



THE IMPORTANCE OF TRAINING FAMILY PHYSICIANS IN PROMOTING PHYSICAL ACTIVITY AND SPORTS

Gheorghe STEFANET¹, Artiom JUCOV^{2,3}, Alisa TABIRTA², Serghei CEBANU²

¹Atletmed National Center for Sports Medicine, Chisinau, the Republic of Moldova

²Nicolae Testemitanu State University of Medicine and Pharmacy, Chisinau, the Republic of Moldova

³National Anti-Doping Agency, Chisinau, the Republic of Moldova

Corresponding author: Serghei Cebanu, e-mail: serghei.cebanu@usmf.md

DOI: 10.38045/ohrm.2025.1.03

CZU: 614.25:378:796

Keywords: physical activity, sports medicine, prevention, training, family medicine.

Introduction. Training family doctors in promoting physical activities and assisting individuals engaged in sports can significantly contribute to the primary prevention of non-communicable diseases. However, current training in this field, both in university and postgraduate programs, is often insufficient or even absent. The study aims to improve training programs for family physicians in the field of promoting physical activities by developing a model of continuing education program for them. **Material and methods.** A bibliographic study was conducted on the importance of training family physicians in promoting physical activity and sports. The study utilized the PubMed/MEDLINE, Google Scholar, and ResearchGate databases, covering the period from 2004 to 2024, using the following keywords: physical activity promotion, sports medicine, prevention, training, and family medicine. **Results.** In Moldova's medical education system, it is crucial to implement educational interventions that integrate topics from sports medicine and physical activity promotion into undergraduate and postgraduate training. Our recommendations focus on developing appropriate curricula, providing continuing education sessions, and establishing partnerships with experts in sports medicine. Consequently, we propose a project for designing a training program for family physicians to enhance their role in promoting physical activity and sports. **Conclusions.** To effectively promote physical activities and support individuals engaged in sports, it is essential to develop and implement continuous training programs for family doctors, tailored to local needs and resources.

Cuvinte-cheie: activitate fizică, medicină sportivă, prevenție, instruire, medicina de familie.

IMPORTANȚA INSTRUIRII MEDICILOR DE FAMILIE ÎN PROMOVAREA ACTIVITĂȚILOR FIZICE ȘI A SPORTULUI

Introducere. Instruirea medicilor de familie în promovarea activităților fizice și în asistența persoanelor care practică sportul poate contribui semnificativ la profilaxia primară a bolilor netransmisibile. Cu toate acestea, pregătirea actuală în acest domeniu în programele universitare, cât și în cele postuniversitare este de cele mai multe ori insuficientă sau chiar absentă. Prezentul studiu are ca obiectiv îmbunătățirea programelor de instruire a medicilor de familie în domeniul promovării activităților sportive prin elaborarea unui model de instruire continuă a acestora. **Material și metode.** A fost efectuat un studiu bibliografic cu referire la importanța instruirii medicilor de familie în promovarea activităților fizice și a sportului, utilizând bazele de date PubMed/MEDLINE, Google Scholar și Research Gate, în perioada 2004-2024. Cuvintele cheie utilizate au fost: promovarea activității fizice, medicina sportivă, prevenție, instruire, medicina de familie. **Rezultate.** Pentru învățământul medical din Republica Moldova este de mare importanță implementarea intervențiilor educaționale care vizează introducerea temelor din domeniul medicinei sportive și promovării activităților fizice în pregătirea universitară și postuniversitară. Recomandările noastre includ dezvoltarea unor programe de studii adecvate, furnizarea de sesiuni de educație continuă și crearea de parteneriate cu experți în domeniul medicinei sportive. Prin urmare, propunem un proiect de elaborare a unui program de formare pentru medicii de familie în domeniul promovării activității fizice și a sportului. **Concluzii.** Pentru promovarea activităților fizice și asistența persoanelor ce practică sportul este esențial să se dezvolte și să se implementeze programe de instruire continuă pentru medicii de familie adaptate nevoilor și resurselor locale.

