

RESEARCH ARTICLE

**COMPARISON OF “SELF-EFFICACY BELIEF LEVELS OF ANATOMY”
BETWEEN NEUROLOGICAL PHYSIOTHERAPISTS AND ORTHOPEDIC
PHYSIOTHERAPISTS**

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Abstract

Anatomy education is the basis of professional qualifications in all fields of health sciences. Like many professions providing health services, physiotherapists. It is very important professionally for them to receive adequate anatomy education and to be able to use these educations in practice. The ability to apply the anatomy training received is directly proportional to the level of self-efficacy.

On the basis of all definitions for self-efficacy, there is a belief and judgment about whether a person can overcome the situation in the face of negativity. In short, the belief that an individual is successful in the face of a negative situation or behavior is called self-efficacy belief. Professions with anatomy education. The belief that one can successfully use this educational information in practice can be defined as “anatomy self-efficacy belief level”.

The aim of our study is to evaluate and compare the “Anatomy Self-Efficacy Belief Levels” (ASBL) of orthopedic and neurological physiotherapists (PT).

Our work; A total of 72 PTs, of which 28 (%39) were orthopedic physiotherapists and 44 (%61) were neurological physiotherapists, were included on a voluntary basis.

A data collection questionnaire (age, gender, and service information) and “Anatomy Self-efficacy Belief Scale (ASBS)” consisting of 18 questions were applied to the participants. With the questions asked to the participants with the ASBS, it was tried to determine the level of using their anatomy knowledge at the beginning of the PT tasks. The answers to the 14th question in the ASBS differed significantly ($p < 0.05$). There was no significant difference in the answers given to the other questions ($p > 0.05$).

With the data obtained, it has been seen to what extent the Anatomy training received by physiotherapists during their undergraduate education can meet this field professionally, even if they work in different fields after graduation. It is important to collect feedback on the level of knowledge, such as anatomy, that physiotherapists use while performing their profession, because it can also determine the arrangements to be made regarding the content and method of the training program while conveying such information.

Keywords: Anatomy, Orthopedics, Physiotherapy, Rehabilitation, Self-efficacy, Neurology

Introduction

The definition of self-efficacy was first used by Bandura in social cognitive theory in 1977 [1]. The same researcher, in his study in 1986, defined self-efficacy as “the ability of an individual to organize and implement the attitudes and behaviors that must be done to achieve a certain goal” [2]. In short, self-efficacy belief is the feeling that an individual can fulfill a certain task, and the motivation of the person is directly related to whether this feeling is high or low [3]. Motivation, on the other hand, is the process of obtaining the action that a person needs to take in order to perform a certain action and maintaining this movement [4].

Today, the concept of self-efficacy that developed by Bandura appears in different derivatives such as “social self-efficacy”, “technology and internet self-efficacy”. Concordantly, there are studies in the literature investigating the level of self-efficacy in many fields [5-9]. One of these areas is the anatomy education self-efficacy belief level, which forms the basis of health areas.

Some of the important topics in physical therapy education are Anatomy education; for how long, how and by whom the training for all rehabilitation components such as orthopedic and neurological rehabilitation will be provided and how it will be more professionally beneficial.

Today, anatomy education is the basis of education for all professions serving in the field of health. The purpose of physical therapy units is to replace the lost physical strength, to eliminate the long-term symptoms of disability or disease, and to enable patients to perform activities that they were able to perform before. Orthopedic PT treats patients with musculoskeletal injuries while Neurological PT treats patients who suffer an injury that affects the brain and central nervous system. Physical therapy workers apply knowledge of anatomy to provide these treatments. Before performing this treatment, the PT must know the functions, features and topographic locations of the injured or dysfunctional muscle-bone or other related organs. For this reason, knowledge of anatomy is essential for this profession. ASBL is equally important too.

We aimed to reveal the relationship between the anatomy belief levels ASBL of physiotherapists and the service they work in.

