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Can a Short Exposure to an Interprofessional Education Programme Modify the First-Year Undergraduates 'Readiness for Interprofessional Learning?

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Abstract

In Switzerland, healthcare is a major challenge due to an aging population and an increase of patients with chronic illness leading to growing needs for a new competency: Interprofessional Collaboration (IPC). Roles become more diversified, clinical communication is becoming more complex and consequently healthcare services are becoming too intricate to be dealt with by a single professional. It is therefore necessary to educate future professionals in IPC. The aim of this pilot-study is to evaluate 225 first-year healthcare students' attitude on IPC after having participated in an interprofessional education (IPE) programme in Switzerland.

We used an adapted French-Canadian version of the Readiness for Interprofessional Learning Scale (RIPLS) to evaluate the readiness to interprofessional learning after an IPE programme. A pre-post research design was used to obtain a measurement of the undergraduates' attitudes and perceptions toward IPE. Seventy-one students from different programmes completed both pre and post-tests: 50.1% nursing students (N=36), 28.2% physiotherapy students (N=20), and 21.2% radiography students (N=15). The results indicate favourable attitude to Interprofessional Learning (IPL), even before participating in the IPE programme. The student's confidence about their future professional role after participating in the IPE programme increased (P = .000). Furthermore, students perceived less a need to acquire more knowledge and skills in comparison to other health-care students (P = .022) as they did before their participation to the IPE programme.

One principal contribution is that participating in a short IPE programme (18 hours) helped the students better clarify their own and the role of other professionals which is a key competency in an interprofessional approach. The professionals' representation of roles is central when developing IPC as those will influence the quality of any future interprofessional relationship, the quality of care and the patient's management of care.

Keywords: RIPLS: Interprofessional education; Professional role; Undergraduates; Short IPE programme

Abbreviations: HESAV: University of Health Sciences; IPC: Interprofessional Collaboration; IPE: Interprofessional Education; IPL: Interprofessional Learning; RIPLS: Readiness for Interprofessional Learning Scale

Introduction

In Switzerland as it is around the world, healthcare complexity is a major challenge. The demographic changes and the increase of patients with chronic illness lead to a growing need for a new competency: Interprofessional Collaboration (IPC) [1]. Part of this challenge is due to the specialisation of professional roles thereby involving more professionals in clinical communication and consequently healthcare services require a team of professionals to deliver timely and adequate care. Interprofessional collaboration means that health professionals from various professions work together to improve patient care [2]. Teamwork and collaboration pose certain challenges which are especially related to professional identity, and it is therefore necessary to educate future professionals in IPC [3]. In Switzerland, a recent report of the group "Interprofessionality" [4] mentions an educational approach to use IPC representative situations, a common language and a shared comprehension of Interprofessional Education (IPE) and IPC.

Different trends exist in the literature regarding the implementation and duration of IPE. Some studies demonstrated a positive impact of brief IPE interventions [5,6] while others underline the importance to provide repetitive interventions in Interprofessional Learning (IPL) in order to enhance students' professional identity and team working skills [7,8].

The place of IPE in educational programmes – at an undergraduate or postgraduate level, has also been discussed in the literature. It is widely accepted that interprofessional skills development should begin at a pre-qualification level and positive effects of implementing an IPE programme at an undergraduate level have been demonstrated [9]. Improving teamwork, collaboration, knowledge about one's own professional role and those of other professionals are some of the central skills in IPC. Raising students' awareness regarding IPC at the beginning of their educational programme is essential to construct simultaneously students' intra- and inter-professional identity [10].

Background

Since 2012, a working group composed by professors from four faculties has developed and implemented an IPE Programme for approx. 600 students from midwifery, nursing, physiotherapy and radiography. This programme runs over one week (18hours) per year in the 3-years Bachelor programme. The curriculum is constructed progressively: each year's objectives build upon the competencies and skills acquired in the precedent year (Table 1).

Implemented for the first time in 2012, it had run for one cycle in 2015, and the working group decided to assess the programme for the first-year students. The aim of this pilot-study was to investigate the impact of this programme on the first-year students' attitude and perceptions regarding IPE.

Table 1: HESAV IPE Programme (2015).