INTRODUCTION

An important aspect of the work of primary healthcare specialists should be the promotion of physical activity – the most effective and accessible means of reducing sedentary behavior while also providing clinical benefits in the primary and secondary prevention of diseases (1, 2, 3). Furthermore, these specialists have the best knowledge of the patient's history and, therefore, possess a high level of credibility regarding the health indications and advice provided to prevent deficiencies. Promoting physical activity is a process that encourages the adoption of an active lifestyle, recognized for its preventive impact on non-communicable diseases, while sports medicine, on the other hand, focuses on the assessment, prevention, and treatment of conditions associated with sports practice. Collaboration and discussions between family physicians and patients present an opportunity for counseling on a healthy lifestyle, and recommendations for physical activity offer an excellent chance to engage in promotional discussions between healthcare providers and patients (4, 5, 6). Primary healthcare physicians contribute to the overall health of the community by promoting physical activity and strategies for preventing injuries.

The activity of family physicians is multifaceted. Due to their professional responsibilities, family physicians must possess knowledge and practical skills related to the health of individuals engaged in sports, as well as the benefits of physical activities for the general population (7). They are often required to offer consultations to children and young people participating in various sports and issue a medical certificate stating that the athlete is fit to participate in sports.

It is well known that participation in physical activity and sports requires official medical certification. A sports medical certificate can only be issued by a specialist in sports medicine (8). In the Republic of Moldova, there is only one Sports Medicine Center located in Chisinau, and most athletes and individuals engaged in sports seek medical assistance from local healthcare institutions (family physician centers, private clinics, etc.) (9). Therefore, family physicians largely decide whether an individual is fit to participate in sports. An unqualified medical conclusion that is not based on specific knowledge in the field could represent a professional error with a significant

impact on individuals engaged in either competitive or recreational sports (10).

Monitoring the health of both professional and amateur athletes should focus on the prevention of illnesses and injuries while promoting a healthy lifestyle (11). To carry out more effective professional activities, future family physicians will need to deepen their knowledge of sports medicine during their postgraduate training (12).

Optimizing training programs will benefit patients by providing guidance on safe exercise practices, injury prevention, and the importance of an active lifestyle (12, 13). Additionally, practice has shown that implementing preventive measures is an important part of the professional activities of family physicians (14, 15, 16). These measures include various activities in the fields of hygiene, epidemiology, health promotion, and health education, among others.

Thus, the paper aims to analyze bibliographic sources regarding the necessity of improving the knowledge level of family physicians in promoting physical activity and sports, along with the development of a model for enhancing a training program.

MATERIAL AND METHODS

To achieve the proposed aim, an advanced literature search was conducted in major international databases, including PubMed/MEDLINE, Google Scholar, and ResearchGate. The keywords used for the publication searches were physical activity promotion, sports medicine, prevention, training, and family medicine. Using these search terms, publications in English and Romanian from the period 2004–2024 were analyzed. The inclusion criteria were: original articles and research addressing physical activity promotion in primary care, training programs for family physicians and their relevance in chronic disease prevention, family physicians' competencies, health assessment of athletes and individuals engaged in recreational sports, and counseling on physical activity related to the roles of family physicians and sports medicine specialists. A total of 353 article titles and abstracts were reviewed, out of which 226 were excluded due to lack of full-text availability or insufficient direct relevance to the topic. To identify relevant information for the

study, 58 sources were analyzed and synthesized. The data from these articles were selected, classified, evaluated, and synthesized based on the following criteria: author/citation, study design, assessments/data, limitations, and key findings. The reported results were compiled in a narrative format. The findings are significant as they propose a training program development project for family physicians focused on physical activity promotion and sports.

