Novel Physiotherapies

Ramova et al., J Nov Physiother 2012, 2:3
http://dx.doi.org/10.4172/2165-7025.1000108

Editorial Open Access

Knowledge of Spine Deformity among the University Trained Physiotherapists in Bitola, Macedonia

Elizabeta Popova Ramova*, Biljana Angelovska, Irina Bozinovska, and Oliver Gramosli

Department of physiotherapist education, High Medical School Bitola, University, St. Klement Ohridski, Bitola, Republic of Macedonia

Abstract

Purpose: To enhance knowledge about musculoskeletal problems is one of the primary aims in the education of students in the physiotherapy course. The aim of our research was to determine the level of knowledge after education by one current medical problem like a presentation of successful acquired competences.

Material and Method: The level of knowledge of 24 students in the third-year study was measured by using a questionnaire and by completing examination lists. The education consisted of management of spine deformity and examination standards for school screening.

Results: The level of theoretical knowledge was not significant but for practical was increase.

Conclusion: The future educational models have to be focused on education in small groups and mentoring system, and the competences have to be controlled by the Ministry of Education.

Keywords: Physiotherapist; University degree education; Competences

Introduction

The European Higher Education Area (EHEA) has arisen as a result of new circumstances in the field of education, economy and politics on the verge of the millennium. Across the world economies and societies it is now agreed that knowledge is one of the main resources for social and economic development. In this context, universities take a central role in the competitiveness of any country. Although most of the West Balkan universities have been a part of Bologna process for a number of years, they still have outdate and highly repetitive curricula, outdated teaching methodology and highly structured mono-disciplinary programs that cannot respond to the market needs. Focus is placed on the theory, with practical skills and knowledge being neglected. Moreover, there is a lack of relevant government and institutional strategies and legislation for cooperation between high education, economy and society as a whole. Although Republic of Macedonia is member of the Bologna process, it is still in the beginning phase of the process of setting up an education and training system able to support their economic and social development [1]. From the point of view of the curriculum, the EHEA emphasizes the fact that students are in the centre of the teaching-learning process and, consequently focusing on learning [2].

Therefore, universities are faced with a situation in which they have to plan teaching by formulating the competences that each degree course at the project partner universities will need to offer to students. In this academic context, students should develop certain competences through certain learning activities. These, in turn, must be achieved through working on specific contents. These competences need to be developed throughout the degree course. Therefore, when dealing with competences we have to check for their coherence. Probably the best way of showing that a competence has been acquired is through practice. In this respect, learning activities are a good way of observing the acquisition of competences. It is necessary to define rigorous standards and standardizing them across the world is apparent, due to the dramatic changes in medicine practice over the last decades, as well as the changing position and role of rehabilitation staff in the health care structures [3]. Amendments of curricula for education of physiotherapists and the other medicine-related professional studies have to be conducted through a continuous process conditioned by new notions and achievements. Learning about the musculoskeletal diseases is of substantial importance for the physiotherapists and it includes courses from basic and clinical subjects as well as professional trainings. This has been emphasized in many studies conducted in the U.S. implying that this is an important issue [4,5].

The aim of our research was to determine the level of knowledge gained after education by one current medical problem like a presentation of successful acquired competences.

Material and Methods

Study design and location

We conducted a cross-sectional study at the University St. Clement Ohridski, Department for physiotherapist education, Bitola, R. Macedonia, during the period of September 2010 to January 2011.

Participants

The research was conducted among students in the third year of physiotherapy program for the subject special kinesitherapy in childhood orthopedics within the course of spine deformities management and the role of physiotherapists in the health system. A total of 24 physiotherapists (11 female and 13 male) at the age of 22-25, was included. There were 2 educators. The learning/teaching activities are so designed to enable physiotherapists in executin

***Corresponding author:** Elizabeta Popova Ramova, Department of physiotherapist education, High Medical School Bitola, University, St. Klement Ohridski, Bitola, Republic of Macedonia, E-mail: betiramova62@yahoo.com

Received December 15, 2011; **Accepted** March 02, 2012; **Published** March 05, 2012

Citation: Ramova EP, Angelovska B, Bozinovska I,Gramosli O (2012) Knowledge of Spine Deformity among the University Trained Physiotherapists in Bitola, Macedonia. J Nov Physiother 2:108. doi:10.4172/2165-7025.1000108

Citation: Ramova EP, Angelovska B, Bozinovska I,Gramosli O (2012) Knowledge of Spine Deformity among the University Trained Physiotherapists in Bitola, Macedonia. J Nov Physiother 2:108. doi:10.4172/2165-7025.1000108

school screening reviews for the spine deformities and to apply Schrot exercises program for spine deformities.