Year of study	Number of students	Interprofessional Objectives	Pedagogical Modalities
1	225	to develop undergraduates' competencies in interprofessional communication and the knowledge about their own role and the role of the other professions.	- teachers 'trainings - introductive conference - readings - theoretical classes - workshops in small groups - simulated situations - closing conference
2	210	to recognize and manage an interprofessional conflict situation	
3	201	to acquire collaborative leadership skills	

Methods

Population

225 undergraduate first-year students from nursing (N=119), physiotherapy (N=48), and radiography (N=58) participated to the IPE programme. Midwifery students were not included, as it is a second degree course. Students were invited to complete the online RIPLS one week before the start of the IPE programme and one month after the intervention. Each student was asked to identify himself or herself using the same pseudonym for the two questionnaires.

Instrument

Attitudes and perceptions were assessed using a standardized self-appraisal scale: the Readiness for Interprofessional Learning Scale (RIPLS) adapted from the French-Canadian version of RIPLS [11]. It measures the undergraduates' attitudes toward interprofessional teams and readiness for IPE. The RIPLS has 19 items scored on a 5-points Likert scale (1: strongly disagree, to 5: strongly agree) and is divided into four subscales.

Data analysis

Data were collected anonymously in February 2015 and analysed using SPSS; Version 21. Various statistical tests were used to evaluate how the participation to an IPE programme influenced the students 'attitude toward IPE. First, a Student's t-Test was used for the RIPLS total score to compare the scores of the pre= and post-test. Then non-parametric Wilcoxon Signed-Rank test was used to compare the pre- to post-test measures for each item. Finally, a Student's t-Test was used to for comparison of each subscale. Statistical significance was set at $p \leq 0.05$.

Results

The sample is composed by the 71 students who completed both questionnaires. The Faculty of Nursing, the largest at HESAV, includes 50.1% of all students (N=36). The physiotherapy programme is represented by 28.2% students (N=20), and the radiography department by 21.2% students (N=15).

Table 2 shows that the RIPLS total score is already high in the pre-test. The comparison of pre- and post-score shows an increase with regard to readiness, but the Student's t-Test showed no statistically significant difference between the pre- and post-test score (*p-value* >0.05). However, when comparing each paired-item between pre and post-test, Wilcoxon Signed-Rank test revealed statistically significant differences for pre and post measures of item 5 and 8 (Table 3). Finally, the comparison between pre and post-test score for each subscale, using the Student's t-Test, showed no statistical difference.

Table 2: RIPLS'total scores.

	Pre-test	Post-test
Maximal score	90	90
Minimal score	57	50
Mean (SD)	73.65 (7.04)	73.86 (6.40)

Discussion

Increase of the positive attitude toward interprofessional learning

The results of this pilot-study indicate a positive attitude and a high level of readiness to IPL. Students involved in healthcare education programme may be aware of IPC, considering it as a central concept of the patient-centred perspective. These positive results are consistent with those of another study in a Swiss context [12] and with studies in other countries [2,13].

Although the positive attitude toward IPL increased, the difference between before and after total scores is not significant, which is also consistent with prior studies [8]. First, we hypothesize that the study design may have biased the results as we analysed assessment from undergraduate students who had answered both pre- and post-test and were identifiable by using the same pseudonym. It is known that students volunteering for studies are more likely to have positive attitudes toward interprofessional education. Secondly, at the pre-test, most students (75%) already showed a positive attitude toward IPL. Some studies have reported that repetitive exposure to IPL may have a more important effect on students' readiness than one single exposure [14]. Thirdly, using a self-assessment questionnaire implies that students have at least some knowledge about what is measured, and some studies report a tendency to over-estimate one's own performance when unknown or little-known concepts are assessed [15].

Table 3: RIPLS'items change between pre and post-test.

Items	Z	P-value
1. Learning with other students will help me become a more effective member of a health care team.	-0-832	0.405
2. Patients would ultimately benefit if health-care students worked together to solve patient problems	-0.553	0.580
3. Shared learning with other health-care students will increase my ability to understand clinical problems	-1.684	0.092
4. Learning with health-care students before qualification would improve relationships after qualification	-0.145	0,885
5. Communication skills should be learned with other health- care students	-4.147	0,000*
6. Shared learning will help me to think positively about other professionals	-0.149	0.881
7. For small group learning to work, students need to trust and respect each other	-1.827	0.068
8. Team-working skills are essential for all health care students to learn	-2.298	0.022*
9. Shared learning will help me to understand my own limitations	-0.626	0.531
10. I don't want to waste my time learning with other health care students	-0.546	0.585
11. It is not necessary for undergraduate health-care students to learn together	-1.842	0.065
12. Clinical problem-solving skills can only be learned with students from my own department	-0.467	0.640
13. Shared learning with other health-care students will help me to communicate better with patients and other professionals	-1.456	0.145
14. I would welcome the opportunity to work on small-group projects with other health-care students	-1.321	0.186
15. Shared learning will help to clarify the nature of patient problems	0.000	1.0
16. Shared learning before qualification will help me become a better team worker	-0.220	0.826
17. The function of nurses and therapists is mainly to provide support for doctors	-0.449	0.653
18. I'm not sure what my professional role will be	-1.044	0.296
19. I have to acquire much more	-1.101	0.271

*: significant

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Being more confident about the future professional role

We hypothesize that the pedagogical modalities focusing on simulated situations were central for achieving the change in attitude. Indeed, being involved in situations with other healthcare students, not only for an hour but during one entire week (18hours), leads them to better understand their own professional role, a finding that is consistent with prior research [16].

