

# Physical Therapy Education in Mongolia– Students' Responses to a Questionnaire Survey about Rehabilitation and Physical Therapy–

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**Abstract.** [Purpose] The purpose of this study was to examine the effect and problems associated with a newly established program of educational exchange for physical therapy in Mongolia. [Method] Physical therapy education was begun at the Health Sciences University of Mongolia (HSUM) in July 2007, and lectures and practice for specialized subjects were started in March 2009 in conjunction with Gunma University (Japan). A survey concerning attitudes to rehabilitation and physical therapy was conducted among students in the Department of Physical Therapy before and after lectures. [Results] The curriculum of the Department of Physical Therapy at HSUM included 136 units. Lectures and practice adopted from Gunma University included nine subjects for 18 units. After the lectures, the level of understanding concerning rehabilitation and physical therapy increased. [Conclusion] The students were better able to appreciate the multipronged approach and they also increased their understanding of other occupational categories as a result of the educational opportunities provided in the enhanced curriculum. A future task is to clarify the students' level of understanding of the contents and skills of physical therapy.

**Key words:** Developing country, Support of physical therapy education, International exchange

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## INTRODUCTION

Mongolia is bordered by Russia (to the north) and the People's Republic of China (to the east and south). There was a transition to democracy in the first half of the 1990's. The health care system in Mongolia was based on the medical education system of the Union of Soviet Socialist Republics during the socialist era. At that time, nurses and physical coaches were carrying out all rehabilitation work, for which there were no certified physical, occupational or speech-language-hearing therapists. Therefore, it was important to promote professions related to rehabilitation.

Gunma University (Japan) has an intercollegiate philosophy that supports the exchange of academic excellence with developing countries. The Graduate School of Health Sciences at Gunma University partnered with the Health Sciences University of Mongolia (HSUM) and entered into a faculty exchange agreement in July 2007, to support the establishment of a Department of Physical Therapy and

to promote the role and education of physical therapists. In order to establish support for physical therapy education in Mongolia, an attitude survey concerning rehabilitation and physical therapy was conducted among the students. The purpose of this study was to examine the effect and potential problems associated with the future support of education for physical therapists in Mongolia.

## METHODS

Information regarding physical therapy and the therapist and advice on how to design the curriculum were provided from July 2007 to February 2009. Thirty students of the Department of Physical Therapy, School of Health Technology, HSUM participated in this study (15 students who had enrolled in 2007 and 15 students who had enrolled in 2008). These students attended lectures and clinical practice for specialized subjects from March 2009 to March 2011, and then participated in the attitude survey about

**Table 1.** Overview of participants

	Entrance	Grade	Number (Male/Female)	Age (mean ± SD)
March 2009 (first survey)	2007	2nd	15 (0 / 15)	19.3 ± 1.5 years
	2008	1st	15 (2 / 13)	
March 2011 (second survey)	2007	4th	13 (0 / 13)	21.4 ± 1.0 years
	2008	3rd	12 (0 / 12)	

**Table 2.** Items of survey

Question Items	Selection Items
1. Level of understanding of the concepts of rehabilitation among students	1. Understanding of name and contents, 2. Understanding only of name, 3. Understanding of neither
2. Purpose of rehabilitation (two or more answers)	1. Improvement of body functions, 2. Improvement of ADL, 3. Return to society, 4. Improvement of QOL, 5. Promotion of health
3. Level of understanding of the concepts of physical therapy among students	1. Understanding of name and contents, 2. Understanding only of name, 3. Understanding of neither
4. Current situation of team-oriented medical treatment in Mongolia	1. It is adequately performed, 2. It is partially performed, 3. It is not performed, 4. Unknown
5. Occupational categories necessary for team-oriented medical treatment (two or more answers)	1. Doctor, 2. Nurse, 3. Physical Therapist, 4. Occupational Therapist, 5. Speech-Language-Hearing Therapist, 6. Pharmacist, 7. Radiologist, 8. Medical Social Worker, 9. Prosthetist and Orthotist, 10. Clinical Psychologist, 11. Dietitian, 12. Educator

**Table 3.** Specialized subjects of Gunma University (August 2011)

Subjects	University	Date	Grade	Contents
Introduction of Physical Therapy	HSUM	Mar. 2009	1st 2nd	Concepts of rehabilitation and physical therapy, ICF classification, team medical treatment
Introduction of PBL	HSUM	Mar. 2009	1st 2nd	Outline explanation and group work of PBL
Kinesiology I	HSUM	Sep. 2009	2nd 3rd	Outline of kinesiology, individual joint kinesiology
Kinesiology II	HSUM	Sep. 2009	2nd 3rd	
Clinical Physical Therapy I	HSUM	Mar. 2010	2nd 3rd	Measurement of ROM, MMT and Sensation test, etc.
Clinical Physical Therapy II	HSUM	Mar. 2010	2nd 3rd	
Clinical Physical Therapy III	HSUM	Sep. 2010	3rd 4th	Evaluation of pediatric and internal medicine injuries
Clinical Kinesiology	HSUM	Mar. 2011	3rd 4th	Characteristics of kinesiology in injuries, such as, locomotorium, central nervous system, etc.
Practicum of Early Exposure to Clinical Physical Therapy	Gunma University	Dec. 2009 Dec. 2010	3rd	Visit of physical therapy in hospitals and facilities related to Gunma University