RESULTS

The healthcare sector presents a unique opportunity to promote a healthy lifestyle through physical exercise among the general population, as well as by providing medical assistance to individuals who engage in regular sports activities, whether professional or amateur. Family physicians frequently interact with their patients, with most individuals visiting their healthcare providers at least once a year, which allows for a comprehensive approach to decision-making regarding physical activity for preventive or training purposes (17, 18, 19). Nowadays, health promotion activities are becoming increasingly relevant, particularly for the younger generation, as this population segment is the most vulnerable to risk factors and the most receptive to education and the development of a healthy lifestyle (11, 20).

It is well known that regular exercise and physical activity improve health, well-being, and help manage a range of chronic diseases that patients face today. However, there is a gap between these well-documented theoretical benefits and their practical implementation, largely due to deficiencies in the training and education of specialists at the primary healthcare level (21, 22, 23).

According to recent data presented by Sousa J.R., Afreixo V., Carvalho J., et al., who summarized the analysis of study programs and the survey of beneficiaries from medical schools, it was determined that integrating physical activity education into medical programs presents many challenges that require an understanding of the complex interplay between organizational dynamics, faculty perspectives, and educational priorities (10).

The integration of physical activity and sports aspects into continuing medical education programs can help address the ongoing educational needs of physicians who may not have received

sufficient training during their undergraduate studies. *Exercise is Medicine* and the *American College of Sports Medicine* have established that medical students should gain experience in four critical areas by the end of their training: assessing needs and applying physical exercise, endurance training, counseling, and behavioral strategies (24, 25).

Despite the benefits of training family physicians in sports medicine, several challenges remain. The analysis of study programs has shown that the training of family physicians does not include topics such as assessing patients' physical condition, counseling for safe sports activities, doping prevention, and managing sports-related conditions. Among the challenges faced by family physicians in sports medicine are limited resources for education and training, varying interests among medical students, and the need for continuous professional development to keep up with medical advances (26). In several developed countries, lifelong learning strategies have been implemented by integrating sports medicine topics into curricula (27). These strategies include developing specific modules within continuing medical education programs for physicians, covering aspects such as exercise physiology, injury prevention, and post-traumatic recovery (24, 28). Organizing periodic events, such as workshops and seminars, is of major importance, as they provide both theoretical knowledge and practical applicability by involving family physicians, sports physicians, and physiotherapists (29, 30). This approach can help integrate specialized knowledge into general medical practice.

For medical education in the Republic of Moldova, it is also crucial to implement targeted educational interventions by incorporating sports medicine and physical activity promotion topics into undergraduate and postgraduate training. Our proposals include developing an adapted curriculum, organizing continuous training sessions, and establishing partnerships with experts in sports medicine.

Thus, we propose a project to develop a training program for family physicians in promoting physical activity and sports (tab. 1). The objectives of the program will enable the optimization of healthcare by promoting physical activities and effectively monitoring individuals who participate in sports.

Table 1. Stages for developing a continuing education program for family physicians in promoting physical activity and sports.

<i>Assessment of training needs in the Republic of Moldova</i>
<ul style="list-style-type: none"> • Identification of knowledge and competency gaps among family physicians • Consultation with experts (specialists in sports medicine, rehabilitation, physiotherapy, etc.)
<i>Course development</i>
<ul style="list-style-type: none"> • Identification of key competencies that family physicians need to acquire, such as assessing patients' physical condition, preventing doping, preventing injuries, and managing sports-related conditions. • Inclusion of topics such as exercise physiology, sports nutrition, medical rehabilitation, and pain management. • Use of a combination of teaching methods, including theoretical courses, seminars, and case studies.
<i>Course implementation</i>
<ul style="list-style-type: none"> • Organization of training sessions that combine theoretical courses with practical exercises. • Provision of educational materials, such as guides, manuals, and access to relevant databases. • Teaching staff: hiring experts in sports medicine to guide and coordinate the training program.
<i>Course evaluation</i>
<ul style="list-style-type: none"> • Use of tests and practical assessments to measure the skills acquired by participants. • Collection of feedback from participants to continuously improve the course.
<i>Integration into professional practice</i>
<ul style="list-style-type: none"> • Providing continuous resources and consultancy for physicians applying new knowledge in their daily practice. • Collaborating with Sports Medicine Centers and other institutions to facilitate the integration of knowledge into clinical practice.
<i>Promotion and support of the course</i>
<ul style="list-style-type: none"> • Informing family physicians about the importance of sports medicine and the benefits of participating in the training program. • Offering continuing education credits or other incentives for participation in the training.
<i>Monitoring and continuous improvement</i>
<ul style="list-style-type: none"> • Periodic evaluation of the course's effectiveness and updating the curriculum based on new research and trends in sports medicine. • Adjusting the program based on participant feedback and developments in the field.