Mental Health

A total of 72 PTs working in different physical therapy centers were included in our study. While working in orthopedic rehabilitation services, 28 people forming our first group; 44 people in the other group work in neurological rehabilitation units.

A questionnaire consisting of two parts was applied to the participants. The first part is the participant information form consisting of 4 questions (consent, age, gender and service information). The second part is the ASBS consisting of 18 questions. ASBS is a scale that evaluates the pre-professional anatomy education of the participants and their self-efficacy regarding its use in practice. The ASBS we use is the 15-question scale used in a study conducted in 2015 [8], revised by experts in the field of anatomy and completed to 18 questions [10].

In the questions in the scale; “Strongly Disagree”, “Disagree”, “Neither Agree nor Disagree”, “Agree” and “Strongly Agree” answer options are available. Each answer is scored from 1 to 5 on this Likert-type scale. While the lowest score belongs to the “strongly disagree” option. The highest score belongs to the “strongly agree” option. While the 5th, 6th, 8th, 10th, 13th and 15th questions in the questionnaire are the questions evaluating the current anatomy knowledge; the remaining questions evaluate the anatomy education received in the period before professional life. The scale is important in terms of evaluating a wide period.

Result

According to the “Data Collection Questionnaire” applied to the participants together with the ASBS, 39%

of the participants are in the orthopedic service; 61% of them serve in the neurology unit. Of the participants, 28 of the physiotherapists working in the neurology unit were female and 16 were male; 21 of the physiotherapists working in the orthopedic service are female and 7 are male (Table 1).

Table 1: Distribution of participants by gender and work units.

Unit	Female	Male	Total
Neurology	28	16	44 (%61)
Orthopedic	21	7	28 (%39)
Total	49	23	72 (%100)

Statistically significant differences were found in the answers given by PT working in Orthopedics and Neurological Rehabilitation units to the question, “I necessarily ask for help when I have a problem studying anatomy lesson”, which is one of the emphasizing questions evaluating the self-efficacy belief about anatomy knowledge in working life in ASBS ($p < 0.05$). There was no significant difference between the answers given to the other questions in ASBS ($p > 0.05$). According to question-14, which showed a statistically significant difference in terms of the answers given 23 of them neurological PT; while answering “Neither Agree Nor Disagree” (52.3%); 11 orthopedic PTs gave a high rate of “Agree” (39.3%).

Descriptive statistics and P values of the total ASBS scores of the neurological and orthopedic physiotherapists are given in Table 2.

Table 2: Descriptive statistics and P values of the total ASBS scores of the neurological and orthopedic physiotherapists.

Unit	N	$\bar{X} \pm S$	t	p
Neurology	44	3.58	1.39	0.168
Orthopedic	28	4.36		

When the answers given to the “It distresses me to be obliged to use anatomy knowledge while doing my job”, which is one of the striking questions evaluating the current anatomy knowledge of the physiotherapists in ASBS, were compared, it was seen that both groups preferred the “Disagree” option at a high rate.

A high rate of “Neither Agree Nor Disagree” was answered in both groups to the question of “I can say that I have a favorable knowledge of anatomy”, which is another emphasizing question evaluating the current anatomy knowledge of physiotherapists among the questions in ASBS.

The P values of all the questions in the ASBS of the Neurological and Orthopedic Physiotherapists are given in Table 3.

Table 3: P values of Neurological and Orthopedic PT’s for each question of ASBS.