Instrument scales and variables

In order to evaluate the effect of the theoretical courses, we have designed a questionnaire with 20 questions, and distributed it two months after the completed educational training. Each correct answer was marked with a star (in the questionnaire).

Measures: Theoretical courses were conducted according to the master program of teaching and by using written materials.

The practical course consisted of practical performance of 4 tests for spine deformities and practical education for entering data according to a prepared protocol. The students were instructed to mark the test as a positive or negative one. In the protocol they had to enter the personal data of the child, school grade, age, sex, weight, height, calculated body mass, index positive or negative test. The students were instructed to apply the following test [6]: Test 1 higher set shoulder; Test 2 Adams test for back asymmetry; Test 3 test by Matthias; Test 4 test for shorter pelvifemoral muscles.

Each student had to examine 5 children and after the improvement of the motivation, each successfully examined child got a higher grade at the final exam.

Ethics consent: Ethics consent was obtained by the Ministry of Education and Ministry of Health. The students had to examine 5 children from their surrounding at the age of 6-17 with previous written consent signed by the parent for participation in the study.

Data analyses

1. For evaluation of the effect from the education, each correct response to the questionnaire was given points regarding the total number included in the poll.
2. The evaluation of the interests for participation in the project was made by comparing the total number of those who were educated and those who sent the examination lists.
3. The evaluation of the successfully learnt segment of the practical course was done by calculating the total number of examined children and the total number of valid examination.

The evaluation of the treatment effect was made with T-test and differences of proportions with significance at $p<0.05$.

Results

The effect of theoretical education

The effect from the theoretical course regarding the positive answers before and after the education is shown in Table 1. The effect of teaching-learning activities from total questions was evaluated with T-test, and $t=0.006$, $p>0.05$. The level of knowledge after education was not significant. The level of knowledge before and after education is shown in Figure 1.

The effects of practical education

Of the total number of 24 students, 22 (91%), submitted examination lists; there was a significant interest for this skill ($t=4$, $p<0.05$). Of the total number of examined children (110), 100 (96%) presented valid examination lists, $t=15.3$, $P<0.05$. The knowledge of practical education was significant and it is shown in Table 2.

Discussion

The school screening for spine deformities is an important health activity where a larger number of health workers and employees in the Ministry of Health and Ministry of Education is included [6,7]. This health activity is a burden with the cost of the activity itself, the education of the staff, which made the screening and the attitude of the society towards this activity. The theoretical knowledge was not significantly enhanced in our study. This implies the need of changes in this educational segment. The knowledge for spine deformities was investigated in another study. Those students were physiotherapists

No.	Before education	%	After education	%	T-test	Significant
1	0	0	16	67	T=72	**r<0.05**
2	22	91	18	75	T=1.6	r>0.05
3	18	75	20	83	T=0.8	r>0.05
4	16	68	14	58	T=0.8	r>0.05
5	10	43	18	75	T=2.7	**r<0.05**
6	12	50	14	58	T=0.6	r>0.05
7	v) 1 g)12	4 50	v)4 g)10	17 42	T=1 T=0.64	**r<0.05** **r<0.05**
8	19	82	22	92	T=0.8	r>0.05
9	a)19 v)13 d)3	82 54 11	a)10 v)16 d)14	42 67 58	T=3.4 T=1.0 T=4.27	**r<0.05** r>0.05 **r<0.05**
10	6	27	8	33	T=0.5	r>0.05
11	a)15 v)2 |)3	62 7 11	a)24 v)10 |)10	100 42 42	T=1.8 T=30 T=2.4	r>0.05 **r<0.05** **r<0.05**
12	1	4	6	25	T=2.1	**r<0.05**
13	21	86	22	92	T=0.8	r>0.05
14	22	91	24	100	T=2.09	**r<0.05**
15	a)19 v)13 g)17 d)14	a)82 v)54 g)73 d)59	a)24 v)22 g)20 d)20	a)100 v)92 g)83 d)83	a)T=0.9 v)T=4.0 g)T=1.0 d)T=2.4	r>0.05 **r<0.05** r>0.05 **r<0.05**
16	2	7	22	92	T=12.7	**r<0.05**
17	14	59	22	92	T=3.5	r<0.05
18	3	11	4	17	T=0.66	r>0.05
19	9	39	8	34	T=0.42	r>0.05
20	11	47	20	83	T=31.3	r<0.05

Table1: The positive answer according questioner.