Thus, family physicians and sports medicine physicians must maintain continuous collaboration to ensure the health of registered athletes. Training family physicians in sports medicine can bring significant benefits to the healthcare system, including improved management of chronic conditions, injury prevention, and the promotion of a healthy lifestyle. Educating family physicians in sports medicine is essential for enhancing primary care and treatment outcomes for athletes and physically active individuals. By integrating sports medicine into primary care physicians' training programs, healthcare systems can better meet the diverse health needs of our populations, promote lifelong physical activity, and contribute to the overall well-being of our communities (31, 32).

DISCUSSIONS

The analysis conducted in this study makes a significant contribution by proposing a preliminary model of continuing medical education, based on a comprehensive synthesis of the literature and interdisciplinary consultations, aimed at enhancing family physicians' competencies in physical activity promotion.

The main health policy documents adopted in our country – the National Strategy “Health 2030” and the National Program for the Prevention and Control of Priority Non-Communicable Diseases in the Republic of Moldova for 2023-2027 – establish the intensification of citizens' physical activity as a key objective for strengthening public health (33, 34). Regular physical activity is a

strong preventive factor against cardiovascular diseases, cancer, and related conditions such as hypertension, obesity, diabetes, and mental health disorders (35, 36).

The family physician team serves as the first point of contact for patients within the healthcare system, providing primary and continuous medical care, including health promotion services at the individual, family, and community levels. Considering the ongoing reforms in primary healthcare and public health, strengthening capacities in joint health promotion activities and disease prevention presents a valuable opportunity (37).

Primary healthcare provides an appropriate setting for physical activity counseling, as it serves as the first point of contact between family physicians and the population, regardless of social status or economic background. Assessing physical activity as part of medical consultations is one of the most effective ways to promote it (1, 38). The lack of quality daily physical education in many schools has contributed to the obesity epidemic in numerous countries (39). The importance of an active lifestyle, smoking cessation, proper nutrition, and regular exercise cannot be overlooked.

Family physicians should encourage physical exercise at every visit, set physical activity goals, and monitor related behaviors (3, 40).

Several international organizations recommend incorporating physical activity counseling into the daily practice of primary healthcare services, regardless of the presence or absence of chronic conditions (35, 36). The American College of Sports Medicine, in collaboration with the American Medical Association, launched the “Exercise is Medicine” initiative, emphasizing that physical inactivity should be considered a “vital sign” in primary care. This means that physical activity should be assessed in clinical settings alongside other clinical indicators, such as blood pressure and body mass index (41).

Similarly, in the United Kingdom, primary healthcare providers are encouraged to identify patients who are not sufficiently active and subsequently offer physical activity counseling, especially to those diagnosed with a chronic condition (e.g., diabetes) (42). This initiative has demonstrated the success of integrating physical activity into primary care through the specific training of physicians and can serve as a model for adapting

a similar approach in the Republic of Moldova.

