



Original Article

# The investigation of the educational needs on the job competence for physical therapist assistant in the students of Quang Tri medical college in Vietnam

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**Abstract.** [Purpose] The purpose of this study was to investigate the educational needs on the job competence for physical therapist assistant in the students of Quang Tri medical college in Vietnam. [Participants and Methods] Participants consisted of 17 individuals in the educational program for physical therapist assistant in Quang Tri medical college. The importance recognition ranking and current levels were measured by self-assessment for job competence of physical therapist assistant using a questionnaire. The educational needs were calculated by importance recognition ranking and current level by a self-assessment of job competence. [Results] The importance recognition ranking of job competence appeared to show a ‘system checkup’ as the top ranked category. The rank of current levels of competencies was determined by self-assessment of job competence and results showed that ‘cooperation, communication, and documentation’ was the highest category of the current levels. The highest rank of the educational needs was ‘counseling and education’. [Conclusion] The educational needs rank of job competence appeared to be ‘counseling and education’ foremost. Counseling and education with the patient is a fundamental component of effective healthcare. Therefore, it should be considered a priority for the educational curriculum of physical therapist assistant.

**Key words:** Physical therapy, Educational needs, Quang Tri province of Vietnam

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## INTRODUCTION

The international community has been urgently concerned about the poverty eradication in developing countries. In 2000, the United Nations (UN) set up the millennium development goals to decrease extreme poverty, and three of these goals belonged to the health sector. The health sector is fundamental among several Official Development Assistance (ODA) works

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for the improvement of medical service and welfare in developing countries<sup>1, 2</sup>).

The Republic of Korea rapidly developed into a donor country and in 2010 became the 24th member of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee (OECD-DAC)OECD-DAC. Korea plays a role as recent donor in the field of health ODA and helps partner countries achieve better quality of life and welfare through two aid agencies that improve aid effectiveness namely the KOICA (Korea International Cooperation Agency) and the KOFIH (Korea Foundation for International Healthcare<sup>3</sup>). KOICA is the government agency for partnerships with developing countries and dispatches various health professionals including international cooperation doctors, nurses, physical therapists, and the other specialists in the healthcare field<sup>4</sup>).

Because a professional training system in most developing countries is lacking or deficient, the dispatch of medical specialists from outside countries is important for improvement in quality of life<sup>4</sup>). Nonetheless, the development of an intentional medical professional training program is essential for establishing a self-sustaining healthcare system. The dispatch of medical professionals is subject to financial and manpower limits.

Quang Tri province is one of the most in need of medical care in Vietnam since World War II and the Vietnam War. More than 37,000 residents still are suffering from disorders with causes including Agent Orange, which was sprayed during combat<sup>5</sup>). At the same time, the public support policy for medical service is insufficient and has many limitations<sup>6</sup>). Among them, just 11% of patients receive the medical care for rehabilitation and 89% are still waiting for rehabilitative care<sup>7</sup>). More health care personnel and training systems for rehabilitation are required in Quang Tri province of Vietnam. Therefore, we sought to establish and supply a training system of physical therapist assistant with the KOICA, because more assistants improve the situation where the medical specialists for rehabilitation are insufficient such as in the Quang Tri province<sup>8</sup>). In Quang Tri province, Quang Tri medical college is the only educational institution of physical therapist assistant. The curriculum about physical therapist assistant for enrolled student in the department of medicine and nursing are 2 prerequisites including introduction of physical therapy and community-based rehabilitation. This educational course for physical therapist assistant started from 2012, which consists of 330 hours during 3 months period<sup>9</sup>).

Developing the educational curriculum for physical therapist assistant programs should address: health promotion in the local environment and adequate medical services<sup>10</sup>). Moreover, the curriculum address the learners' needs to perform professional activities on the job. The assessment of educational needs is necessary to identify the priority of the curriculum, to evaluate the needs, and to select the needs that are less important or can be eliminated. Educational requirements should be assessed in developing and evaluating educational programs because they can increase and improve in the quality of medical education as well as increase the effectiveness and efficiency of health systems and health education<sup>11, 12</sup>).

