Study of Attitudes towards Interprofessional Education, Team Works and Their Barriers – Based on Survey from Mongolian National University of Medical Sciences Faculties

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Objectives: Purpose of this study was to determine the current attitudes of the faculty who are responsible for training of future healthcare professionals. **Methods:** A descriptive, cross-sectional design was used to survey participants from a convenience sample of faculty at a large public health sciences university located the capital city of Mongolia. The colleges represented were medicine, dentistry, nursing, pharmacy, public health, biomedicine and traditional medicine. Attitudes towards the various aspects of interprofessional education and learning were measured using surveys. **Results:** The attitude towards interprofessional health care teams was determined by the responses to 14 statements. The score for interprofessional health care teams for all respondents was 4.1±0.10 (mean±SD). The attitude towards interprofessional education was determined by summing the responses to 15 statements and the score for all respondents was 3.83±0.10. The attitude towards interprofessional learning was determined by summing the responses to 13 statements, yielding a score of 3.41±0.10 for all respondents. The barriers identified included problems with schedule/calendar, classroom size, turf battles, faculty attitudes, rigid curricula and lack of administrative support, faculty incentives, perceived value, students' acceptance, and financial resources. **Conclusion:** Analysis of the perceived barriers to IPE revealed a number of similarities in Mongolia compared to Japan and the need to organize IPE training and to make IPE curriculum.

Keywords: Interdisciplinary Research, Global Health, Faculty, Attitude, Interprofessional Communication.

Introduction

Many countries use the term "interprofessional education" to address collaboration between health professionals, 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 efforts 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 relies on good will 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 can be embraced as contradictions that may lead to change [3]. The purpose of this study was to describe attitudes of the faculty towards interprofessional education at the Mongolia National University of Medical Sciences (MNUMS) and to measure attitudes toward interprofessional health care teams, attitudes toward interprofessional education, attitudes toward interprofessional learning in the academic setting and barriers to IPE in the academic setting.

Materials and Methods

Study design and participants

A descriptive, cross-sectional design was used to survey participants from a convenience sample of faculty at MNUMS located within the large public 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, [4]. Each question 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 questions measured attitudes towards interprofessional health care teams scale by gauging how faculty felt about

interprofessional health care teams, such as participation of three or more professions in collaborative patient care. Secondly, fifteen questions measured attitudes towards IPE for the students' development as health care professionals, specifically in relation to shared learning activities involving students from more than one health care professional program. Lastly, thirteen items measured attitudes towards interprofessional learning in the academic setting assessing how faculty feel about learning at the school campus –rather than during offsite clinical training. Ten items measured barriers to IPE in the academic setting using question to assess how the faculty at the different colleges felt about organizing the training schedule for IPE and to identify faculty problems with the training schedule and calendar.

The modified Attitudes Toward Health Care Teams Scale (ATHCTS) has not been sufficiently analyzed for reliability and validity in measuring attitudes towards health care teams yet, although a high rate of internal consistency, 0.773 of Cronbach's alpha, with clear factor solution with three subscales was obtained in our previous examination reported by Hayashi et al, in 2012 [5]. A high score indicated a good attitude toward health care teams.

Ethical statements

This study was approved by the Biomedical Research Ethics Committee of MNUMS (Approval number No.7/3/2016-7).

Statistical analysis

The data were analyzed using Statistical Package for the Social Sciences (SPSS), version 22.0J. 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, interprofessional health care teams, and barriers to IPE and the academic setting. Four independent multiple regression analyses were conducted to test what linear combination of independent variables predicted MNUMS faculty attitudes toward (1) IPE interprofessional learning in the healthcare setting, (2) interprofessional health care teams, (3) barriers to IPE. 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 into the rotations were determined with application of Kaiser's criterion (eigen values>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. To determine how the resultant factors influenced the difference between faculty members, students and health professionals, regression factor scores were obtained using the scale used by DiStefano et al, [6]. The Shapiro-Wilk test was used to determine whether the data was normally distributed. Then the Kruscal Wallis Test or Wilcoxon matched-pairs tests were used for normally distributed data or other data, respectively. The level of significance was p<0.0001 for all tests.

