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Differences in Needs of Continuing Education by Academic Background for Physical Therapists

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Abstract

Purpose : The purpose of this paper is to look at educational needs based on the academic background to improve continuing education (CE) for physical therapists in the Republic of Korea.

Methods : 350 people who attended the CE were selected for analysis of the need of the education in Gwangju Metropolitan city of the Korean Physical Therapy Association. Final education was classified as college, university, and master of science course (MSc) or higher. The authors selected 11 subjects such as basic education, musculoskeletal system, nervous system, pediatric, cardiopulmonary, sports, senior citizens, physical therapy, women, oriental medicine, and others. Simple linear regression analysis was performed using dummy variable to identify the needs of the CE according to the academic background.

Results : The need for CE in the MSc or higher was greater than college graduation in the nervous system (R^2=.019, B=.347), pediatric (R^2=.028, B=.491), cardiopulmonary system (R^2=.038, B=.600), sports (R^2=.037, B=.584), geriatric (R^2=.030, B=.261), oriental (R^2=.033, B=.597), and others (R^2=.028, B=.531). University graduation was lower than college graduation in the need of physical agents (R^2=.037, B=-.277).

Conclusion : Authors infer that CE was not fully satisfied with physical therapists especially according to academic background that's why present study showed no meaningful statistical results were found. Therefore, we still think that a wider survey of CE will be needed, and the efforts are constantly required for both the Korean physical therapy association and people who working as physiotherapists to strengthen their awareness of the education.

Key Words: academic background, continuing education, need, physical therapist

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Ⅰ. Introduction

Continuing education (CE) for health care provider and medical technicians is emphasized more than ever before with the development of medical systems and technology (Yu et al., 2016). In line with this, the introduction of the license declaration system from 2014 provided an opportunity for medical technicians, including many physical therapists, to participate in the education. If they do not attend the education, their license will be suspended, and they will no longer be able to participate in the job (Moon et al., 2016).

The task of physical therapists also needs to be more specialized as a result of the increase to the right to know patients and their careers, which is thought to increase the demand for reeducation. Interestingly, Even though there was no difference in the gender and career needs in the study of physical therapists in Korea in the preceding study (Kim & Kim, 2019). This is because the overall satisfaction level of CE was low. However, as mentioned in the beginning, CE is mandatory because it is related to the licensing system, and requirements and satisfaction as well (Lee, 2005).

There have been several prior studies that it can improve and supplement the training of physical therapists. In the case of social welfare workers, an article showed that those who have the higher the educational background, more satisfied with receiving CE (Kim & Yoon, 2014). Another article said that the level of education of nurses improved awareness of the job and affects their practice (Sibandze & Scafide, 2018), but physical therapists have no research on it. Based on this, it is enough to infer that the difference in the educational background of physical therapists will cause a change in the needs of CE and start the research. Therefore, authors decided to look at educational needs based on the academic background to improve CE for physical therapists in Republic of Korea.

Ⅱ. Methods

1. Subjects and data collection

The study was conducted on two occasions on April 12, 2015 and July 19, 2015 with 431 out of 563 participants in CE at Gwangju Metropolitan City of the Korean Physical Therapy Association. 350 people were selected for final analysis of the need for CE, excluding 81 poor responses. The questionnaire made this study based on prior research on CE of other health care personnel. Further, the questionnaire was modified and supplemented according to the actual conditions of the physical therapist through the preliminary surveys with the cooperation of 20 physical therapists. The researcher distributed and retrieved the questionnaire after obtaining voluntary consent from the participants and explaining that the purposes of the research and personal confidentiality and research results would use only for current study.

General characteristic information was obtained through the questionnaire used for the study, and final education was classified as college, university, and master of science course (MSc) or higher (Table 1). The questionnaire used in this study was constructed by the studies of Lee (2007), Jung (2014), and Park (2000). In addition, preliminary investigation was conducted on 20 physical therapists to correct and supplement them. CE needs of physical therapists have been selected as a total of 11 subjects (basic education, musculoskeletal system, nervous system, pediatric, cardiopulmonary, sports, senior citizens, physical therapy, women, oriental medicine, others) using the five-point scale of Likert, five points mean “very necessary,” four points mean “necessary,” three points mean “normal” two points mean “unnecessary,” and one-point mean “not very necessary.” A higher score means a higher-required CE topic.