The purpose of this study was to investigate the educational needs, on the job competence according to importance recognition ranking, and current levels by self-assessment for physical therapist assistant in the students of Quang Tri medical college in Vietnam.

## PARTICIPANTS AND MEHTODS

Participants consisted of 17 individuals in the educational program for physical therapist assistant in Quang Tri medical college to evaluate the educational needs for job competence of a physical therapist assistant. The participants were mainly at the level of secondary education students in Quang Tri medical college. This study was approved by the Institutional Review Board (IRB) of Eulji University of Korea (EU16-21). All study participants signed a written informed consent for the survey taken. The characteristics of participants in the study are shown in Table 1.

For analysis of the educational needs for job competence of physical therapist assistant a questionnaire was developed as shown in Table 2. The survey included the adjusted and supplemented contents reported by a previous study analyzing job competence for physical therapist<sup>13</sup>). The study measured importance recognition ranking and current levels by self-assessment for job competence of physical therapist assistant and divided them into five categories including: examination, evaluation, intervention, outcomes, and the other roles. Subfactors consisted of the individual sentences related to the job competence of the clinical physical therapist such as 'Physical therapist assistant collects patient demographic information.', 'Physical therapist assistant confirms tools and equipment used to help patients.', 'Physical therapist assistant records and documents patient retest reports.', and the others. Subfactors belonged to each content category and their reliability by Cronbach'  $\alpha$  value were determined as in Table 2. Cronbach'  $\alpha$  value of importance recognition ranking on total reliability of the educational needs for job competence of physical therapist assistant was 0.713 and current levels by self-assessment was

**Table 1.** The characteristics of participants

	Contents	Frequency (number)	Percents (%)
Gender	Male	1	5.90
	Female	16	94.10
Degree	Course of Associate degree	5	29.40
	Course of Bachelor degree	12	70.60

0.770. The value of subfactors was presented as a Likert 5-point scale.

The statistical analysis of this study was analyzed using SPSS 21.0 package version for Windows. For presenting the background variables and characteristics of participants, a percentage and frequency analysis was conducted. The reliability analysis (Cronbach'  $\alpha$ ) was conducted to measure the internal consistency in the questionnaire used. For analysis of importance recognition ranking and current levels by self-assessment for job competencies of physical therapist assistant the value of minimum, maximum, mean, and standard deviation were calculated. Moreover, the official demand by Borich<sup>14)</sup> was used for the educational needs for job competence as follows: EN, the educational needs; RCL, required competence level (or importance recognition ranking); PCL, present competence level (current level);  $\overline{RCL}$ , mean of RCL; N, number of cases.

$$EN = \frac{\sum(RCL - PCL) \times \overline{RCL}}{N}$$

## RESULTS

The participants in the educational program for physical therapist assistant in Quang Tri medical college were asked about importance recognition ranking of job competence for a physical therapist assistant as presented in Table 3. The results showed the mean of 'system checkup' was  $4.64 \pm 0.22$ . System checkup was a subfactor of examination. This represented the highest of all subfactors in five categories of job competence. The mean of 'counseling and education' was  $4.21 \pm 0.35$  and represented the lowest of all subfactors. Counseling and education was in the other roles category. Therefore, the importance recognition rank of job competence appeared to be 'system checkup', 'prognosis and treatment plan', 'procedural intervention', 'test & measurement', 'history', 'education of patient and family', 'reexamination', 'cooperation, communication, and documentation', 'assessment', 'management and termination', and 'counseling and education'.