Results

Demographic characteristics of participating faculties

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, and 16.2% of the faculty of dentistry. The survey was completed by 16.2% of faculty of the medical school at Darkhan, 2.7% of medical school at Dornogobi, 5.4% medical school at Gobi-Altaiand 5.4% of the faculty members of the University Hospital in Ulaanbaatar (Table 1).

Table 1. Demographic characteristics of faculty (N = 108).

Variable	Frequency	Percent
Gender		
Male	36	34%
Female	72	66%
HSC Affiliation		
Medical	11	10.8%
Nursing	17	18.9%
Biomedical	13	14.3%
Pharmacy	10	10.3%
Public Health	6	8.1%
Traditional Medicine	4	5.4%
Dentistry	14	16.2%
School Location		
Darkhan		16.2%
Dornogobi	1	2.7%
Gobi-Altai	4	5.4%
Ulaanbaatar	4	5.4%

Attitudes towards health care team

The attitude towards health care teams and its statistical significance are reported in Table 2. The mean score for all respondents was 4.1±0.10. A high score indicated more efficient care, better understanding of the work of other health professionals, and fostering communication. The multiple regression analysis tested if HCS faculty characteristics were significantly associated with positive attitudes toward interprofessional healthcare teams. Of the eleven independent variables, only affiliation with the school of nursing was significantly associated (b = 0.32, p<0.0001). Affiliation with the medical school at Darkhan, biomedical school and pharmacy school were the both significant associated (b = 0.32, p<0.001). Eleven variables including school affiliation produced an adjusted R^2 of 0.09 (F(0,984)=4.38, p=0.018) explaining a small but significant portion of the total variance of attitudes toward interprofessional learning (Table 6).

Attitudes towards interprofessional education

The attitude towards interprofessional education and its statistical significance are reported in Table 3. The mean score for all respondents was 3.83 ±0.10. Among the statements "Patient would ultimately benefit it health care students worked together to solve patient problems" and "Learning between health care students before qualification would improve working relationships after qualifications" scored the highest. Multiple regression analysis tested if characteristics of IPE faculty predicted positive attitudes toward interprofessional learning in healthcare settings. The affiliation with School of Nursing was the only significant predictor in the questionnaire (b = 0.32, p<0.0001) and medical school at Darkhan (b = 0.32, p=0.001) was significant and affiliation with school of nursing (b = 0.29, p = 0.001) was significant. The eleven variables including the school affiliation produced an adjusted R^2 of 0.095 (F(1,104)=12.05, p=0.001) for the explained portion of variance in attitudes toward interprofessional education (Table 6).

Attitudes towards interprofessional learning in the academic setting

The attitude towards interprofessional learning and its statistical significance are reported in Table 3. The mean score for all respondents was 3.41±0.10. The most highly scored benefits of IPE in the academic setting "Interprofessional efforts require

Table 2. Attitudes toward health care team (IPT)

Attitudes towards health care team	Faculty	p-value*
	M±SD	
8.The interprofessional approach improves the quality of care to patients	2.14±0.144	0.000
7.Working in an interprofessional environment keeps most health professionals enthusiastic and interested in their jobs	4.08±0.092	0.000
2.Developing an interprofessional patient care plan is excessively time - consuming	4.08±0.115	0.039
9.In most instances, the time required for interprofessional consultations could be better spent in other ways	4.14±0.121	0.000
10.Health professionals working as team are more responsive than others to the emotional and financial needs of patients	4.14±0.107	0.000
4.The interprofessional approach makes the delivery of care more efficient	4.25±0.092	0.000
13.Hospital patients who receive interprofessional team care are better prepared for discharge than other patients	4.25±0.108	0.000
5.Developing a patient care plan with other team members avoids errors in delivering care	4.28±0.110	0.013
11.The interprofessional approach permits health professionals to meet the needs of family caregivers as well as patients	4.31±0.096	0.000
12.Having to report observations to a team helps team members better understand the work of other health professionals	4.31±0.104	0.000
14.Team meeting foster communication among members from different professions or disciplines	4.31±0.104	0.000
6.Working in an interprofessional manner unnecessarily complicates things most of the time	4.33±0.089	0.000
1.Patients receiving interprofessional care are more likely others to be treated as whole persons	4.36±0.081	0.096
3.The give and take among team members helps them make better patient care decisions	4.42±0.092	0.000

