care settings previously. Indirectly, this may also promote their positive attitudes towards interprofessional learning.

Most participants held positive attitudes towards communication and teamwork skills and interprofessional relationships in our study. A possible explanation for this is that an IPE initiative is able to promote participants' level of confidence about communication and teamwork skills as well as their relationships with their own and other colleagues from different health and social care professions in their final year of study. Similar findings were reported in previous studies (Pollard et al. 2005; 2006; Curran et al. 2010). Students' positive attitudes were likely due to the amount of time they have and spent on clinical placement, their experience of working with other professions in study groups which involved different members of professionals

during the IPE intervention (McFadyen et al. 2010). Therefore, learning together in IPE initiative may enhance a successful collaborative teamwork among health and social care professionals which leads to improving the quality of patients care (WHO 2010).

Majority of participants across the whole sample in our study rated their attitudes towards interprofessional interaction negatively. Similar findings were reported in the studies by Pollard et al. (2004; 2005; 2006) who believed that students' negative perceptions towards interprofessional interaction may reflect their experiences as a student or support worker during exposure to practice on placements. Pollard (2008) found that there is a tendency for students who were exposed to a poor interprofessional working environment during their practice placements would hold negative attitudes which they observed in health and social care settings.

There are a few limitations that can affect the interpretations of our study findings report. The sample size of our study was smaller than previous studies, using the same self-assessment UWE IPQ to measure health and social care students' attitudes towards IPE (Pollard et al. 2004; 2005; 2006). Due to logistical issues associated with timetabling prior to data collection period, two methods of recruitment were employed according to students' professions in the Faculty of Health Sciences influenced the recruitment of participants and contributed to a small sample size. Thus, the findings from our study cannot be generalised to health and social care students within the Faculty of Health Sciences, University of Southampton.

CONCLUSION

In conclusion, participants who almost completed a three year course of pre-qualifying interprofessional curriculum within the Faculty of Health Sciences, held positive attitudes towards communication and teamwork skills and interprofessional learning. They also reported positive attitudes towards their relationship with colleagues from their own and other professional programmes, but held negative attitudes towards interprofessional interaction in health and social care. These findings suggested that IPE initiative has influenced their views on the importance of learning from and about each other professions, whilst eliciting good communication and partnerships skill between allied health profession, nursing and midwifery students within the Faculty of Health Sciences. Introducing earlier IPE initiative at the beginning of the pre-qualifying stage in university would promote students to become collaborative-ready professionals in the future. The finding which indicated participants' negative attitudes towards interprofessional interactions warrant further investigation.

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