It is very important for family physicians to have basic knowledge of sports medicine. By definition, sports medicine is a specialty that deals with the health of individuals and athletes for educational, preventive purposes and to foster healthy individual interests and abilities for fulfilling an active social role (43, 44). Sports medicine encompasses not only the treatment of injuries but also preventive care, performance optimization, and health promotion. Family physicians trained in sports medicine can provide comprehensive care that addresses the physical, psychological, and nutritional needs of athletes (8, 38). It has become an essential field in improving patients’ health and quality of life, increasingly recognized for its benefits in preventing and treating health issues related to physical activity (25, 45). In this context, family physicians play a crucial role in assessing and recommending interventions related to sports and physical exercise.

A family physician trained in aspects of sports medicine can immediately initiate an appropriate treatment plan, facilitate rehabilitation, and monitor the recovery process. In the treatment of sports injuries, timely diagnosis and intervention are crucial to preventing long-term complications. It is essential for a family physician to understand the role, responsibilities, and content of the sports medical examination, contemporary methods for clinical, instrumental, functional, and laboratory evaluation of body systems, as well as the methodology and specific aspects of assessing and interpreting examination and testing results to accurately evaluate physiological capacities (8, 46). Establishing a clinical, functional, and differential diagnosis for organizing the rehabilitation process of athletes is also a key component (8, 47).

Primary care and sports medicine are complementary fields that can work together effectively to support individuals’ health and performance, whether they are professional athletes or casual sports participants (48). While the family physician focuses on overall health and disease prevention, the sports physician ensures that individuals engaging in sports train optimally and safely, addressing their specific physiological needs (49).

This collaboration can aid both in injury prevention and in maximizing long-term physical performance.

The activities of the family physician should focus on promoting health through a holistic approach across all aspects (physical, psycho-emotional, social, and cultural) throughout life, in conjunction with other healthcare services and public health interventions aimed at slowing down or even preventing various chronic non-communicable diseases (50, 51). Promoting physical exercise alongside other health maintenance methods (nutrition, recreation, psychological counseling) within interdisciplinary approaches at the primary care level aims to support a healthy lifestyle throughout life (52). The family physician can provide nutritional advice tailored to the individual needs of patients, encouraging the consumption of foods rich in essential nutrients and the avoidance of unhealthy products. For athletes, the focus can be on adjusting caloric intake and balancing proteins, carbohydrates, and fats according to the type and intensity of physical activity (38).

The use of banned substances or those at risk of doping endangers the health of athletes and individuals engaged in recreational sports (53, 54). Health specialists do not possess the necessary level of knowledge and practical skills regarding anti-doping. Most doctors are unaware of the international regulations and those developed by Moldova concerning anti-doping activities, the list of prohibited doping substances and methods in sports, as well as the sanctions in case of doping (55). The development and implementation of undergraduate and postgraduate programs addressing anti-doping can significantly contribute to reducing the consumption of banned substances. Medical professionals trained in anti-

doping can provide beneficial support to athletes by offering accurate information on the issue and positively influencing their values and behaviors (56, 57). Developing such programs within the undergraduate and postgraduate training system for health specialists, including family medicine, and applying them in the training process can greatly contribute to the success of anti-doping policies (58).

Integrating methodologies for promoting physical activity and the behavior of individuals who practice sports into primary healthcare can reduce costs by avoiding unnecessary referrals to specialists and optimizing the allocation of medical resources. A family physician with specialized training can provide primary healthcare to individuals engaged in sports and promote physical activity for primary and secondary prevention.

The main limitations of the study include the lack of direct empirical data to validate the proposed educational model and reliance on the available literature. At the same time, the model provides a solid foundation for developing pilot programs in medical education institutions. Practical implementation would require adapting the curriculum to local resources and context, as well as involving public health institutions and sports medicine centers.

In light of the analysis conducted, the results suggest that training family physicians in promoting physical activity can become a central element of national public health strategies. By implementing an adapted educational program, these objectives can be achieved with a positive impact on community health.