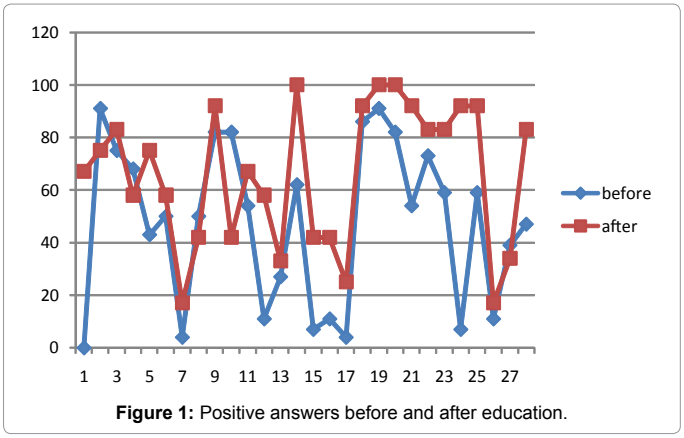

Figure 1: Positive answers before and after education.

Educated	Sent list	Did not send	T-differences of proportion	Significant
24	22 (91%)	2(9%)	T=4	P<0.05
Total number of examination	Valid examination	Non valid examination		
110	100 (96%)	10 (4%)	T=15.3	P<0.05

Table 2: Effect from practical courses.

and they also lacked the knowledge about this medical issue. The knowledge for musculoskeletal system and its place in curricula of physiotherapist educational programs was analyzed in another study.

For the evaluation of the effect from the education, it is necessary to get feedback information for the applied education. Musculoskeletal problems are a common cause for medical treatment. To enhance knowledge about musculoskeletal problem is one of the primary aim in the education of physiotherapists [4]. To learn how to function optimally in a competitive, today's medical students must management of some health problem [8]. From this paradigm we have choose current health problem in our country and world wade spine deformity.

Medical interviewing and physical examination skills are core pillars of clinical medicine. The educational models have to incorporate knowledge skills and clinical reasoning skills working to enhance teaching [9].

In line with the aforementioned data, we have chosen a current health topic, theory and practice course as well as assessment of the acquired knowledge using a questionnaire and completing examination lists and making the physiotherapy diagnosis. The questionnaire is widely accepted model for assessing both the previously acquired knowledge and currently acquired knowledge and skills. The questionnaire has been utilized in many literature studies [10,11]. In the latter study it was used for evaluation of the knowledge of the students in the physiotherapy course about idiopathic scoliosis as it was done in our study [11]. Students often complain on the level of acquired knowledge in our institution, especially on the level of practical skills and competences. The results of our investigation have shown that theoretical amount of knowledge was not significantly enhanced whereas the practical knowledge showed a significant improvement. We have to locate the reasons for this poor effect of the theoretical lessons and work on finding solutions in the future. The mentor system suggested in the literature might give better effects [12], however the lack of professionals engaged in the education process is a serious threat in realization of this system. Although the Ministry of Education prefers this educational model, it has to launch many control measures, such as the number of students enrolled into these programs, in order to have quality students. Those can be done by evaluation of competences acquired by the students after finishing the education.

Conclusions

The completed investigation on education of physiotherapists in Macedonia and its comparison with EU and worldwide has yielded the following conclusions: we have to work in the future to develop educational models that will be constructive, respectful, and supportive, and to accept/act on constructive feedback from the students. We have to decrease the number of enrolled students, but to enhance quality of education by evaluation of competences.

References

1. http://ec.europa.eu/education/policies/educ/bologna/bologna.pdf
2. Davies R (2008) The Bologna process: the quiet revolution in nursing higher education. Nurse Educ Today 28: 935-942.
3. http://www.euro.who.int/__data/assets/pdf_file/0005/102200/E92852.pdf
4. Clark ML, Hutchison CR, Lockyer JM (2010) Musculoskeletal education: a curriculum evaluation at one university. BMC Med Educ 10: 93.
5. http://www.usbjd.org/projects/project_op.cfm?dirID=127
6. Douglas D (2008) Routine scoliosis screening of dubious value. Pediatrics 121: 9-14.
7. The Macedonian Health system low for ordinary school screening program: 5/2007, 44/2008.
8. Childs Dj, Whitman MJ, Sizer SP, Pugia ML, Flynn TW, et al. (2005) A description of physical therapist's knowledge in managing musculoskeletal conditions. BMC Musculoskelet Disord 6: 32.
9. Alexander EK (2008) Perspective: moving students beyond an organ-based approach when teaching medical interviewing and physical examination skills. Acad Med 83: 906-909.
10. Jette DU, Bacon K, Batty C, Carlson M, Ferland A, et al. (2003) Evidence-based practice: beliefs, attitudes, knowledge, and behaviors of physical therapists. Phys Ther 83: 786-805.
11. Ciazynski D, Czernicki K, Durmala J (2008) Knowledge about idiopathic scoliosis among students of physiotherapy. Stud Health Technol Inform 140: 281-285.
12. Kalet A, Krackov S, Rey M (2002) Mentoring for a new era. Acad Med 77: 1171-1172.