Table 1. General characteristics of subjects (n=350)

	n	%
Sex		
Male	102	29.1
Female	248	70.9
Academic education		
College	212	60.6
University	114	32.6
MSc or higher	24	6.9
Career		
Less than 3 years	83	23.7
Greater than or equal to 3 years and less than 5 years	76	21.7
Greater than or equal to 5 years and less than 10 years	113	32.3
Greater than or equal to 10 years and less than 15 years	46	13.1
More than 15 years	32	9.1
Work place		
University hospital	6	1.7
General hospital	42	12.0
Hospital	69	19.7
Geriatric hospital	48	13.7
Clinic	120	34.3
Medical center for nursing	8	2.3
Center	4	1.1
Others	53	15.1

2. **Data analysis**

The general characteristics and other data of physical therapists were analyzed by SPSS version 21. Simple linear regression analysis was performed using dummy variable to identify the needs of the CE according to academic background. The number of dummy variables was set to 2 with an imperative sentence. The final academic background was set to be dummy variable 00 for college, 10 for university, and 01 for MSc or higher. The value of the level α is set to .05 with a two-tailed statistical test of the test, and the statement formula is as follows.

IF (highest level of education=1) edudum1=0. IF (highest level of education=1) edudum2=0. IF (highest level of education=2) edudum1=1. IF (highest level of education=2) edudum2=0. IF (highest level of education=3) edudum1=0. IF (highest level of education=3) edudum2=1.

Ⅲ. Results

The significance test for the regression formula CE need was significant in the nervous system (p=.035, R^2=.019), pediatric (p=.007, R^2=.028), cardiopulmonary (p=.001, R^2=.038), sports (p=.001, R^2=.037), geriatric (p=.005,

Table 2. Needs of CE according to academic background of physical therapists (n=350)

	Academic background			UC B	UC SE	SC	t	*p*
Basic education	College	3.59±0.82		3.590	.057		63.206	.000
	University	3.61±0.80	Edudum1	.024	.960	.014	.254	.799
	MSc or higher	3.71±0.95	Edudum2	.119	.178	.036	.667	.505
				R2 (adj. R2)=.001 (-.004), F=.231, p=.794				
Musculo skeletal system	College	4.13±0.70		4.127	.048		85.831	.000
	University	4.03±0.72	Edudum1	-.101	.081	-.067	-1.243	.215
	MSc or higher	4.38±0.58	Edudum2	.248	.151	.089	1.642	.101
				R2 (adj. R2)=.015 (.009), F=2.598, p=.076				
Nervous system	College	3.99±0.71		3.986	.048		82.292	.000
	University	3.92±0.72	Edudum1	-.065	.082	-.043	-.791	.429
	MSc or higher	4.33±0.64	Edudum2	.347	.152	.124	2.288	.023
				R2 (adj. R2)=.019 (.014), F=3.392, p=.035*				
Pediatric	College	3.72±0.78		3.717	.052		70.938	.000
	University	3.68±0.75	Edudum1	-.042	.089	-.025	-.469	.639
	MSc or higher	4.21±0.66	Edudum2	.491	.164	.161	2.990	.003
				R2 (adj. R2)=.028 (.023), F=5.024, p=.007*				
Cardiopulmo nary system	College	3.61±0.76		3.608	.052		69.832	.000
	University	3.65±0.76	Edudum1	.041	.087	.025	.465	.642
	MSc or higher	4.21±0.59	Edudum2	.600	.162	.198	3.702	.000
				R2 (adj. R2)=.038 (.033), F=6.880, p=.001*				
Sports	College	3.79±0.80		3.791	.053		71.987	.000
	University	3.77±0.75	Edudum1	-.020	.089	-.012	-.220	.826
	MSc or higher	4.38±0.49	Edudum2	.584	.165	.190	3.541	.000
				R2 (adj. R2)=.037 (.032), F=6.679, p=.001*				
Geriatric	College	3.91±0.73		3.906	.051		76.912	.000
	University	3.69±0.79	Edudum1	-.213	.086	-.133	-2.477	.014
	MSc or higher	4.17±0.56	Edudum2	.261	.159	.088	1.639	.102
				R2 (adj. R2)=.030 (.024), F=5.367, p=.005*				
Physical agents	College	3.76±0.81		3.759	.054		69.509	.000
	University	3.48±0.74	Edudum1	-.277	.091	-.162	-3.028	.003
	MSc or higher	4.00±0.78	Edudum2	.241	.170	.076	1.418	.157
				R2(adj. R2)=.037(.031), F=6.637, p=.001*				
Women	College	3.54±0.80		3.542	.052		68.132	.000
	University	3.53±0.69	Edudum1	-0.16	.088	-.010	-.184	.854
	MSc or higher	3.92±0.65	Edudum2	.374	.163	.124	2.295	.022
				R2(adj. R2)=.016(.010), F=2.831, p=.060				
Oriental	College	3.28±0.94		3.278	.061		53.623	.000
	University	3.19±0.79	Edudum1	-.085	.103	-.044	-.825	.410
	MSc or higher	3.88±0.95	Edudum2	.597	.192	.167	3.112	.002
				R2 (adj. R2)=.033 (.027), F=5.878, p=.003*				
Others	College	3.78±0.94		3.778	.058		65.417	.000
	University	3.70±0.79	Edudum1	-.077	.098	-.042	-.784	.434
	MSc or higher	4.29±0.95	Edudum2	.513	.181	.153	2.834	.005
				R2 (adj. R2)=.028 (.022), F=4.918, p=.008*				