rehabilitation and physical therapy. An overview of the participants is shown in Table 1. The first survey (March 2009) was conducted before the first special lecture at Gunma University, and the second survey (March 2011) was conducted after the final lecture. The contents of the survey focused on the level of understanding of the purpose of rehabilitation and physical therapy. Moreover, we assessed the current situation and necessity of having other occupational professions as part of the team approach in Mongolia. The survey used an anonymous self-report questionnaire that included five items from the original work (Table 2). Before distributing the questionnaire, the terminological understanding level was unified by explaining the concepts in the questionnaire, such as Activity of Daily Living (ADL) and Quality of Life (QOL). The purpose of the study was explained to the subjects, and their informed consent was obtained.

### *Establishment of HSUM*

HSUM is located in Ulaanbaatar, the capital of Mongolia. HSUM is the only national medical university in Mongolia. There are seven schools and 44 departments in HSUM (School of Medicine, Traditional Medicine, Health Technology, Pharmacy, Public Health, Biomedicine, and Dentistry). Departments of health care, such as the Department of Nursing and Clinical Laboratory Technology, were established in the School of Health Technology, and the Department of Physical Therapy was newly established in September 2007. HSUM is currently the only educational institution in Mongolia that has a physical therapy program.

## **RESULTS**

The curriculum of the Department of Physical Therapy was developed by referring to the curriculum of Gunma University. It included a total of 136 units (basic subjects,

**Table 4.** Level of understanding of rehabilitation and physical therapy among students

	Rehabilitation		Physical Therapy	
	Mar. 2009 (first survey)	Mar. 2011 (second survey)	Mar. 2009 (first survey)	Mar. 2011 (second survey)
Understanding of name and contents	5 (17%)	25 (100%)	9 (30%)	25 (100%)
Understanding, only of name	23 (76%)	0 (0%)	17 (57%)	0 (0%)
Understanding of either	2 (7%)	0 (0%)	1 (3%)	0 (0%)
Missing data	0 (0%)	0 (0%)	3 (10%)	0 (0%)
Total	30 (100%)	25 (100%)	30 (100%)	25 (100%)

**Table 5.** Current situation of team treatment in Mongolia

	Mar. 2009 (first survey)	Mar. 2011 (second survey)
It is adequately performed	1 (3%)	0 (0%)
It is partially performed	10 (33%)	14 (56%)
It is not performed	3 (10%)	6 (24%)
Unknown	16 (53%)	5 (20%)
Total	30 (100%)	25 (100%)

37 units; basic special subjects, 45 units; special subjects, 34 units; and clinical practicum, 20 units). The lectures and practice of Gunma University included 16 units covering eight subjects and two units of clinical practicum (Table 3). The lectures and clinical practicum were given and conducted as an immersion experience, divided into seven portions (March, September and December 2009, March, September and December 2010, and March 2011). The materials for lectures were written in Japanese or English, and translated into Mongolian from Japanese. Moreover, the interpretation and the translation were done by persons who had the experience of going abroad to study at Gunma University. The lectures were given at HSUM, and the clinical practicum was conducted at Gunma University.

The results of the questionnaire survey are described below. Regarding the level of understanding of the concepts of rehabilitation among students, 23 students (76%) had "Understanding, only of name" in the first survey. In the second survey, 25 students (100%) demonstrated "Understanding of name and contents" (Table 4). Regarding the purpose of rehabilitation, many responded that the purpose of rehabilitation was the "Improvement of body function", followed by "Promotion of health" in the first survey. In the second survey, 92% selected "Improvement of body function", "Return to society", and "Improvement of QOL". Regarding the level of understanding of the concepts of physical therapy among students, 17 students (57%) reported "Understanding only of name" in the first survey. In the second survey, 25 students (100%) reported "Understanding of name and contents" (Table 4).

Moreover, regarding the current situation of team oriented medical treatment in Mongolia, 16 students (53%) chose "Unknown" about the current situation of team approach in the first survey. In the second survey, 14 students (56%) chose "It is partially performed" (Table 5). Regarding the

occupational categories necessary for team oriented medical treatment, in the first survey, many suggested that Physical Therapists and Nurses should be included in the team. In the second survey, 100% selected Physical Therapist and Occupational Therapist for inclusion. Ninety-six percent selected Speech-Language-Hearing Therapist. Additionally, Medical Social Worker and Prosthetist and Orthotist were increasingly selected compared to the first survey.