IPT-Interprofessional team, M-mean, SD-Standard Division., p-value is calculated with Chi Square test, p-value is considered as significant less than 0.05*, 0.01**, 0.0001***

support from campus administration" and "Interprofessional efforts weaken course content". Multiple regression analysis tested if characteristics of HCT faculty predicted positive attitudes toward interprofessional learning in healthcare settings. Since no a prior hypotheses were made to determine the order of predictors, a direct method was used for the multiple regression analysis. Affiliation with the school of nursing was significantly associated positive attitudes (b = 0.31, p = 0.0001), as was affiliation with pharmacy (b = 0.32, p = 0.001) and affiliation the Darkhan's Medical School (b = 0.32, p = 0.001). The eleven variables including the school affiliation produced an adjusted R^2 of 0.095 (F(1,104)=12.05, p=0.001), with the regression model explaining 9.5 percent of proportion of variance attitudes toward interprofessional health care teams. Table 5 provides descriptive statistics for the interprofessional attitude scales and results of the multiple regression analysis are presented in Table 6.

Descriptive statistics for the interprofessional attitude scales by MNUMS affiliation

Means, standard deviations, and response ranges for the Interprofessional Education (IPE) in Healthcare Setting (HCS), Interprofessional Health Care Teams (IPT) scales by college affiliation are presented in Table 4. The IPT mean score was 3.93±0.56 with a range of 2.2 to 5.0. For IPE it was 4.0±0.62 with range of 2.3 to 4.5; and for HCS the mean score was 4.5±0.54 with a range from 2.55 to 5.0 (Table 5).

Results of multiple regression analyses of faculty characteristics on self-reported attitudes surrounding interprofessional learning in healthcare settings (HCS), interprofessional education (IPE) and interprofessional healthcare teams (IPT).

The multiple regression analysis tested if HCS faculty characteristics were significantly associated with positive attitudes toward interprofessional healthcare teams. Of the eleven independent variables, affiliation with school of nursing was the only one significantly associated (b = 0.32, p<0.0001). Affiliation with medical school at Darkhan, biomedical school and pharmacy school were the both significantly associated (b = 0.32, p < 0.001). The eleven variables including and school affiliation produced an adjusted R2 of 0.09 (F(0,984)=4.38,

Table 3. Attitudes toward interprofessional education (IPE)

Attitudes towards interprofessional education	Faculties	p-value*
	M±SD	
8.It is not necessary for undergraduate health care students to learn together	2.89±0.14	0.012
2.Clinical problem solving can only be learned effectively when students are taigth within their individual department/ school	2.94±0.13	0.000
5.Students in my professional group would benefit from working on small-group projects with other health care students	3.03±0.10	0.000
12.For small-group learning to work, students need to trust and respect each other	3.69±0.10	0.000
9.Interprofessional learning will help students to understand their own professional limitations	3.89±0.10	0.00
6.Communication skills should be learned with integrated class of health care students	3.92±0.09	0.000
10.Interprofessional learning among health care student will increase their ability to understand clinical problems	4.00±0.10	0.000
14.Team working skills are essential for all health care students to learn	4.03±0.09	0.000
13.Interprofessional learning among health professional students will help them to communicate better with patients and other professionals	4.06±0.08	0.000
1.Interprofessional learning will help students think positively about other health care professionals	4.08±0.08	0.000
7.Interprofessional learning will help to clarify the nature of patient problems for students	4.14±0.08	0.000
3.Interprofessional learning before qualification will help health professional students to become better team-workers	4.19±0.07	0.000
4.Patient would ultimately benefit it health care students worked together to solve patient problems	4.22±0.09	0.000
11.Learning between health care students before qualification would improve working relationships after qualifications	4.22±0.08	0.000
15.Learning between health care students before qualification would improve working relationships after qualifications	4.28±0.12	0.000

