

Teaching Disability and Rehabilitation Medicine at the Medical School in Split, Croatia

Tonko Vlak, Mladen Boban¹, Nadija Franulović-Golja², Reuben Eldar³

Department for Physical Medicine, Rehabilitation and Rheumatology, Split University Hospital, Split; ¹Split University School of Medicine, Split; ²Special Hospital for Medical Rehabilitation, "Kalos", Vela Luka, Croatia; and ³Loewenstein Hospital-Rehabilitation Center, Raanana, Israel and Split University School of Medicine, Split, Croatia

We describe the unsatisfactory situation of teaching disability and rehabilitation to medical students, focusing on countries of Central/Eastern Europe (CEE), sourcing a selection of relevant literature and reports of competent colleagues from these countries. Further, we present a model of teaching disability and rehabilitation medicine as it is now taught at the Medical School in Split, after the program for teaching Physical Medicine and Rehabilitation to the 5th year medical undergraduates was reformed in the academic year 2001/2002 to make it a satisfying educational experience that focuses on rehabilitation medicine, allowing acquisition of the competence necessary for managing persons with disability in the community. In an anonymous evaluation questionnaire, 96% of students thought that the new program was very good, that it contributed significantly to their general medical education, and was useful for their future work as general practitioners. We believe that the new program, which is broad in scope and content, well received by students, and attains its objectives, deserves to be introduced to a wider medical community.

Keywords: curriculum; disabled persons; education, medical, undergraduate; physical medicine; rehabilitation

Undergraduate medical education should enable students to acquire the competence necessary for practicing physicians. The majority of medical students will most probably work as general practitioners, where they can expect the most frequent problems to be those related to chronic diseases, trauma, and ageing. Students are acquainted with principles of diagnosis and treatment of these conditions during their studies in internal medicine, surgery, neurology, and orthopedics. However, they also need to acquire competence in skills of managing those who are, as a result of these diseases and injuries, permanently or temporarily disabled. Rehabilitation medicine can give them the knowledge, skills, and attitudes necessary for the assessment and management of persons with disability, as well as the awareness of psychosocial issues confronting these individuals and the importance of the continuity of care. Thus, the need for educating students in principles of rehabilitation does exist. However, medical school curricula do not give their students sufficient exposure to this field (1).

Undergraduate education in rehabilitation medicine is currently inadequate both in the number of hours and in content. In the UK, it is fragmented and the amount of planned teaching of a particular topic is small (2,3). In the USA, only 74 of the total of 125 medical schools (60%) teach physical medicine and rehabilitation, and only 74% of these are independ-

ent courses (4). Further, some of those programs aim to attract candidates for residency training in the specialty rather than to prepare students for their tasks as general practitioners (5,6). The scant attention to the subject and particularly to the psychosocial aspects of chronic illness and disability led to an underestimation of patients' disability in hospital and ambulatory care setting (7).

The situation in the countries of Central/Eastern Europe (CEE) is even more unsatisfactory. In Hungary for example, three medical schools (Budapest, Pecs, and Debrecen) offer a few hours of rehabilitation principles, which are included in the programs of orthopedics, pediatrics, and psychiatry. Budapest also offers a whole-day, 8-hour seminar in rehabilitation during the final year of studies. In the fourth Hungarian medical school (Szeged), the department of neurology and psychiatry offers a 15-hours elective program, but only a few students participate (L. Kulmann, personal communication, 2003). In Slovakia, none of the 3 medical schools (Bratislava, Košice, and Martin) teach rehabilitation (M. Palat, personal communication, 2003).

In the Czech Republic, two medical schools in Prague offer a one-week program of lectures and practical sessions to 4th or 5th year students, while in other schools (Brno, Hradec Kralove, Plzen, and the

third school in Prague) the subject is a part of a course on orthopedics and locomotion difficulties (O. Švestkova, personal communication, 2003). At the Vienna University Medical School the subject is integrated in the clinical teaching of various courses; additionally, students can opt to spend two weeks at the Department for Physical Medicine and Rehabilitation. In other medical schools of Austria (Innsbruck, Graz) the subject is not represented in the curriculum (V. Fialka-Moser, personal communication, 2003). Only the Department for Physical and Rehabilitation Medicine of the Ljubljana Medical School in Slovenia provides an independent, obligatory course during the 5th year of studies. The course consists of 15 hours of lectures on rehabilitation principles, rehabilitation technology and physical medicine, and 15 hours of practical sessions, ie, two full days spent at the Institute for Rehabilitation in Ljubljana (Č. Marinček, personal communication, 2003). In Croatia, the oldest (established in Zagreb in 1917) and largest (enrolling 240 students annually) medical school's curriculum incorporates a 45-hours (two weeks) obligatory course, predominantly on psychical medicine (Table 1). Other medical schools (Rijeka, Osijek, and Split) followed the Zagreb model.

Table 1. Comparison of disability and rehabilitation medicine courses at the Zagreb Medical School, and the old and reformed course at the Split Medical School

Teaching units	No. of hours in		
	Zagreb 2002 course	Split 2000 course	Split 2002 course
Lectures			
rehabilitation	2	3	10
physical medicine	7	9	2
Seminars			
rehabilitation	4	–	16
physical medicine	15	–	–
orthopedic devices	2	–	–
Practical sessions			
physical medicine	15	15	4
rehabilitation	–	6	12
sports injuries	–	1	–
orthopedic devices	–	2	–
Total	45	36	44

A recent publication analyzed curricula of 32 medical schools in 18 European countries, including six schools from CEE and the four Croatian medical schools. The study found that curricula of European medical schools greatly differed; physical medicine and rehabilitation are not specifically mentioned, nor whether they are at all available, perhaps as parts of other courses (8).

Split, with a population of 210,000, is the second largest town in Croatia and serves as the cultural, economic, educational, and industrial center not only of Southern Croatia but also of a part of neighboring Bosnia and Herzegovina. In 1974, the Zagreb Medical School established a regional branch in Split, which became independent in 1997 when the Split University decided to establish its own medical school that offers a 6-years curriculum. The main goal of the School is to provide future general practitioners with the knowledge, skills, and attitudes necessary for addressing problems of primary care (9). The school

enrolls 50 students annually (10). Education in rehabilitation followed the Zagreb model. In October 2000 (academic year 2000/2001), it was still focused on physical medicine, with 29 of a total of 36 hours spent on this subject (Table 1). The School authorities felt that the program did not contribute to the attainment of the School's goals, was too condensed (7 hours of classes daily), and not sufficiently interesting to students. Therefore, at the beginning of 2001 we began to work on reforming the course program, and the new program was implemented in the academic year 2001/2002.

New Teaching Program – Including the Issue of Disability into the Course on Physical Medicine and Rehabilitation

We envisaged the program of the course as a satisfying educational experience, with one third allotted to lectures and two thirds devoted to seminars and practical sessions with active participation of students. The content of the course had to allow for acquisition of the competence necessary for managing persons with disability in the community, as well as understanding the concepts of disability, including the functional aspects of the medical history taking and physical examination. It also had to emphasize the team approach and importance of the continuity of care, as well as assist the future physician in development of a framework for considering the whole person when addressing the patient's medical needs. Openness of the School's administration to innovative ideas facilitated the reform of the program.

Forty-two 5th-year students took the reformed course in January 2002. It lasted for 10 working days and was divided into 12 hours of lectures, 16 hours of seminars, and 16 hours of practical sessions, with 38 of 44 hours allotted to rehabilitation (Table 1). Lectures were given at the Department of Physical Medicine, Rehabilitation, and Rheumatology located in Split, but outside the University Hospital campus. Seminars and practical sessions, for which the students were divided into two groups, were held alternately, either at the Department or at its outpatient clinics, located on two sites outside the campus.

The anonymous evaluation questionnaire filled out by students at the end of the course revealed that students found the program interesting and providing new knowledge. However, many students objected to the daily traveling by bus or car to different sites and having to attend practical sessions in two large groups of 21 students in the overcrowded, busy outpatient clinics. It turned out that the settings we chose did not provide the opportunity for a satisfying, interactive educational experience.

Hence, further changes were needed, and the 47 5th-year students who took the course in January 2003 underwent a slightly modified program compared to that of the previous year. Two new topics were added to the seminars: principles of cardiopulmonary resuscitation, and aging and its implication for rehabilitation in the community. All lectures and seminars were held within the University Hospital campus, thus not demanding the daily travel. Also,

lessons were given by different teachers – rehabilitation physicians, cardiologist, and physiotherapist. The course retained the broadness of rehabilitation issues covered (Table 2). Most important changes, compared to January 2002, were made in the domain of practical sessions: a 120-bed rehabilitation hospital (“Kallos” in Vela Luka, the Island of Korčula) became affiliated with the school. Since three hours of travel by boat from the city of Split was necessary to reach the hospital, students were accommodated in its guest rooms for three full days and had educational activities there, provided by the hospital’s staff, briefed by and with participation of teachers from the Department in Split. Eight groups of 6 to 7 students were formed. Each group rotated and participated in ward rounds of the hospital’s 3 clinical departments and in demonstrations and practical sessions in various therapeutic units (kinesiotherapy, hydrotherapy, occupational therapy, speech therapy for children and adults, psychology, biofeedback, Bobath’s concept, massage, paraffin packs application, and electrotherapy). Each educational experience lasted for 45 minutes, and students actively participated during 5.5 hours in the morning and 2 hours in the late afternoon.

Table 2. Thematic teaching units for the reformed Disability and Rehabilitation Medicine course at the Split Medical School, January 2003

Lectures:

- Role and history of rehabilitation medicine
- Impairment, limitation in activity, restriction in participation
- Diseases of the musculoskeletal system
- Determination of rehabilitation goals
- Setting rehabilitation goals
- Cardiopulmonary rehabilitation
- Rehabilitation in rheumatic diseases
- Rehabilitation in diseases and injuries of the nervous system
- Rehabilitation services: stationary, ambulatory, domiciliary

Seminars:

- Protection of joints and orthoses
- Rehabilitation following amputation of limbs and prostheses
- Degenerative diseases of the vertebral column
- Ageing and its implications for rehabilitation

Similarly to the preceding year, the anonymous evaluation questionnaire showed that the students found the course satisfying and interesting. Ninety six percent of students graded the program as excellent or very good, and 4% thought it was good. Also, 96% said that the program contributed significantly to their general medical education, and all the students saw it as useful for their future work in general practice. Ninety per cent thought that the program influenced their perspective on disability in society, and 83% said that it positively affected their attitude toward persons with disability. This time, there were no distinct objections to the organization of the course.

Discussion

Based on students’ informal feedback as well as their examination papers, we concluded that the program provided the students with satisfactory knowledge of impairments of the neuromusculoskeletal and related systems. They learned to distinguish among

the terms impairment, limitation in activity, and restriction of participation, as well as to understand the impact of disability on an individual, the family, and the community. Students acquired skills necessary for quality history taking, with emphasis on functional limitations, residual activities, and socioeconomic status. They were taught a patient-centered rather than disease-oriented approach, and special attention was given to raising the students’ concern for the socioeconomic implications of a patient’s disorder. Also, we believe that the course instilled into students the respect and willingness to work in harmony with other disciplines.

Finally, how do the results of our course’s evaluation questionnaire compare with the other 49 courses which are currently a part of our School’s curriculum? With a total score of 4.60, our program was second to only one – the best evaluated program (pathology) that attained 4.61. Also, our course leader was ranked the 7th best teacher (from 233 teachers in total) with a score of 4.87, while the best evaluated teacher scored 4.97. This information additionally reflects the satisfaction of students with the program and efforts invested in its implementation.

Within the worldwide patchiness of teaching disability and rehabilitation, there are some innovative endeavors, mainly pertaining to experiential activities aimed primarily at changing attitudes. Among these are use of videos and role-playing (3), simulation sessions (11), direct involvement in the rehabilitation program of a specific patient, and visiting support services or persons with disability living in their homes (12). These interesting educational activities deserve consideration.

In conclusion, we believe that the exposure of students to rehabilitation medicine for ten working days is adequate. The program is broad in scope, well organized and delivered, and was well received by the students. To provide students with further information, a rehabilitation physician also gave 4 hours of lectures on rehabilitation during the course on Family Medicine to students in their 6th year of studies (ie, students who attended our course in January 2002). The lectures focused on the role of general practice/family medicine in community rehabilitation, as well as on primary care needs of persons with disability.

We intend to offer the program again in January 2004. Our future efforts will focus on routinely including the issues related to disability into ward discussions about individual patients, as well as into programs of other courses, particularly pediatrics, orthopedics, and neurology. Also, we are considering a possibility to change the name of the course from “Physical Medicine and Rehabilitation” into “Rehabilitation Medicine”. This abbreviated name would give a better description of the discipline’s scope. Currently, the whole Europe is undergoing extensive reforms in medical education, aiming at elimination of the remaining obstacles to the free mobility of students, graduates, teachers, and scientists (8). We hope that this report of our program may be useful to col-

leagues in other European countries (particularly in CEE) who consider a reform of their program.

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Correspondence to:

Tonko Vlak

Department of Physical Medicine,
Rehabilitation and Rheumatology

Split University Hospital

Marmontova 4

21000 Split, Croatia

tonko.vlak@st.hinet.hr