Attitudes of Health Professionals toward Interprofessional Healthcare Teams in Mongolia

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Abstract

Introduction: Patient have complex health needs and typically require more than one discipline to address issues regarding their health status (Lumague et al.) Interprofessional education (IPE) is an approach to develop healthcare students for future interprofessional teams. Interactive learning requires active learner participation, and active exchange between learners from different professions. The purpose of this study is to describe attitudes toward interprofessional education in Mongolian healthcare professionals.

Methods: Cross-sectional study, Curran et al and Gardner et al developed the Attitudes Toward Health Care Teams (ATHCTS, 14 items-IPC, 15 items-IPE, 13 items -IPLAS, 10 items for barriers) measured attitudes toward health care teams. This study was conducted in the 2019 academic year. During the first term, an attitudinal survey was administered to the health care professionals and supervised by the professors responsible for each health care professionals. Survey responses were always confidential and names and other identifying information were removed. Data combined from health care professionals at MNUMS were analysed using the Statistical Package for the Social Sciences, version 23. The suitability of the correlation matrix was determined by the Kaiser- Meyer -Olkin estimate of sampling adequacy and Bartlett's Test of Sphericity. The number of factors retained for the initial solutions and entered into the rotations was determined by application of Kaiser's criterion (eigenvalues>1). To clearly define the structure, an exploratory factor analysis using warimax rotation was conducted. The level of significance was set at 5% for all tests. This study was approved by the Research Ethics Committee of Mongolian National University of Medical Sciences in Ulaanbaatar, Mongolia, 2019/3-08.

Results: Demographic characteristics of ride health care professionals are management's team 6.3% (n=35), doctors 29.4% (n=163), nurses 56.9% (n=316), others 7.5% (n=41). As shown in attitudes toward health care team, the overall modified ATHCTS mean score of health care professionals at Mongolian National University of Medical Sciences (MNUMS) was significantly higher (3.8 ± 0.95, p<0.0001). The Kaiser-Meyer-Olkin index was 0.899, indicating sampling adequacy, and the Bartlett Sphericity Chi Square index was 1161.536 (p<0.0001). Cronbach's alpha of the 14 items was 0.999, revialing a high rate of internal consistency. The modified 15 item questionnaire was categorized into the two factors “Expertise” and “Competency”. As shown in Attitudes towards IPE learning in academic setting, the overall modified mean score of health care professionals at MNUMS was significantly higher (3.9± 1.21, p<0.0001). The Kaiser-Meyer-Olkin index was 0.888, indicating sampling adequacy, and the Bartlett Sphericity Chi Square index was 1842.086 (p<0.0001). Cronbach's alpha of the 15 items was 0.794, revialing a high rate of internal consistency. The modified 15 item questionnaire was categorized into the two factors “Expertise” and “Competency”. As shown in The Attitudes towards IPE learning in academic setting, the overall modified mean score of health care professionals at MNUMS was significantly higher (3.9± 1.21, p<0.0001). The Kaiser-Meyer-Olkin index was 0.888, indicating sampling adequacy, and the Bartlett Sphericity Chi Square index was 1842.086 (p<0.0001). Cronbach's alpha of the 15 items was 0.794, revialing a high rate of internal consistency. The modified 15 item questionnaire was categorized into the two factors “Expertise” and “Competency”. As shown in The Attitudes towards IPE learning in academic setting, the overall modified mean score of health care professionals at MNUMS was significantly higher (3.9± 1.21, p<0.0001). The Kaiser-Meyer-Olkin index was 0.888, indicating sampling adequacy, and the Bartlett Sphericity Chi Square index was 1842.086 (p<0.0001). Cronbach's alpha of the 15 items was 0.794, revialing a high rate of internal consistency. The modified 15 item questionnaire was categorized into the two factors “Expertise” and “Competency”. As shown in The Attitudes towards IPE learning in academic setting, the overall modified mean score of health care professionals at MNUMS was significantly higher (3.9± 1.21, p<0.0001). The Kaiser-Meyer-Olkin index was 0.888, indicating sampling adequacy, and the Bartlett Sphericity Chi Square index was 1842.086 (p<0.0001).
In conclusion, international research study’s result showed for rate their attitudes towards statements on a 5-point Likert scale the methods of Curran et al. [6]. Each scale asked respondents to evaluate faculty attitudes toward IPE and teamwork adapted from an online survey. The survey instrument contained four scales to all MNUMS faculties inviting potential participants to complete biomedicine and traditional medicine. An email was distributed were medicine, dentistry, nursing, pharmacy, public health, large university system in the Mongolia. The colleges represented National University of Medical Sciences (MNUMS) located within a participants from a convenience sample of faculty at the Mongolian Study Design and Participants Materials and Methods Introduction Many countries use the term “interprofessional education” and address collaboration and the patient perspective, such as the Australian Health Department which defines interprofessional education (IPE) as: “A collaborative, interdisciplinary education and learning process designed to produce effective, multidisciplinary patient-centered care”. One definition that seems clearer, more manageable and closer to the focus of our project is the Centre for the Advancement of Interprofessional Education (CAIPE) definition: “Occasions when two or more professions learn with, from and about each other to improve collaboration and the quality of care” [1]. Implementing IPE often relied on goodwill between teachers of different professions, between university and practice, and between facilitators and students [2]. Within the theoretical perspective of activity theory, it can be argued that the most troublesome challenges in relation to implementing IPL could be embraced as contradictions that may lead to change [3]. Patients have complex health needs and typically require more than one discipline to address issues regarding their health status (Lumague et al.) [4]. The World Health Organization (WHO) recommends that institutions engaged in health professional education and training consider implementing interprofessional education (IPE) in both undergraduate and postgraduate programs (WHO, 2013) [5]. The purpose of this study was to investigate the attitudes of faculties at MNUMS toward IPE.