The student's confidence about their future professional role increased as well after having participated in the IPE programme. This result corroborates previous studies [17] that revealed that the students were more aware about the complementarity of each profession. We suggest that limited experience in clinical practice does not allow students to anticipate/imagine their future professional role.

Acquisition of knowledge and skills for each profession

After participating in the IPE programme, the students compared less the quantity of knowledge and skills they had to learn between the different educational programmes. Less students considered a need to acquire additional knowledge and skills than other health-care students do. Indeed, 20% of respondents disagreed with the statement "I have to acquire much more knowledge and skills than other students", while only 4 % of them disagreed before their participation to the IPE programme. These results corroborate previous findings [18]. During the IPE programme, students experimented to work in teams, and to collaborate with students from other professions. Furthermore, the workshops are thought to promote exchanges between students from various programmes about their representations of each other's profession. Thus, it seems that participating in the IPE programme allows students to consider that their specific knowledge and skills are not to be compared but to be considered as complementary with each other, which is essential for the success of interprofessional collaboration.

Limitations and perspectives

The primary limitation is linked to the design of this pilot study. The completion of questionnaires was voluntary, and the information about the completion of pre and post-test were lightly developed. Thus, this procedure may explain the low response rate (31.5% of all participants of the study) and lead to less generalizable results. However, the analysis corroborates with most of the previous studies and suggest that our results are not specific of our IPE programme. The study design used a pre-post method: including a control group may have strengthened our results but this approach was not feasible because it was required that all students participated in this IPE programme.

Another limitation could be the choice of the questionnaire. The version of RIPLS used is validated for a French-Canadian context. The cultural differences between the Swiss-French context are not considered which could lead to a different interpretation of items by students. Furthermore, even if the RIPLS is considered as one of the popular instrument in the IPE evaluation and has been widely employed, its use has been controversial in the literature [19]. Indeed, the psychometrics properties are not valid and the factors are instable [20]. Despite these challenges, some studies have reported acceptable validity and reliability [21].

As mentioned in earlier studies [22], evaluating an IPE programme involves making some choices about what will be measured: attitudes, competencies/skills, learning activities, etc. In this perspective, we suggest that further research should first focus on determining which aspect of the interprofessional education will be measured. Indeed, the choice of tools used will be influenced by this decision.

The major IPE literature have used the original RIPLS version [14] rather than the French-Canadian version [11]. Comparing our findings with the literature could be complicated because of cultural differences. However, all results revealed the same tendencies. One principal contribution is that participating in an IPE programme helped the students better clarify their own professional role and the role of other professionals. Exactly this is one specific competency in an interprofessional approach. The representation of professional roles is therefore central when developing IPC as these representations will influence the quality of future interprofessional relationships. This study highlights and corroborates findings that despite the lack of proven significant impact of IPE programme on students' receptivity, this may not reflect a failure of the programme. In addition, students already had a positive attitude towards IPE.

Conclusion

This pilot study aimed to investigate students' readiness towards interprofessionality revealed that it was a successful learning experience. A short IPE programme (18 hours) can affect undergraduates' attitude toward interprofessional learning. Indeed, the results suggest positive changes in undergraduates' perceptions of IPE. On a global perspective, undergraduates assessed their readiness to IPL at a higher level after participating in the IPE programme. Furthermore, a statistically significant change was observed in their attitude towards their professional role: they consider themselves to be more confident about what their future professional role will be.

More research is required to understand the effects of IPE programmes on students' readiness toward IPL. Future research should use a mixed-method research including both quantitative and qualitative approaches. This approach would allow to better investigate the various dimensions of IPE and to adapt the specific content of the IPE programme as a result of the study. A long-term study is further recommended to evaluate whether this programme can lead to a permanent change in students' attitude. Therefore, it would be necessary to assess and measure the IPE's impact on healthcare professionals' practice after their graduation.

Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the writing and content of this article.

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