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Study of attitudes towards interprofessional education – based on survey from Mongolian National University of Medical Sciences Faculties in Mongolia

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Abstract:
Background*: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*: 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 students. 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 heath 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).*
Results*: As shown in 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 item was 0.811, revialing a high rate of internal consistency. The modified ATHCTS questionnaire was categorized into the two factors "Quality of care" and "Team efficiency".*
Conclusion:*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 recievers among undergraduate students*
Key Word*:Interprofessional learning, interprofessional education, attitudes, teamwork*

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I. 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.,2006) [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 students at Mongolian National University of Medical Sciences toward IPE.

II. Material And Methods

It 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. The survey instrument contained four scales to evaluate faculty attitudes toward IPE and teamwork adapted from the methods of Curran et al (2007) [6]

Study Design:A descriptive, cross-sectional study

Study Location: This was Mongolian National University of Medical Sciences based study done in Department Medical Education, at Dr. SumberzulNyamjav and at Dr. OyuntsetsegSandag.

Study Duration: June 2019 to December 2019.

Sample size: 91 faculty members of MNUMS.

Sample size calculation: The sample size was estimated on the basis of a single proportion design. The target population from which we randomly selected our sample was considered 500. The study population consisted of faculty members from the Mongolian National University of Medical Sciences (MNUMS) (91 faculty members). These 91 faculty members came from the following faculties: School of Medicine (18 faculty members), School of Nursing (9 faculty members), School of Pharmacy (4 faculty members), School of Public (8 faculty members), School of Traditional Medicine (3 students), School of Biomedicine (24 faculty members), School of Dentistry (5 students), School of Medicine of Darkhan - Uul province (7 faculty members), School of Medicine of Dornogobi province (7 faculty members), and School of Medicine of Gobi-Altai province (7 faculty members).We assumed that the confidence interval of 5% and confidencelevel of 95%.

Subjects & selection method: This study was conducted in the 2019 academic year. During the first term, an attitudinal survey was administered to the students. The survey was supervised by the professors responsible for each class. Survey responses were always confidential and names and other identifying information were removed.

Inclusion criteria:

1. Agreed to participate research study.

Exclusion criteria:

1. Doesn't agreed to participate research study.

Procedure methodology

The survey was composed of a respondent characteristics section, a 14-item Likert scale to measure attitudes toward interprofessional health care teams (Curran et al. 2007), a 15-item Likert scale to assess attitudes toward IPE (Curran et al. 2007), a 13-item Likert scale to assess attitudes toward interprofessional learning in an academic setting (Curran et al. 2007) and a 10-item Likert scale to assess barriers to IPE in an academic setting (Gardner et al. 2002). Responses were provided on a five-point Likert scale from one (strongly disagree) to five (strongly agree), in accordance with Curran et al. (2007). Authors who passed the 1st level of the Japanese Language proficiency test translated the English and Japanese versions of the Attitudes toward health care team score (ATHCTS) questionnaire into Mongolian.

This study was conducted in the 2019 academic year. During the first term, an attitudinal survey was administered to the students. The survey was supervised by the professors responsible for each class. Survey responses were always confidential and names and other identifying information were removed.

Statistical analysis

Data combined from faculty members, health professionals and students at MNUMS were analyzed using the Statistical Package for the Social Sciences, version 23.OJ. The scale was subjected 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 was determined by application of Kaiser's criterion (Eigenvalues >1). The initial factor extractions were performed by means of principal component analysis. To clearly define the structure, an exploratory factor analysis using varimax rotation was conducted. The level of significance was set at 5% for all tests.

Ethical considerations

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

III. Result

Table no1. The survey was completed by 10.8% of the faculty members from medical, 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 no 2. 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 item was 0.811, revialing a high rate of internal consistency. The modified ATHCTS questionnaire was categorized into the two factors "Quality of care" and "Team efficiency".

Table no 3. As shown in Table3, 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 item was 0.847, revialing a high rate of internal consistency. The modified 15 item questionnaire was categorized into the two factors "Expertise" and "Competency".

Table no 4. As shown in Table4, 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 item was 0.812, revialing a high rate of internal consistency.

Table no 5. As shown in table5, attitudes IP health care teams the factor analyse's mean score is of the MNUMS's faculties was significantly higher than that of the Southern United States University's faculties (3.8 vs 3.6), attitudes IP learning in academic setting the factor analyse's mean score is of the MNUMS's faculties was significantly higher than that of the Southern United States University's faculties (3.8 vs 3.6), attitudes IPE the factor analyse's mean score is similarly 4.0 and total mean score is of the MNUMS's faculties was significantly higher than that of the Southern United States University's faculties (3.9 vs 3.73).

Table no 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' MS	*1*	*2.7%*
Gobi-Altai's MS	*4*	*5.4%*
University Hospital	*4*	*5.4%*

Table no2. The Attitudes towards health care team (Curran, 2007)

The Attitudes towards health care team	*Mean*	*95%CI*		*SD*	*P values*
		Lower	*Upper*		
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[b]	*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[b]	*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*	*0.000*
9. In most instancesthe time required for interprofessional consultations could be better spent in other ways[b]	*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*	
	3.95643	*3.83857*	*4.07286*	*0.625*	

[b] *Negatively worded items were reverse-scored to calculate.*

Table no3. The Attitudes towards Interprofessional education (Curran, 2007)

The Attitudes towards Interprofessional education	*Mean*	*95%CI*		*SD*	*P values*
		Lower	*Upper*		
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*	*0.000*
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 themto 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*	
	3.82593	*3.71067*	*3.94267*	*0.610*	

Table no 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***
		Lower	***Upper***		
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	*0.000*
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	
	3.41108	*3.29169*	*3.52823*	*.616*	

Table no 5. Comparison of attitudes (USA and Mongolia)

University's faculties	***Attitudes IP health care teams***	***Attitudes IPE***	***Attitudes IP learning in academic setting***	***Total***
The Southern United States University faculties (USA)	*3.6*	*4.0*	*3.6*	*3.73*
The Mongolian national University of Medical Sciences faculties (MGL)	*3.8*	*4.0*	*3.8*	*3.9*

IV. 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 factore 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).

The results showed that the overall mean modified ATHCTS score of faculty members was significantly higher than that of health care professionals and students at MNUMS. However, the findings from this survey suggested that faculty members, health care professionals and students have positive attitudes toward IPE (Lee, Celletti et al. 2012). A key lesson learned from this 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 (Gary et al. 2017). Importantly, factors that may influence undergraduates' attitudes to interprofessional learning need to be studied. This includes the potential influence of academic or institutional culture on students' attitude to IPE and motivation-to-learn (Vandergoot, Sarris et al. 2018). Three factors were obtained from the factor analysis of the modified ATHCTS. As shown in Table 5, the fundamental structure of the two factors was same as that of the original ATHCTS reported previously (Hyer 2000). In terms of IPE evaluation, the findings also highlight the importance of measuring baseline attitudinal constructs as part of systematic evaluative activities when introducing new IPE initiatives within academic settings (Vernon R Curran 2007). The modified ATHCTS questionnaire was categorized into the following three subscales: "Quality of care delivery," "Patient-centered care," and "Team efficiency," with Cronbach's alpha measures of 0.76, 0.53, and 0.42, respectively. The factor solutions obtained in this study correspond well to a previous study by Takatoshi et al. (2017).

V. Conclusion

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 recievers among undergraduate students. In addition, the findings suggest that the positive attitude of health professionals, faculty members and students towards IPE indicates the need for IPE training.

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