UC; unstandardized coefficients, SE; standard error, SCs; standardized coefficient MSc: master of science course

R^2=.030), physical agents (p=.001, R^2=.037), oriental medicine (p=.003, R^2=.033), and others (p=.008, R^2=.028) (p<.05)(Table 2). Basic education (p=.794), musculoskeletal (p=.076), women (p=.060) the regression formula was not significant (p>.05). The need for CE in the MSc or higher was greater than college graduation in the nervous system (B=.347), pediatric (B=.491), cardiopulmonary system (B=.600), sports (B=.584), geriatric (B=.261), oriental (B=.597), and others (B=.531). University graduation was lower than college graduation in the need of physical agents (B=-.277)(Table 2).

Ⅳ. Discussion

The need of MSc or higher for physical therapists were significantly greater in seven areas (nervous system, pediatric, cardiopulmonary system, sports, women, oriental, and, others) than college graduation. This is seen as a result similar to a study in CE for radiological technologists that showed that they were most satisfied with master or higher than college and university graduation (Jeong et al., 2017). Authors think that the need for the CE was elevated because the satisfaction of CE was high in the current study to MSc or higher. However, contrary to our original expectations, the authors concluded that the statistical differences in these eight areas did not mean much. To explain the reason, it is as follows. First, the range of R^2 values is very small from .019 to .038. It means that only 1.9 to 3.8 % can account for the extent to which the regression line of independent variable affects the dependent variable of the need of the CE. As a result, it seems reasonable to see no difference in the need of CE, depending on the academic background of physical therapists.

Basic education, musculoskeletal system, and women, these three areas were not significant in the test for the whole regression equation. Authors still question whether this result came out because there was no difference in educational needs by academic background. One of the reasons is that all 11 subjects surveyed by the study were more need in MSc or higher than college and university graduation. Perhaps attendance by a sense of duty on the license declaration system rather than listening to some subjects to further develop in CE has lowered the need for the education itself in MSc or higher (Kim & Kim, 2019). As a result, authors infer that the difference in the academic background in basic education, musculoskeletal system and women's CE has not shown significant statistical differences. In response to the need for improvement in CE of radiological technologists, 58 percent said "necessary" and 18 percent said "absolutely necessary" (Jeong et al., 2017). In other words, most of them acknowledge the need to improve the education. We think that this phenomenon is similar to that of other medical technicians. However, in order to keep pace with modern society's evolving medical knowledge and meet the needs of patients and caregivers, the medical technician's training and educating should be continuously emphasized (Pentenero et al., 2014; Sherman & Nishigori, 2020). Therefore, it seems urgent to come up with measures to strengthen awareness of CE first. To do so, CE needs to be created an awareness that it is accompanied by a more realistic and practical knowledge, not just an educational and future-oriented attribute (Min & Kwak, 2000).

The limitation in this study is that only 24 people have an academic background MSc or higher, and the others graduated from a college (212 people) and a university (114 people). The fact that the proportion of those with MSc or higher degrees is low is unavoidable, but if later studies examine other regions at the same time, rather than data limited to one region, a wider range of data can be obtained and analyzed. Despite the limitations of this study, we think that it has great value because there are fewer existing surveys of the needs of physical therapist's CE based on the academic background. The authors also believe that continuing research will be necessary because

each branch has a different educational curriculum, which makes it difficult to generalize this material into national data.

Ⅴ. Conclusion

Authors infer that CE was not fully satisfied with physical therapists especially according to academic background that's why present study showed no meaningful statistical results were found. Therefore, we still a wider survey of CE will be needed, and the efforts are constantly required both the Korean physical therapy association and people who working as physiotherapists to strengthen their awareness of the education.

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