S.No.	Neurological and Orthopedic PT’s for each question of ASBS	p
1	It makes me happy to learn new things about anatomy.	0.303
2	I work hard to overcome the problems by myself while learning anatomy.	0.44
3	I think studying anatomy is easy.	0.11
4	I have difficulty in learning new things about anatomy.	0.275
5	It distresses me to be obliged to use anatomy knowledge while doing my job.	0.153
6	I usually have problems while using my anatomy knowledge.	0.368
7	For me, anatomy is an extremely complicated lesson.	0.489
8	I don’t use my anatomy knowledge unless I need.	0.61
9	I believe that I will be successful in my profession by learning anatomy.	0.194
10	I can say that I have a favorable knowledge of anatomy.	0.129
11	I feel panic when I have problem while learning anatomy.	0.341
12	I believe that everybody who is eager can learn anatomy	0.263
13	I believe that I have enough anatomy knowledge to fulfill my needs.	0.647
14	I necessarily ask for help when I have a problem studying anatomy lesson.	0.001
15	I’m afraid of making mistakes that cannot be corrected owing to lack of anatomy knowledge.	0.376
16	If I do not take the anatomy education on cadavers and models, I think that I have received incomplete education. .	0.538
17	I do not want to take anatomy lessons from people who have not studied anatomy.	0.382
18	I would like the anatomy lessons to be added to the curriculum again in the last year before I graduate.	0.231

Discussion

Conceptually, the individual’s own idea that he or she will perform successfully in any field is called “self-efficacy” [11]. As a broad definition, self-efficacy is the thought of whether a person can develop an action in the face of a problem and be successful in this situation [12]. According to Albert Bandura, students who have the idea

that “I can get a successful score from the exam” have a higher level of self-efficacy [13].

Self-efficacy belief begins to form at birth. If neonatus learn that their basic needs are met when they cry and make noises by banging on the sides of the bed; They repeat the same behavior every time they need it. When babies discover that their behavior has a human counterpart, they begin to build their own behavioral profile. Successful results obtained by babies from their behaviors enable them to form a perception about their own capacity [14]. In other words, self-experiences have an effect on the level of self-efficacy. The nutritional sources of self-efficacy belief are the judgments of the individual or other people’s experiences and the guiding words of the immediate environment [12].

Self-efficacy, which was first defined by Bandura, has been adapted to many concepts today. For example, in a study conducted in 2014, emotional states affecting the level of academic self-efficacy were examined [15]. While examining the concept of “social self-efficacy” [16] in a study in 2001. In another study, gender-based differences in internet and technology self-efficacy was investigated [17]. In our study, we wanted to investigate the level of self-efficacy belief in anatomy knowledge.

A special form of self-efficacy, “professional self-efficacy”, is a person’s own belief in whether he or she will be successful while fulfilling the responsibilities of his profession [18,19]. Anatomy knowledge is essential for professions serving in the field of health. For this reason, knowledge of anatomy is an important factor affecting the level of professional self-efficacy belief of healthcare professionals. For this reason, in our study, we wanted to evaluate the effect of the studied patient profile on the anatomy knowledge self-efficacy belief levels of physiotherapists, who are a profession that uses anatomy knowledge quite frequently.

ASBL begins to take shape at the education stage. There are studies in the literature evaluating the ASBL of students who take anatomy courses in their education [8,9]. In our study, similar to these studies, we wanted to compare the beliefs of students who received anatomy education at the undergraduate level that they can use their anatomy knowledge when they enter professional life.

According to Dönmez, healthcare professionals with higher self-efficacy fulfill their responsibilities better than those with low self-efficacy [20]. With this awareness, we compared the effect of the unit they work on the self-efficacy of healthcare professionals. The answers given in our study showed parallelism with each other, and no significant difference was found except for the 14th question.

Conclusion

In conclusion, we can say that physiotherapists' Anatomy belief levels do not have a significant relationship with the patient profile they encounter. Anatomy knowledge is first encountered at the undergraduate level. For this reason, we think that it is necessary to conduct studies on more undergraduate students in order to determine the deficiencies and mistakes of the trainings in the field of anatomy. Based on this result, with the increase of future studies; will be able to determine the arrangements to be made about the curriculum and content in the education programs where anatomy education is given. By expanding the ASBL assessment studies at the undergraduate level to be carried out in the future, qualified healthcare professionals with high professional self-confidence and self-efficacy can be trained.

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