## DISCUSSION

Mongolia is one of the countries that has ratified the Convention on the Rights of Persons with Disabilities, however, it is not so advanced in providing support to persons with disabilities. Therefore, professionals specializing in rehabilitation are required. Moreover, the rehabilitation centers in Mongolia employ iatrophysics (thermotherapy and phototherapy, etc.) and traditional medicine (massage and pelotherapy, etc.), and kinesiotherapy is not very popular. Therefore, the establishment of the Department of Physical Therapy and promotion of physical therapists were supported in Mongolia, based on the faculty exchange agreement between the Graduate School of Health Sciences, Gunma University and HSUM.

The curriculum was developed by referring to the curriculum of Gunma University which is based on the specific rules<sup>1)</sup> of the Ministry of Health, Labour and Welfare of Japan. In the World Confederation for Physical Therapy (WCPT), physical therapy education programs are not united such as those in World Federation of Occupational Therapists (WFOT). However, WCPT recommends that education for entry-level physical therapists should be at the university level with a minimum of four years of study. The standard of independent validation and accreditation, affords our graduates full statutory and professional recognition<sup>2)</sup>. The Japanese Physical Therapy Association is a member of WCPT, and the curriculum in Japan is recognized by the WCPT. Therefore, when a physical therapy association is established in Mongolia, it can join WCPT because its education system follows that of Japan.

In Mongolia, an educational system to teach the specialized knowledge of physical therapy has not previously been available. Thus, lectures and practical experience for eight specialized subjects were presented by professors at Gunma University for students who enrolled at the Department of Physical Therapy in 2007 and 2008 (Table

3). The first survey (March 2009) showed that before these lectures were conducted, the students' understanding of rehabilitation and physical therapy were insufficient. Further, the number of students who answered that the purpose of rehabilitation was improvement of body function was high, and the number of students who answered its purpose was improvement of ADL and QOL were low. Moreover, most students answered "Unknown" when asked about the current situation of team medical treatment in Mongolia, and did not have sufficient knowledge about it. In addition, they had insufficient knowledge regarding professions related to rehabilitation such as occupational therapists and speech-language-hearing therapists. Moreover, they had insufficient knowledge regarding the multipronged approach to team medical treatment (which involves professionals such as pharmacists and medical social workers). However, the second survey (March 2011) showed improvement in the students' understanding of rehabilitation and physical therapy. The number of students who answered the purpose of rehabilitation was not only improvement of body function, but also return to society and improvement in ADL and QOL increased. In addition, the number of students who expressed "Unknown" when asked about the current situation of team medical treatment decreased, and their selection of occupational categories such as medical social worker, prosthetist and orthotist, occupational therapist, and speech-language-hearing therapist as necessary occupational categories increased. This showed that their understanding of rehabilitation and physical therapy had improved with the help of the lectures and practice in the special subjects. In addition, we believe that understanding of the purpose and contents of physical therapy is connected with that of other occupational professions, and students seemed to know the multipronged approach better; however, their understanding of enhance their professions was still insufficient. Therefore, it is necessary to deepen their cooperation with other occupational professions to understanding of physical therapy and the multipronged approach.

This study investigated attitudes to rehabilitation and physical therapy, but did not assess understanding levels of contents and skills related to physical therapy. At the request of HSUM, the subjects of Gunma University (Table 2) were asked to chair lectures and practices of kinesiology and

conduct evaluations. Therefore, it was difficult to conduct the contents concerning clinical skills and intervention. This was a discussion point when changes and recommendations were made. In addition, the current education system at the school is rather classroom-centric, and is insufficient for clinical education. Therefore, it is necessary to support an education system that considers clinical thought process and skills, and to clarify the student's understanding of contents and skills of physical therapy in the future.

Finally, the first batch of students of the Department of Physical Therapy graduated in May 2011 and became the first physical therapists in Mongolia. However, there are as yet no certified physical therapists in Mongolia. There are still many problems, such as establishing a qualification system for physical therapists, promoting professors and leaders who can teach physical therapy, securing fields and practice institutions, preparing study material, and establishing physical therapy departments in educational institutions in Mongolia. Therefore, continuing profitable university exchanges to develop health care in Mongolia will be necessary in the future.

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## REFERENCES

- 1) e-Gov. Ministry of Internal Affairs and Communications. <http://law.e-gov.go.jp/cgi-bin/idxsearch.cgi> (Japanese only) (Accessed Sep. 30, 2011).
- 2) WCPT Declarations of Principle – Education. <http://www.wcpt.org/sites/wcpt.org/files/files/WCPT-DoP-Education-Aug07.pdf> (Accessed Sep. 30, 2011).