Materials and Methods Study Design and Participants

A descriptive, cross-sectional design was used to survey participants from a convenience sample of faculty at the Mongolian National University of Medical Sciences (MNUMS) located within a large university system in the Mongolia. The colleges represented were medicine, dentistry, nursing, pharmacy, public health, biomedicine and traditional medicine. An email was distributed to all MNUMS faculties inviting potential participants to complete an online survey. The survey instrument contained four scales to evaluate faculty attitudes toward IPE and teamwork adapted from the methods of Curran et al. [6]. Each scale asked respondents to rate their attitudes towards statements on a 5-point Likert scale (1=strongly disagree; 2=disagree; 3=neutral; 4=agree; 5=strongly agree). First, fourteen items were in field of attitudes towards interprofessional health care teams scale gauged how faculty feel about interprofessional health care teams, such as participation of three or more professions in collaborative patient care. Secondly, fifteen items in attitudes towards IPE to students’ development as health care professionals, specifically in relation to shared learning activities involving students from more than one health care professional program were included.

Ethical Considerations

This study was approved by the Ethics Committee of MNUMS (Approval number №8/3/2019-6-21).

Statistical Analysis

The data were analyzed using Statistical Package for the Social Sciences (SPSS), version 23.0J. Assumptions for parametric testing were met for multiple regression; a priori α level was set at 0.05. The predictor variables for each analysis included school affiliation (medicine, biomedicine, nursing, dentistry, pharmacy, public health, traditional medicine). Outcome variables were interprofessional learning in the health care setting, IPE and interprofessional health care teams. The scale was subject to exploratory factor analysis to examine the underlying constructs of the survey. The suitability of the correlation matrix was determined by the Kaiser-Meyer-Olkin estimate of sampling adequacy and Bartlett’s Test of Sphericity. The number of factors retained for the initial solutions and entered the rotations were determined with application of Kaiser’s criterion (eigenvalues>1). The initial factor extractions were performed by means of principal components analysis. To define the structure clearer, an exploratory factor analysis using varimax rotation was conducted. The level of significance was p<.0001 for all tests [7-10].

Results

The survey was completed by 10.8% of the faculty members from medicine, 18.9% of the faculty of nursing, 14.3% biomedical, 10.3% pharmacy, 8.1% public health, 5.4% traditional medicine (5.4%), and 16.2% of the faculty of dentistry. The survey was completed by 16.2% of faculty of the Darkhan’s medical school
(16.2%), 2.7% of Dornogobi's medical school (2.7%), 5.4% Gobi-Altai’s medical school (5.4%) and 5.4% of the faculty members of the University Hospital in Ulaanbaatar (Table 1). As shown in Table 2, the overall modified ATHCTS mean score of faculties at Mongolian National University of Medical Sciences (MNUMS) was significantly higher (4.0 ± 0.62, p<.0001). The Kaiser-Meyer-Olkin index was 0.511, indicating sampling adequacy, and the Bartlett Sphericity Chi Square index was 547.486 (p<0.0001). Cronbach’s alpha of the 14 items was 0.811, reviling a high rate of internal consistency. The modified ATHCTS questionnaire was categorized into the two factors “Quality of care” and “Team efficiency” (Table 2).

