Pre-University Health Professional Students’ Readiness and Perception Toward Interprofessional Education

Abstract

Background: Interprofessional education (IPE) helps preparing the learners in all healthcare professions to work effectively in collaborative teams. This study was undertaken to assess the readiness and perception of IPE of preuniversity health professional students even before they enter their health professional courses. Methods: The preuniversity health professional students along with final-year medical and dental students were recruited for the study. The readiness for interprofessional learning scale was used to measure the student’s readiness toward IPE before the interprofessional-related activity session. The preuniversity students also completed the IEPS scale after their interaction with final-year medical and dental students. Results: Most of the aspiring health professional students during their foundation year expressed positive attitude toward readiness for IPE. Most preuniversity students realized that by learning with various professional students would make them effective member of healthcare team. The students had positive perception toward competence and autonomy, perceived need for cooperation, perception of actual cooperation, and understanding other’s value, which were significantly higher from score 3 of somewhat disagree (P < 0.001). Conclusion: Most of the aspiring health professional students in their preuniversity year expressed positive attitude toward readiness for IPE although were not prepared to take roles and responsibility within the interprofessional group. They could well perceive the need for cooperation, perception of actual cooperation, and understanding other’s value while working in an IP team.

Keywords: Interprofessional education, perception, preuniversity students, readiness

Introduction

The literature suggests that interprofessional education (IPE) leads to positive mutual attitudes, better understanding of professional roles in caring for patients and their caregivers, as well as improved information and knowledge exchange to cooperate during their daily practical work. The IPE helps preparing the learners in all healthcare professions to work effectively in collaborative teams and become competent to perform the desired task. Even IPE with dental hygiene students teaching medical and dental students has been effective. The literature describes various types of IPE interventions where the results are positive or negative. However, the intervention on preuniversity students on IPE concept before their entry into professional courses has not been reported in the literature to the best of our knowledge. This, we believe can better prepare the aspiring health professional students in long-term perspective. Hence, we undertook this study to assess the readiness and perception toward IPE among the preuniversity students of our institution.

Methods

This was a cross-sectional study involving total of 71 students from preuniversity (Foundation in Science [FIS]), medical (MBBS), and dental (BDS) programs. The preuniversity students were exposed to interprofessional-related activity such as finding a solution to a given scenario on dental pain management, where they worked with medical and dental students and presented their report to the multidisciplinary faculty member, who had done briefing session before the small group activities. The readiness for interprofessional learning scale (RIPLS) was used to measure the participants’ readiness toward IPE before the interprofessional-related activity session. There are 19 questions in RIPLS and the scale is divided into three
domains such as teamwork and collaboration (questions 1–9), professional identity (questions 10-16), and roles and responsibility (questions 17–19). Five-point Likert scale is used which is from strongly agree (5) to strongly disagree (1). For negative statements, the score is reversed as strongly agree is scored 1 while strongly disagree is scored 5. Total score was also calculated for each domain as well as for the overall scale. Higher scores on the RIPLS and its domains indicate greater readiness for interprofessional learning.[7,8] Internal consistency of each subscale of RIPLS was calculated. Cronbach’s alpha coefficient of teamwork and collaboration was 0.810, professional identity was 0.689, and roles and responsibility were 0.372.

We used interdisciplinary education perception scale (IEPS) for all the preuniversity students after completing scenario-based sessions with medical and dental students.[9] There were 18 items in the scale, and it was divided into four subscales such as competency and autonomy (8 items), perceived need for cooperation (2 items), perception of actual cooperation (5 items), and understanding of other’s value (3 items). Six-point Likert scale was used and it was ranged from 6 (strongly agree), 5 (agree), 4 (somewhat agree), 3 (somewhat disagree), 2 (disagree) to 1 (strongly disagree). Total score was also calculated for each subscale. Higher scores indicated better perception for interdisciplinary education. Internal consistency of each subscale of IEPS was calculated. Cronbach’s alpha coefficient of competency and autonomy was 0.856, perceived need for cooperation was 0.647, perception of actual cooperation was 0.851, and understanding of other’s value was 0.555.