IPE- Interprofessional education, M-Mean, SD- Standard Division, p-value is calculated with Chi Square test, p-value is considered as significant less than 0.05*, 0.01**, 0.0001***

Table 4. Attitudes toward interprofessional learning in the academic setting (HCS)

Attitudes towards interprofessional learning in the academic setting	Faculties	p-value*
	M±SD	
12.Faculty should be rewarded for participation in interprofessional courses	1.19±0.06	0.000
13.Accreditation requirements limit interprofessional efforts	1.25±0.07	0.003
8.Faculty like teaching with faculty from other academic departments	3.17±0.12	0.000
11.Interprofessional courses are logistically difficult	3.39±0.10	0.000
3.Interprofessional learning should be a goal of this campus	3.44±0.11	0.000
5.Students like courses that include students from other academic departments	3.64±0.13	0.000
6.Faculty should be encouraged to participate in interprofessional courses	4.11±0.11	0.000
4.Students like courses taught by faculty from other academic departments	3.69±0.11	0.000
7.Faculty like teaching to students in other academic departments	3.92±0.10	0.000
1.Interprofessional learning better utilities resources	3.97±0.10	0.000
2.It is important for academic health center campuses to provide interprofessional learning opportunities	4.08±0.09	0.013
10.Interprofessional efforts require support from campus administration	4.28±0.10	0.000
9.Interprofessional efforts weaken course content	4.31±0.09	0.000

HCS-Health care setting, M-Mean, SD-standarddeviation, p-value is calculated with Chi Square test, p-value is considered significant if less than 0.05*, 0.01**, 0.0001***

Table 5. Descriptive statistics for the interprofessional attitude scales by MNUMS affiliation

Schools (n=8)	Interprofessional attitude scales								
	IPT			IPE			HCS		
	M±SD	Min	Max	M±SD	Min	Max	M±SD	Min	Max
Nursing	4.1±0.5	2.2	5.0	4.2±0.6	2.5	5.0	4.7±0.48	2.8	5.0
Pharmacy & Biomedical	4.0±0.53	2,3	5.0	4.1±0.58	2.4	4.8	4.6±0.49	2.8	5.0
Medical of Darkhan's	4.2±0.5	2.4	5.0	4.1±0.60	2.4	4.7	4.6±0.49	2.9	5.0
Medical	3.9±0.6	2.1	5.0	4.1±0.60	2.3	4.6	4.5±0.53	2.4	5.0
Public Health	3.9±0.55	2.3	5.0	4.1±0.61	2.2	4.5	4.4±0.55	2.4	5.0
Dentistry	3.8±0.61	2.2	5.0	4.0±0.62	2.2	4.2	4.3±0.55	2.4	5.0
Medical of Dornogobi's	3.8±0.6	2.2	5.0	3.8±0.68	2.1	4.0	4.3±0.58	2.4	5.0
Medical of Gobi-Altai's	3.8±0.65	2.1	5.0	3.7±0.68	2.1	4.0	4.3±0.65	2.3	5.0
Total	3.93±0.56	2.2	5.0	4.0±0.62	2.3	4.5	4.5±0.54	2.55	5.0

M-Mean, SD- Standard division, Min- Minimum, Max- Maximum, IPT-Interprofessional team, IPE-Interprofessional education, HCS-Health care setting. p-value is calculated with Pearson X^2 test, p-value is considered as significant less than 0.05*, 0.01**, 0.0001***

Table 6. Results of multiple regression analyses of faculty characteristics on self-reported attitudes surrounding interprofessional learning in healthcare settings (HCS), interprofessional education (IPE) and interprofessional healthcare teams (IPT)