The participants in the educational program of physical therapist assistant made their own assessment about current levels of job competence in physical therapist assistant (Table 4). The mean of 'cooperation, communication, and documentation' in the 'evaluation' category was  $4.27 \pm 0.40$  and was the highest score. The mean of 'counseling and education' in the other

**Table 2.** Survey contents

Contents	Number of question	Cronbach' $\alpha$	
Importance recognition of job competence in physical therapist assistant			
Examination	History	12	0.65
	System checkup	5	0.64
	Test & measurement	23	0.66
Evaluation	Assessment	6	0.76
	Prognosis and treatment plan	2	0.73
	Cooperation, communication, and documentation	8	0.65
Intervention	Education of patient and family	6	0.78
	Procedural intervention	16	0.77
	Reexamination	3	0.67
Outcomes	Management and termination	1	-
Other roles	Counseling and education	3	0.82
Current level of job competence in physical therapist assistant			
Examination	History	12	0.69
	System checkup	5	0.83
	Test & measurement	23	0.72
Evaluation	Assessment	6	0.74
	Prognosis and treatment plan	2	0.72
	Cooperation, communication, and documentation	8	0.81
Intervention	Education of patient and family	6	0.86
	Procedural intervention	16	0.89
	Reexamination	3	0.68
Outcomes	Management and termination	1	-
Other roles	Counseling and education	3	0.77

roles category was  $2.98 \pm 0.93$  and was the lowest score. Therefore, current levels rank of job competence appeared to be ‘cooperation, communication, and documentation’, ‘history’, ‘management and termination’, ‘procedural intervention’, ‘education of patient and family’, ‘system checkup’, ‘test & measurement’, ‘reexamination’, ‘prognosis and treatment plan’, ‘assessment’, and ‘counseling and education’.

The participants at Quang Tri medical college analyzed the educational needs and rank for job competence in the physical therapist assistant educational program (Table 5). The highest rank of the educational needs was ‘counseling and education’,

**Table 3.** Importance recognition of job competence in physical therapist assistant

Contents		Min	Max	Mean	Deviation
Examination	History	3.83	4.75	4.38	0.27
	System checkup	4.40	5.00	4.64	0.22
	Test & measurement	4.04	4.74	4.41	0.19
Evaluation	Assessment	3.17	4.83	4.30	0.46
	Prognosis and treatment plan	4.00	5.00	4.55	0.39
	Cooperation, communication, and documentation	4.00	4.63	4.33	0.19
Intervention	Education of patient and family	4.00	5.00	4.37	0.38
	Procedural intervention	4.13	5.00	4.52	0.27
	Reexamination	3.67	5.00	4.35	0.42
Outcomes	Management and termination	3.00	5.00	4.29	0.69
Other roles	Counseling and education	3.67	5.00	4.21	0.35

**Table 4.** Current levels of job competence in physical therapist assistant

Contents		Min	Max	Mean	Deviation
Examination	History	3.75	4.67	4.25	0.25
	System checkup	3.40	4.40	4.12	0.24
	Test & measurement	3.43	4.30	4.02	0.21
Evaluation	Assessment	2.33	4.50	3.85	0.44
	Prognosis and treatment plan	2.50	4.50	3.91	0.40
	Cooperation, communication, and documentation	3.75	5.00	4.27	0.40
Intervention	Education of patient and family	3.00	4.67	4.13	0.49
	Procedural intervention	3.06	4.69	4.20	0.42
	Reexamination	2.67	5.00	4.01	0.66
Outcomes	Management and termination	3.00	5.00	4.23	0.56
Other roles	Counseling and education	2.00	4.67	2.98	0.93

**Table 5.** Educational needs for job competence

Contents	Importance		Current level		Borich	Ranking	
	Mean	SD	Mean	SD			
Examination	History	4.38	0.27	4.25	0.25	0.58	9
	System checkup	4.64	0.22	4.12	0.24	2.41	3
	Test & measurement	4.41	0.19	4.02	0.21	1.74	5
Evaluation	Assessment	4.30	0.46	3.85	0.44	1.94	4
	Prognosis and treatment plan	4.55	0.39	3.91	0.40	2.95	2
	Cooperation, communication, and documentation	4.33	0.19	4.27	0.40	0.26	10
Intervention	Education of patient and family	4.37	0.38	4.13	0.49	1.03	8
	Procedural intervention	4.52	0.27	4.20	0.42	1.45	7
	Reexamination	4.35	0.42	4.01	0.66	1.45	6
Outcomes	Management and termination	4.29	0.69	4.23	0.56	0.25	11
Other roles	Counseling and education	4.21	0.35	2.98	0.93	5.21	1

and the next highest ranks were ‘prognosis and treatment plan’, ‘system checkup’, ‘assessment’, ‘test & measurement’, ‘reexamination’, ‘procedural intervention’, ‘education of patient and family’, ‘history’, ‘cooperation, communication, and documentation’, and ‘management and termination’, respectively.