Microsoft Excel was used for data entry and the SPSS version 23 (SPSS Inc., Chicago, IL, USA) was used for data analysis. Descriptive statistics such as frequency and percentage were calculated for categorical data. Moreover, mean, standard deviation, and median were calculated for total score of each subscale as well as for each item in the RIPLS scale. Wilcoxon signed-rank test was also calculated to determine that the student's perception toward interdisciplinary education was different from score of 3 (somewhat disagree) after participating IPE sessions. The level of significance was set at 0.05. All statistical tests are two-sided.

This study was approved by the institutional research and ethics committee as per the approval number: MMMC/FOM/Research Ethics Committee – 1/2019.

Results

A total of 52 preuniversity students from FiS program participated in this study. The mean age of the students was

### Table 1: Demographic characteristics of preuniversity students (n=52)

| Variable                                                                 | n (%)       |
|--------------------------------------------------------------------------|-------------|
| Program                                                                  |             |
| Foundation in science program                                            | 52 (100.0)  |
| Age                                                                     | 20.4 (1.4)  |
| Gender                                                                   |             |
| Male                                                                     | 18 (34.6)   |
| Female                                                                   | 34 (65.4)   |
| Previous experience of interprofessional learning                        |             |
| Yes                                                                      | 2 (3.8)     |
| No                                                                       | 50 (96.2)   |

*Mean (SD). SD: Standard deviation

### Table 2: Descriptive statistics of each item in Readiness for Interprofessional Learning Scale

| Number | Statement                                                                 | Mean (SD) | Median |
|--------|---------------------------------------------------------------------------|-----------|--------|
| 1      | Teamwork and collaboration                                                 | 4.6 (0.5) | 5.0    |
| 2      | Patients would ultimately benefit if health-care students worked together  | 4.3 (0.6) | 4.0    |
| 3      | Shared learning with other health-care students will increase my ability    | 4.5 (0.5) | 5.0    |
| 4      | Learning with health-care students before qualification                   | 4.3 (0.7) | 4.0    |
| 5      | Learning with health-care students before qualification                   | 4.7 (0.5) | 5.0    |
| 6      | Shared learning will help me to think positively about other professionals | 4.5 (0.6) | 5.0    |
| 7      | For small group learning to work, students need to trust and respect each  | 4.3 (0.7) | 4.0    |
| 8      | Team-working skills are essential for all health care students to learn    | 4.1 (0.8) | 4.0    |
| 9      | Shared learning will help me to understand my own limitations              | 4.5 (0.7) | 5.0    |
| 10     | Positive and negative professional identity                                |           |        |
| 11     | I don’t want to waste my time learning with other health-care students     | 4.4 (0.7) | 4.0    |
| 12     | It is not necessary for undergraduate health-care students to learn together| 4.0 (0.9) | 4.0    |
| 13     | Clinical problem-solving skills can only be learned from my own department | 3.9 (1.1) | 4.0    |
| 14     | Shared learning with other health-care students will help me to communicate| 4.4 (0.7) | 5.0    |
| 15     | Shared learning will help to clarify the nature of patient problems        | 4.3 (0.7) | 4.0    |
| 16     | Shared learning before qualification will help me become a better team     | 4.4 (0.6) | 4.0    |
| 17     | Roles and responsibility                                                  |           |        |
| 18     | The function of nurses and therapists is mainly to provide support for      | 1.6 (0.7) | 2.0    |
| 19     | I’m not sure what my professional role will be                            | 3.7 (1.1) | 4.0    |
| 20     | I have to acquire much more knowledge and skills than other health-care    | 2.0 (1.0) | 2.0    |

*Reverse coding (1: Strongly agree; 5: Strongly disagree) - higher response indicates more positive scores. SD: Standard deviation
20.4 years and 65.4% were female students. The majority of the students (96.2%) did not have any experience of interprofessional learning [Table 1].

Table 2 shows the mean, standard deviation, and median of each statement of RIPLS before participating IPE activities.