CONCLUSIONS

1. The professional activities of family physicians are diverse and include the implementation of numerous measures for the prevention and monitoring of communicable and non-communicable diseases. They play a central role in primary and secondary prevention by promoting physical activity, and proper training of family physicians can reduce unjustified referrals to specialists and increase the efficiency of medical care.
2. In order to carry out high-quality professional activities, family physicians need to be trained in the comprehensive care of individuals who practice sports and in promoting physical activity within the general population. Developing courses focused on assessing the health status of physically active patients, preventing injuries, and the principles of sports nutrition is crucial to meet current demands.

CONFLICT OF INTEREST

Authors have no conflict of interest to declare.

ACKNOWLEDGEMENTS

The study was conducted with the financial support of the project "Common Actions in Anti-Dop

REFERENCES

1. Lobelo F, de Quevedo IG. The Evidence in Support of Physicians and Health Care Providers as Physical Activity Role Models. *Am J Lifestyle Med.* 2016;10(1):36-52. doi:10.1177/1559827613520120
2. Netherway J, Smith B, Monforte J. Training Healthcare Professionals on How to Promote Physical Activity in the UK: A Scoping Review of Current Trends and Future Opportunities. *Int J Environ Res Public Health.* 2021;18(13):6701. doi:10.3390/ijerph18136701
3. Pellerine LP, O'Brien MW, Shields CA, Crowell SJ, Strang R, Fowles JR. Health Care Providers' Perspectives on Promoting Physical Activity and Exercise in Health Care. *Int J Environ Res Public Health.* 2022;19(15):9466. doi:10.3390/ijerph19159466
4. Donmez G, Torgutalp S, Yargic MP, et al. The effects of elective sports medicine internship program on physical activity counselling attitude of medical students. *Turk J Sports Med.* 2018;53(4):195-202. doi: 10.5152/tjism.2018.109
5. Osborne SA, Adams JM, Fawkner S, Kelly P, Murray AD, Oliver CW. Tomorrow's doctors want more teaching and training on physical activity for health. *Br J Sports Med.* 2017;51(8):624-625. doi: 10.1136/bjsports-2016-096807
6. Reddeman L, Bourgeois N, Angl EN, et al. How should family physicians provide physical activity advice? Qualitative study to inform the design of an e-health intervention. *Can Fam Physician.* 2019;65(9):e411-e419. PMC6741803, PMID: 31515329
7. Loeb DF, Bayliss EA, Candrian C, deGruy FV, Binswanger IA. Primary care providers' experiences caring for complex patients in primary care: a qualitative study. *BMC Fam Pract.* 2016; 17:34. doi:10.1186/s12875-016-0433-z
8. Ștefanuț G, Tăbîrță A, Cebanu S. Asigurarea serviciilor medicale de înaltă performanță pentru sportivii din Republica Moldova. *Sănătate Publică, Economie și Management în Medicină.* 2021;4(91):59-63. doi:10.52556/2587-3873.2021.4(91).59-63
9. Cebanu S. *Sănătatea sportivilor juniori: factorii de risc și măsuri de protecție.* Chișinău: Print Caro, 2019, 184 p. ISBN 978-9975- 56-673-5.
10. Sousa JR, Afreixo V, Carvalho J, Silva P. Nutrition and Physical Activity Education in Medical School: A Narrative Review. *Nutrients.* 2024;16(16):2809. doi: 10.3390/nu16162809
11. Cebanu S, Deleu R, Tabirta A. Стратегии профилактики хронической неинфекционной заболеваемости и оздоровительного лечения в Республике Молдова. In: *Współczesne trendy rozwoju rekreacji i rehabilitacji w XXI wieku/Modern trends in the development of recreation and rehabilitation in the twenty-first century*, red. A.Skaliy, S.Kokhan. Bydgoszcz, Poland, 2020, pp. 325-347. ISBN 978-83-65507-37-2. Available from: <https://kpbc.umk.pl/dlibra/publication/256851/edition/255264/content> (accessed on 12.09.2024)
12. Baynouna AlKetbi L, Nagelkerke N, AlZarouni AA, et al. Assessing the impact of adopting a competency-based medical education framework and ACGME-I accreditation on educational outcomes in a family medicine residency program in Abu Dhabi Emirate, United Arab Emirates. *Front Med (Lausanne).* 2024;10:1257213. doi:10.3389/fmed.2023.1257213
13. Sharma HB, Kailashiya J. Sports and exercise medicine: An emerging medical speciality. *Indian J Physiol Pharmacol.* 2022;66:226-32. doi:10.25259/IJPP_209_2021
14. Wattanapisit A, Petchuay P, Wattanapisit S, Tuangratananon T. Developing a training programme in physical activity counselling for undergraduate medical curricula: a nationwide Delphi study. *BMJ Open.* 2019;9(8):e030425. doi:10.1136/bmjopen-2019-030425
15. Weiler R, Chew S, Coombs N, Hamer M, Stamatikis E. Physical activity education in the undergraduate curricula of all UK medical schools: are tomorrow's doctors equipped to follow clinical guidelines? *Br J Sports Med.* 2012;46(14):1024-1026. doi:10.1136/bjsports-2012-091380
16. Mogre V, Scherpbier AJ, Stevens F, Aryee P, Cherry MG, Dornan T. Realist synthesis of educational interventions to improve nutrition care competencies and delivery by doctors and other healthcare professionals. *BMJ Open.* 2016;6(10): e010084. doi:10.1136/bmjopen-2015-010084
17. Global Action Plan for the Prevention and Control of Noncommunicable Diseases. World Health Organization, Geneva, Switzerland, 2013. Available