Predictors	HCS		IPE		IPT	
	B (SE)	b	B (SE)	b	B SE)	b
Medical	0.17(0.12)	0.12	0.2(0.05)	0.08	-0.58(0.02)	0.29* *
Nursing	0.25(0.07)	0.31***	0.32(0.05)	0.29* * *	-0.60(0.01)	0.32***
Biomedical	0.13(0.07)	0.17	0.24(0.04)	0.17	-0.58(0.02)	0.32* *
Pharmacy	0.34(0.07)	0.32* *	-0.17(0.05)	0.17	-0.94(0.03)	0.32* *
Public Health	0.2(0.08)	0.12	0.09(0.06)	0.01	-0.52(0.03)	0.17
Traditional Medicine	0.11(0.11)	0.18	0/07(0.0)	0.01	-0.52(0.03)	0.04
Dentist	0.31(0.06)	0.29	0.30(0.04)	0.04	-0.29(0.02)	0.29* *
Darkhan's MS	0.25(0.07)	0.32* *	0.28(0.08)	0.32* *	-0.56(0.05)	0.32
Dornogobi' MS	0.31(0.06)	0.12	0.30(0.04)	0.04	-0.52(0.04)	0.12
Gobi-Altai's MS	0.2(0.08)	0.12	0.32(0.05)	0.05	-0.29(0.02)	0.05
R^2	0.09		0.095		0.095	
F Value	0.984		1.104* *		1.104* *	

Total Adjusted R^2, Note. p ≤ 0.0001*** p ≤ 0.001* *p ≤ 0.01, *p ≤ 0.05;

p=0.018), explaining a small but significant portion of variance attitudes toward interprofessional learning. Multiple regression analysis tested if characteristics of IPE faculty predicted positive attitudes toward interprofessional learning in healthcare settings. Results indicated that the affiliation with school of nursing was item with a positively associated (b = 0.32, p < 0.0001 as was affiliation with medical school at Darkhan (b = 0.32, p = 0.001) and affiliation with school of nursing (b = 0.29, p = 0.001). The eleven variables including and school affiliation produced an adjusted R^2 of 0.095 (F(1,104)=12.05, p=0.001), explaining a

small but significant portion of the variance in attitudes toward interprofessional education. Multiple regression analysis tested if characteristics of IPT faculty predicted positive attitudes toward interprofessional learning in healthcare settings. Since no a prior hypotheses were made to determine the order of predictors, a direct method was used for the multiple regression analysis. Affiliation with the school of nursing was significantly associated positive attitudes (b = 0.31, p = 0.0001), as was affiliation with pharmacy (b = 0.32, p = 0.001) and affiliation the Darkhan's Medical School (b = 0.32, p = 0.001). The
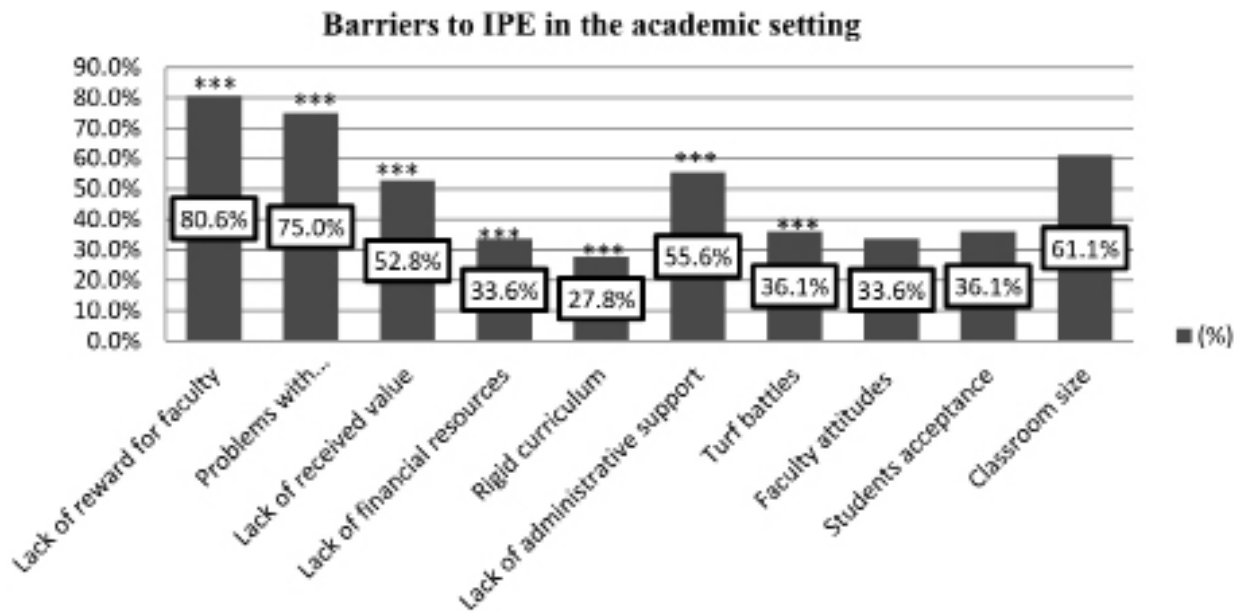
p-value is calculated Kruskal Wallis Tested, p-value is considered as significant less than 0.05*, 0.01**, 0.0001***.