Table 3 shows descriptive statistics of each subscale in RIPLS before participating IPE activities.

Table 4 shows descriptive statistics of each subscale in the IEPS after participating IPE sessions.

Table 5 shows the difference of student’s perception toward interdisciplinary education when it was compared to score 3 of somewhat disagree. The median value of all items in the IEPS ranged from 4 to 5 showing positive perception toward interdisciplinary education. Moreover, the student’s perception toward competence and autonomy, perceived need for cooperation, perception of actual cooperation, and understanding other’s value were significantly higher from somewhat disagree of score 3 ($P < 0.001$) [Table 5].

**Discussion**

It has been documented in the literature that the IPE programs could not only improve preparation for interprofessional collaboration but also helped students improving knowledge and clinical decision-making ability. In this study, the majority of the preuniversity students could realize that by learning with various professional students would make them effective member of healthcare team and promote the collaborative practice. Moreover, IPE training through our intervention had a positive influence on students’ understanding of collaboration and better attitudes in interprofessional programs could not only improve preparation for interprofessional collaboration but also helped students improving knowledge and clinical decision-making ability. In this study, the majority of the preuniversity students could realize that by learning with various professional students would make them effective member of healthcare team and promote the collaborative practice. Moreover, IPE training through our intervention had a positive influence on students’ understanding of collaboration and better attitudes in interprofessional programs could not only improve preparation for interprofessional collaboration but also helped students improving knowledge and clinical decision-making ability. In this study, the majority of the preuniversity students could realize that by learning with various professional students would make them effective member of healthcare team and promote the collaborative practice. Moreover, IPE training through our intervention had a positive influence on students’ understanding of collaboration and better attitudes in interprofessional programs could not only improve preparation for interprofessional collaboration but also helped students improving knowledge and clinical decision-making ability. In this study, the majority of the preuniversity students could realize that by learning with various professional students would make them effective member of healthcare team and promote the collaborative practice. Moreover, IPE training through our intervention had a positive influence on students’ understanding of collaboration and better attitudes in interprofessional programs could not only improve preparation for interprofessional collaboration but also helped students improving knowledge and clinical decision-making ability. In this study, the majority of the preuniversity students could realize that by learning with various professional students would make them effective member of healthcare team and promote the collaborative practice. Moreover, IPE training through our intervention had a positive influence on students’ understanding of collaboration and better attitudes in interprofessional...
teamwork that matches with a study report in the literature.[15] Our study revealed that preuniversity students were ready for teamwork and collaboration while working in an IP team, which matches with another study.[14] Moreover, our students showed confidence of what their professional role is. However, they had slightly negative attitudes toward the function of nurses and therapists, and also toward acquiring knowledge and skills in their profession. This might be because of fear complex in working with professional students. The finding also indicates that IPE training through our intervention had a positive influence on students’ understanding of collaboration and better attitudes in interprofessional teamwork that matches with a study report in the literature.[15]

Moreover, after participating IPE sessions, the preuniversity students had positive perception toward interdisciplinary education such as competence and autonomy, perceived need for cooperation, perception of actual cooperation, and understanding other’s value. As IPE improves students’ shared learning and interdisciplinary collaboration, it is recommended to be introduced at an early stage in medical education.[16] This not only optimizes the future health care professional’s learning experience but also brings satisfactory patient outcomes.[17] The strength of our study was our novel approach of intervening preprofessional students; however, the limitation might be a low sample size. We plan to conduct a mixed-methods design to better understand the perceptions and attitudes toward IPE by preuniversity students.

Conclusion

Most of the aspiring health professional students in their preuniversity year expressed positive attitude toward readiness for IPE although were not prepared to take roles and responsibility within the IP group. They could well perceive the need for cooperation, perception of actual cooperation, and understanding other’s value while working in an IP team. We recommend sensitizing the preuniversity students to IPE before they embark on professional courses.

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Ethical clearance

This study was approved by the institutional research & ethics committee as per the approval number: MMMC/FOM/Research Ethics Committee – 1/2019.

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Conflicts of interest

There are no conflicts of interest.

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