- from http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R10-en.pdf?ua=1 (accessed on 12.09.2024)
18. Promoting Physical Activity through Primary Health Care: A Toolkit. World Health Organization, Geneva, Switzerland, 2021. Available from <https://iris.who.int/handle/10665/350835> (accessed on 12.09.2024).
 19. Van Doorslaer E. Inequalities in access to medical care by income in developed countries. *Can. Med. Assoc. J.* 2006;174:177–183. doi: 10.1503/cmaj. 050584
 20. Lobelo F, Muth ND, Hanson S, Nemeth BA. Physical Activity Assessment and Counseling in Pediatric Clinical Settings. *Pediatrics.* 2020; 145(3): e20193992. doi:10.1542/peds.2019-3992
 21. Kettle VE, Madigan CD, Coombe A, et al. Effectiveness of physical activity interventions delivered or prompted by health professionals in primary care settings: systematic review and meta-analysis of randomised controlled trials. *BMJ.* 2022; 376: e068465. doi:10.1136/bmj-2021-068465
 22. Barnes PM, Schoenborn CA. Trends in adults receiving a recommendation for exercise or other physical activity from a physician or other health professional. *NCHS Data Brief.* 2012; (86):1-8. PMID: 22617014
 23. Silva CS, Mendes R, Godinho C, et al. Predictors of physical activity promotion in clinical practice: a cross-sectional study among medical doctors. *BMC Med Educ.* 2022;22(1):624. doi:10.1186/s12909-022-03686-z
 24. Asif I, Thornton JS, Carek S, et al. Exercise medicine and physical activity promotion: core curricula for US medical schools, residencies and sports medicine fellowships: developed by the American Medical Society for Sports Medicine and endorsed by the Canadian Academy of Sport and Exercise Medicine. *Br J Sports Med.* 2022;56(7):369-375. doi:10.1136/bjsports-2021-104819
 25. Pugh G, O'Halloran P, Blakey L, Leaver H, Angioi M. Integrating physical activity promotion into UK medical school curricula: testing the feasibility of an educational tool developed by the Faculty of Sports and Exercise Medicine. *BMJ Open Sport Exerc Med.* 2020;6(1):e000679. doi:10.1136/bmjsem-2019-000679
 26. