Albert Einstein once said that “Nothing happens until something moves”. However, a plethora of evidence proves that the epidemic of non-communicable chronic diseases (NCDs) is happening because people, worldwide, are not moving enough. It is estimated that in Europe more than two thirds of the adult population do not reach the recommended levels of physical activity (PA), and sedentary behaviour is even more prevalent in regions with lower socio-economic status.

Today, NCDs are linked to almost 63% of deaths globally. In low- and middle-income countries like Serbia, NCD-related mortality is much higher, rising to almost 80%.

Accordingly, physical inactivity directly contributes to about 5 to 10% of all deaths, and leads to about 5.3 million deaths per year worldwide.

The beneficial effects of PA in primary, secondary and tertiary prevention are well documented. Many countries and healthcare systems have recognised the importance of preventive strategies (e.g. implementation of programmes that are focused on promotion of active lifestyles and PA counselling). These programmes have proven to be efficient in improving general health and well-being and to be cost effective. For example, costs related to the treatment of cardiovascular diseases total around 9% of the total healthcare expenditure in the European Union (EU), which accounts for approximately €10 billion. Besides national programmes, there are several guidelines and position statements that address this problem. The most comprehensive and widespread programme is Exercise is Medicine® (American College of Sports Medicine, ACSM) with uniform standards for physical fitness assessment and exercise prescription.

On the other hand, in everyday clinical practice, there is a general opinion that patients are not receiving adequate, if any, advice about physical activity. In fact,
Next, we attempted to orientate the providers. By providers, we mean not only medical doctors working in health facilities (primary and secondary hospitals, clinics and health centres) but also all educated experts who, in everyday practice, work with physically active people—predominantly those who work in fitness/wellness and recreation centres. Populations involved can differ in age, physiological state and health status, and may be with or without risk factors and NCDs. Important providers are those who work in the educational system (pre-school institutions, elementary and secondary schools, universities), scientific institutions (e.g. Institute of Sport) and management/governing bodies. Some providers also work in the sports media and sports goods industries, as well as in areas associated with sports—such as tourism. They can hold administrative positions in sports organisations, sports clubs or work in sports institutions. We think that only a multidisciplinary team of experts, working in different areas that cover different aspects of physical activity and exercise, can achieve our goal—which is not just about prescribing programmes of exercise, but creating policies and infrastructures for the implementation of exercise in everyday life.

It seems that doctors are poorly informed about the proper ‘dose’ for exercise prescription. In Serbia and many other countries, medical school curricula are orientated for healthcare of individuals in hospitals, while preventive and lifestyle medicine concepts are weak. Although it seems a logical strategy, the shift to promotion of health in the community is still a challenging task. Nevertheless, implementation problems for preventive programmes are universal and occur in both high-income and developing countries. It has been suggested that the main reason is one of poor education of providers, since most doctors lack basic knowledge, skills and abilities in the fields of assessment, counselling and prescription of PA. Medical students’ interest in PA counselling decreases significantly during medical school; consequently, few doctors report having adequate self-efficacy to effectively prescribe PA to their patients. There is compelling evidence that a patient’s compliance is strongly related to confidence in their adviser. And the adviser’s lifestyle habits have been found to be important predictors of their counselling practices.

But are medical doctors prescribing physical activity?

It is more common to undertake screening/risk stratification than it is to prescribe exercise. For example, in Switzerland, general practitioners point out that the main barriers are lack of knowledge, lack of time and personal disbelief. The main facilitators are motivation and education.

Accordingly, our strategy for implementation and sustainability of an Exercise is Medicine® programme is identification e.g. education of motivated and knowledgeable providers.

Our first idea in Serbia was to increase physical activity awareness not just in the general population, but among doctors as well. But there was not enough enthusiasm among doctors, who complained about a lack of clinical time, as well as necessary knowledge for PA assessment and prescription in their patient population.
Today’s children are the first generation to have a shorter life expectancy than their parents

Medical doctors are the ‘first line’ providers, so our initial step was the accreditation of elective modules for graduate students at the School of Medicine. We accredited Master’s and Ph.D. programmes for postgraduate students – not only for graduates from the School of Medicine, but also from four other faculties.

The University of Belgrade has a tradition of more than 2 centuries, having been founded in 1808. It holds 32 faculties, with more than 90,000 students. According to ShanghaiRanking, it is between the 200 to 300 best in the world and the School of Medicine is ranked 32nd among medical schools in Europe. There has been an English graduate programme at the School of Medicine for more than 2 decades.

Our School of Medicine has a 6-year undergraduate medical degree programme. In the second year, students are offered an elective module in exercise physiology (20 theoretical and 10 practical classes). Students gain a basic knowledge of the functional adaptations of different organ systems to physical activity and exercise, with a special emphasis on the type/mode of physical activity. In the fifth year (after passing exams in internal medicine) students can choose a 2-day course (15 theoretical and 15 practical classes) on ‘Individually tailored exercise programmes in prevention and treatment of NCDs. After this short course, students are educated in the field of physical activity assessment and on the general principles of exercise prescription for the prevention and treatment of most common NCDs. The practical part of the course is organised in different clinical departments and in a real clinical setting with actual patients.

One of our postgraduate programmes is the Vocational-Oriented Master in Physical Activity, Health and Exercise Therapy – or PAHET This is a 1-year, multidisciplinary study programme, that up-skill the graduate to a higher and vocationally-oriented level. The primary educational aim of this course is the development of a specialist with an appropriate level of knowledge, skills, competencies and behaviour to work independently and effectively as a consultant in the area of physical activity and exercise in health, fitness and wellness, and rehabilitation – as well as in other areas connected with education, policy making and inclusion of exercise in everyday life.

Candidates are eligible to apply if they hold one of the following qualifications: an undergraduate degree from the School of Medicine, the Faculty of Sport and Physical Education, the Faculty of Philosophy – Department of Psychology, or the Faculty of Special Education and Rehabilitation. Apart from the School of Medicine, all other degrees are 4-year programmes.

The curriculum consists of seven obligatory and 22 elective modules (a student has to choose three elective modules: one in the first and two in the second semester). While the first semester programme includes mandatory ‘core’ knowledge and skills, there is flexibility within the elective modules that allows the student to pursue areas of special interest, depending on their primary education. This includes: prevention in the general population and exercise for special population groups such as women, children, older adults and the disabled. Also, prevention and exercise therapy for groups with health risks and diseases, e.g. overweight and obese, those with hypertension and cardio-vascular disease, respiratory diseases, metabolic diseases (diabetes), mental health disorders and cancer. There are also topics devoted to elite athletes, such as: training, nutrition and psychology. Students cover a range of topics with internship practice and investigations in both laboratory and field settings. To complete the Master’s course, a scientific thesis must be prepared and presented. The programme started in the 2016/17 academic year, enrolling 36 students, and is taught in both Serbian and English.

This vocationally-orientated Master’s programme aims to provide students with a wider understanding of:

1. The influence of physical activity on health.
2. The components of an exercise programme.
3. The influence of different modalities of exercise on health and lifestyle-related diseases.

Also covered are: the scientific, social and psychological aspects of preventive exercise and therapies for chronic diseases, impairment, disability and handicap for patients, families and the community. The programme provides knowledge and understanding with a focus on the specific methodologies and technical skills needed to assess, plan, organise, co-ordinate and conduct exercise programmes – individual or group programmes – both systematically and creatively in various age/health/functional ability/disease conditions. These programmes may be for leisure, functional maintenance, disease prevention, coping with disabilities, recovery and rehabilitation, improving sports performance, psychosocial integration and wellbeing.

Graduates will be able to apply knowledge, competencies and skills in new or unfamiliar environments including (but not limited to):

- Public health services
- Private health companies
Exercise is more effective than drug treatment for stroke patients – in addition, there are no statistical differences between exercise and drug interventions in the secondary prevention of coronary heart disease and pre-diabetes. If evidence-based medicine proves that physical activity is an efficient, safe and cheap therapeutic option, there should be no excuses for not prescribing it. A pandemic of insufficient physical activity and related non-communicable diseases has made it an imperative that medical doctors should provide lifestyle counselling – and prescription of exercise programmes should be the cornerstone of this. Exercise programmes represent part of the prevention and treatment plans for all patients. In our opinion, the main problem for the implementation of an Exercise is Medicine programme is not the insufficient scientific evidence that this programme can prevent and treat NCD but the lack of educated providers. It is for this reason that our approach for the solution to this is the education of providers.

References