## DISCUSSION

For improving health care personnel training and rehabilitation system training in the Quang Tri province of Vietnam, an increased supply of students in the physical therapist assistant program is needed. During the development and implementation of the program for physical therapist assistant an educational needs assessment was essential because it can increase and improve the quality of medical and health education. Therefore, in this study, we investigated the educational needs of on the job competence needed according to the importance recognition and current levels achieved by a self-assessment for physical therapist assistant in the students of Quang Tri medical college in Vietnam.

First, the importance recognition ranking of job competence was appeared by ‘system checkup’, followed in order of next highest to lowest as ‘prognosis and treatment plan’, ‘procedural intervention’, ‘test & measurement’, ‘history’, ‘education of patient and family’, ‘reexamination’, ‘cooperation, communication, and documentation’, ‘assessment’, ‘management and termination’, and ‘counseling and education’. Kwon et al.<sup>15)</sup> reported that the importance recognition rank of job competence in 524 Korean physical therapist was the highest in ‘diagnosis and evaluation’. It was similar with this results with physical therapist assistant students.

The rank of current levels by self-assessment of job competence appeared to be from highest to lowest as ‘cooperation, communication, and documentation’, ‘history’, ‘management and termination’, ‘procedural intervention’, ‘education of patient and family’, ‘system checkup’, ‘test & measurement’, ‘reexamination’, ‘prognosis and treatment plan’, ‘assessment’, and ‘counseling and education’. In other words, participants considered the difficult aspects of the job in order of decreasing difficulty from most difficult to least as ‘counseling and education’, ‘assessment’, ‘prognosis and treatment plan’, and the others. In the previous study, ‘counseling and education’ was the most difficult category in the rank of most difficult aspects of the job for physical therapist<sup>15)</sup>.

In this results, educational needs were calculated by importance recognition ranking and current levels of job competencies were determined by self-assessment as suggested in Borich<sup>14)</sup>. The educational needs rank of job competence appeared in the following order from most to least needed: ‘counseling and education’, ‘prognosis and treatment plan’, ‘system checkup’, ‘assessment’, ‘test & measurement’, ‘reexamination’, ‘procedural intervention’, ‘education of patient and family’, ‘history’, ‘cooperation, communication, and documentation’, and ‘management and termination’.

In an educational program for healthcare specialists, typical competence include a patient-centered collaborative practice such as the understanding and appreciation of professional roles, and effective communication<sup>16)</sup>. Among the needs, counseling and education with a patient is a fundamental component of effective healthcare<sup>17)</sup> and can be defined as “the planned learning experience using a integration of methods including teaching, communicating, and behavior adjustment techniques which affect patients in knowledge and health behavior”<sup>18)</sup>. Counseling and education should be considered as a priority for the educational curriculum of physical therapist assistant and helps progress patient centered healthcare in the areas of pain, disability and increased functioning<sup>18, 19)</sup>.

The limitation of this study was that the investigation of the educational needs on the job competence for the physical therapist assistant has been analyzed by only 17 students in Quang Tri medical college. This study was for students’ participation in the educational procedure to provide healthcare service to community residents. These few participants have limitations in representing the whole and biases. After that, the educational needs on the job competence are expected to be able to analyze more participants.

In this study, we investigated the educational needs of on the job competence according to ranking importance recognition and current levels by self-assessment for physical therapist assistant in the students of Quang Tri medical college in Vietnam. The educational needs rank of job competence appeared to show ‘counseling and education’ as the top competency. Counseling and education with a patient is a fundamental component of effective healthcare. Therefore, it should be considered a priority for the educational curriculum of physical therapist assistant.

### *Conflict of interest*

None.

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