Figure 1. Barriers to IPE in the academic setting

eleven variables including and school affiliation produced an adjusted R^2 of 0.095 (F(1,104)=12.05, p=0.001), explaining a small but significant proportion of variance of attitudes toward interprofessional health care teams (Table 6).

Barriers to IPE in the academic setting

A summary of the results is shown in Figure 1. The mean score (±SD) for all respondents was 1.26 (±0.64). The barriers identified included problems with problems with schedule/calendar, classroom size, turf battles, lack of received value, lack of administrative support, students' acceptance and lack of financial incentives. Hypothesis testing was performed with the Kruskal Wallis test with p<0.0001 considered significant.

Discussion

A key strength of the study was that faculties from different branches of health care system and at different locations participated in the study. This included faculty from the departments of medicine, nursing, biomedical, pharmacy, public health, traditional medicine, dentistry, at the medical schools at Darkhan, Dornogobi and Gobi-Altai. We learned that the faculty have positive attitudes towards IPE, teamwork and barriers of IPE. Specifically, an affiliation with nursing, pharmacy and medical

school at Darkhan predicted positive faculty attitudes toward IPL in healthcare settings. Positive faculty attitudes towards IPE and interprofessional healthcare teams were both significantly associated with an affiliation with nursing. This study included MNUMS faculty from, biomedical, traditional medicine, dentistry, nursing, medicine, pharmacy, public health, medical schools in Darkhan, Dornogobi and Gobi-Altai with a fairly even spread across medicine, nursing, traditional medicine, biomedical and dentistry. Although the percentage of variance accounted for within the models was minimal, the identification of school affiliation, particularly with nursing and pharmacy, provides a starting point to evaluate and further investigate the role of the university in potentially fostering positive IPE attitudes.

Recent studies involving a variety of health professional education professions also reported successful IPE through positive support from faculty and offer insight and direction in light of the study results [7]. Similar to our results reporting minimal progress in with IPE at MNUMS, Bennett et al, pointed to nurse educators playing key roles embracing and leading IPE initiatives [7]. Dallaghan et al, suggested that IPE activities should be modified to meet faculty needs by developing IPE initiatives that augment existing curriculum in order to minimize conflicts with competing institutional priorities such as course

scheduling and credits [8]. Gioardano et al, interpreted positive faculty attitudes as readiness to engage in interprofessional practice [8, 9].