**Table 1:** Demographic characteristics of ride faculties.

| Variable                      | Frequency | Percent |
|-------------------------------|-----------|---------|
| Demographic Characteristics of Ride Faculties |           |         |
| Gender                        |           |         |
| Male                          | 36        | 34%     |
| Female                        | 72        | 66%     |
| HSC Affiliation               |           |         |
| Medical School                | 11        | 10.8%   |
| Nursing School                | 17        | 18.9%   |
| Biomedical School             | 13        | 14.3%   |
| Pharmacy School               | 10        | 10.3%   |
| Public Health School          | 6         | 8.1%    |
| Traditional Medicine          | 4         | 5.4%    |
| Dentist School                | 14        | 16.2%   |
| Darkhan’s MS                  | 14        | 16.2%   |
| Dornogobi’s MS                | 4         | 5.4%    |
| Gobi-Altai’s MS               | 4         | 5.4%    |
| University Hospital           | 4         | 5.4%    |

**Table 2:** The Attitudes towards health care team(Curran, 2007).

| The Attitudes towards health care team | Mean | 95% CI | SD  | P values |
|---------------------------------------|------|-------|-----|----------|
| 1 Patients/clients receiving interprofessional care are more likely than others | 4.361 | 4.27 | 4.45 | 0.483 |
| 2 Developing an interprofessional patient/client care plan is excessively | 4.083 | 3.95 | 4.21 | 0.685 |
| 3 The give and take among team members helps them make better | 4.417 | 4.31 | 4.52 | 0.549 |
| 4 The interprofessional approach makes the delivery of care more efficient. | 4.25 | 4.15 | 4.35 | 0.549 |
| 5 Developing a patient/client care plan with other team members avoids | 4.278 | 4.15 | 4.4 | 0.653 |
| 6 Working in an interprofessional manner unnecessarily complicates things | 4.333 | 4.23 | 4.43 | 0.53 |
| 7 Working in an interprofessional environment keeps most health | 4.083 | 3.98 | 4.19 | 0.549 |
| 8 The interprofessional approach improves the quality of care to | 2.139 | 1.98 | 2.3 | 0.859 |
| 9 In most instances the time required for interprofessional consultations could be better spent in other ways | 2.139 | 1.98 | 2.3 | 0.859 |
| 10 Health professionals working as team are more responsive than others | 4.139 | 4.02 | 4.26 | 0.633 |
| 11 The interprofessional approach permits health professionals to meet the | 4.306 | 4.2 | 4.41 | 0.571 |
| 12 Having to report observations to a team helps team members better | 4.306 | 4.2 | 4.41 | 0.571 |
| 13 Hospital patients who receive interprofessional team care are better prepared for discharge than other patients | 4.25 | 4.13 | 4.37 | 0.643 |
| 14 Team meeting foster communication among members from different | 4.306 | 4.19 | 4.42 | 0.618 |

Negatively worded items were reverse scored to calculate.
As shown in Table 3, the overall modified mean score of faculties at MNUMS was significantly higher (3.8 ± 0.61, p<.0001). The Kaiser-Meyer-Olkin index was 0.524, indicating sampling adequacy, and the Bartlett Sphericity Chi Square index was 575.701 (p<0.0001). Cronbach’s alpha of the 15 items was 0.847, revealing a high rate of internal consistency. The modified 15 item questionnaire was categorized into the two factors “Expertise” and “Competency” (Table 3). As shown in Table 4, the overall modified mean score of faculties at MNUMS was significantly higher (3.4 ± 0.61, p<.0001). The Kaiser-Meyer-Olkin index was 0.505, indicating sampling adequacy, and the Bartlett Sphericity Chi Square index was 388.330 (p<0.0001). Cronbach’s alpha of the 13 items was 0.812, revealing a high rate of internal consistency (Table 4).