In a study of medicine and nursing faculty in 2015, Loversidge and Dembfound faculty engagement critical for effective needs, and continue to assess faculty attitudes as IPE implementation progress [10]. In moving forward, augmentation to existing IPE activities can promote continued success. Focus on the positive results suggests readiness for further development. However, there is need for a continued re-assessment of progress towards goals developed by interprofessional teams to build effective IPE. Based on the findings of our study, we recommend including nursing faculty as key stakeholders in the development of IPE initiatives. While our study indicated that nursing faculty at this institution have more positive attitudes and are primed to leverage for greater IPE progress, there is also an onus to lead all MNUMS components to engage in IPE. A key lesson learned from our study is that even with modest resources and modest progress towards IPE an assessment can serve as a starting point from which to launch and engage faculty for further IPE initiatives. Milot et al, recommended that IPE curricular development should include interprofessional faculty teams, flipped classroom approaches, and an independent e-learning phase to engage students with faculty in IPE settings [11].

Our study has some limitations. We did not explore the reasons why the response rate was low in our survey. Although minimum reliability coefficients were established for the instrument, reliability was borderline for the attitudes towards interprofessional learning in the health care setting scale, potentially misrepresenting the sample's nuanced view of interprofessional learning. A larger sample size is needed for effect size on the evaluation. In our study the results that were highly scored included more efficient care, better understanding of the work of other health professionals and fostering communication. Among these statements "Patient would ultimately benefit it health care students worked together to solve patient problems" and "Learning between health care students before qualification would improve working relationships after qualifications" scored the highest. The most highly scored benefits of IPE in the academic setting was "Interprofessional efforts require support from campus administration" and "Interprofessional efforts weaken course content" and at Lee et al, pointed to the most highly scored

benefits of IPE were "patients would ultimately benefit if health care students worked together to solve patient problems" and "interprofessional learning among health professional students will help them to communicate better with patients and other professionals" [12]. Other highly scored benefits included positive thinking about other health care professions, communication skills, understanding their own professional limitations and mutual respect. The mean score for the statement "faculty like teaching with faculty from other academic departments" from Korea was lower than that of the others. The most highly scored benefits of IPE were "interprofessional efforts require support from campus administration". Conclusions highly scored included items similar to "Patient would ultimately benefit it health care students worked together to solve patient problems" and "Interprofessional efforts require support from campus administration" [12-19].

Internationally, preparing staff to deliver interprofessional evaluation is uncommon. Interprofessional education is shaped by mechanisms that can be broadly classified into those driven by staff responsible for developing, delivering, funding, managing interprofessional education and the interprofessional curricula. These findings have implications for both the advancement of IPE within academic institutions and strategies to promote faculty development initiatives [17]. An acknowledgement of power differentials between health care providers is necessary in the development of models for shared responsibility between professions [20]. In our results the barriers identified included problems with schedule/calendar, classroom size, turf battles, faculty attitudes, rigid curricula and lack of administrative support, faculty incentives, perceived value, students' acceptance, and financial resources and Lee et al, concluded the survey demonstrated that many medical school deans have positive attitudes toward IPE and CP [12]. However, respondents also reported that it is not easy to introduce interprofessional learning in their academic settings. It is suggested that collaboration between education systems and health systems is needed to introduce IPE in the academic setting. The possible role of international organizations is mentioned. This information helps to identify local efforts on which global health organizations and national governments can build.

Based on the findings of this study, the authors recommend including the faculty at the medical school in Darkhan and nursing faculties as key stakeholders in the development of

IPE initiatives. While this study indicated that nursing faculty at this institution have more positive attitudes and are primed to leverage for greater IPE progress, there is also an onus to lead all HSC components to engage in IPE [21]. In conclusion, international research studies have shown the importance of IPE. In contrast to how it has been done in Mongolia, the inclusion of interprofessional, faculty–led IPE programs should be developed through identified proponents of IPE initiatives. Analysis of the perceived barriers to IPE revealed a number of similarities in Mongolia compared to Japan, United States America and the need to organize IPE training and to make IPE curriculum.

Conflict of Interest

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

Acknowledgements

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