### Table 3: The Attitudes towards Interprofessional education (Curran, 2007).

| The Attitudes towards Interprofessional education                                                                 | Mean | 95% CI          | SD   | P values |
|----------------------------------------------------------------------------------------------------------------------|------|-----------------|------|----------|
| 1. Interprofessional learning will help students think positively about other health care professionals.               | 4.083| 3.99 - 4.18     | 0.495|          |
| 2. Clinical problem solving can only be learned effectively when students are taught within their individual department/school | 2.944| 2.79 - 3.1      | 0.818|          |
| 3. Interprofessional learning before qualification will help health professional students to become better team-workers. | 4.194| 4.11 - 4.28     | 0.463|          |
| 4. Patients would ultimately benefit if health care students worked together to solve patient problems.                | 4.222| 4.11 - 4.33     | 0.585|          |
| 5. Students in my professional group would benefit from working on small-group projects with other health care students. | 3.028| 2.9 - 3.15      | 0.648|          |
| 6. Communication skills should be learned with integrated class of health care students.                               | 3.917| 3.81 - 4.02     | 0.549|          |
| 7. Interprofessional learning will help to clarify the nature of patient problems for students.                         | 4.139| 4.05 - 4.23     | 0.483|          |
| 8. It is not necessary for undergraduate health care students to learn together.                                       | 2.889| 2.73 - 3.05     | 0.846|          |
| 9. Learning with students in other health professional schools helps undergraduates to become more effective members of a health care team. | 3.889| 3.77 - 4.01     | 0.616|          |
| 10. Interprofessional learning among health care student will increase their ability to understand clinical problems.   | 4    | 3.88 - 4.12     | 0.627|          |
| 11. Interprofessional learning will help students to understand their own professional limitations                      | 4    | 3.88 - 4.12     | 0.627|          |
| 12. For small group learning to work, students need to trust and respect each other.                                   | 3.694| 3.58 - 3.81     | 0.618|          |
| 13. Interprofessional learning among health professional students will help them to communicate better with patients and other professionals. | 4.056| 3.96 - 4.16     | 0.527|          |
| 14. Team-working skills are essential for all health care students to learn.                                          | 4.056| 3.96 - 4.16     | 0.527|          |
| 15. Learning between health care students before qualification would improve working relationships after qualifications.| 4.278| 4.14 - 4.42     | 0.734|          |

Total: 3.82593 3.71067 3.94267 0.610
Table 4: The Attitudes towards IP learning in academic setting (Curran, 2007).

| The Attitudes towards IP learning in academic setting | Mean | 95%CI | SD | P values |
|------------------------------------------------------|------|-------|----|----------|
| 1. Interprofessional learning better utilities resources | 4.086 | 3.981 | 4.19 | .549 |
| 2. It is important for academic health center campuses to provide interprofessional learning opportunities | 4.114 | 3.981 | 4.247 | .660 |
| 3. Interprofessional learning should be a goal of this campus | 3.429 | 3.305 | 3.543 | .688 |
| 4. Students like courses taught by faculty from other academic departments | 3.914 | 3.8 | 4.038 | .598 |
| 5. Students like courses that include students from other academic departments | 3.629 | 3.467 | 3.771 | .791 |
| 6. Faculty should be encouraged to participate in interprofessional courses | 3.686 | 3.543 | 3.819 | .703 |
| 7. Faculty like teaching to students in other academic departments | 3.943 | 3.819 | 4.067 | .648 |
| 8. Faculty like teaching with faculty from other academic departments | 3.143 | 3 | 3.286 | .767 |
| 9. Interprofessional efforts weaken course content | 4.314 | 4.21 | 4.41 | .517 |
| 10. Interprofessional efforts require support from campus administration | 4.286 | 4.162 | 4.4 | .609 |
| 11. Interprofessional courses are logistically difficult | 3.371 | 3.248 | 3.486 | .639 |
| 12. Faculty should be rewarded for participation in interprofessional courses | 1.2 | 1.124 | 1.286 | .398 |
| 13. Accreditation requirements limit interprofessional efforts | 1.229 | 1.152 | 1.324 | .435 |

Discussion

The present results showed that the overall mean modified attitude toward IPT and attitude toward IPE score of faculties was significantly higher of faculties at MNUMS. Factor analysis revealed two factors in the modified ATHCTS used here. The factor mean score for “Quality of care” of faculties was significantly higher than that mean score for “Team efficiency” and the modified 15 item questionnaire was categorized into the two factors mean score for “Expertise” and “Competency” of faculties was significantly higher. The factor mean score for “Faculty should be rewarded for participation in interprofessional courses”, and “Accreditation requirements limit interprofessional efforts” of faculties was significantly positive attitudes, while there was no significant difference (1.2) [11-14].

Concluding Comments

In conclusion, international research study’s result showed for important of IPE. In contrast to Mongolia our; the inclusion of interprofessional, faculty-led IPE programs should be developed through identified proponents of IPE initiatives. Results suggest that faculties and students in Mongolia could learn, at least in part, about CP through on-site practical training. IPE programs may be useful in learning about team efficiency in addition to strengthening attitudes toward the value of IPE to health care providers and receivers among undergraduate students.

Conflict of Interest

The authors state no conflict of interest and are responsible for conducting the study and writing the content of this report.

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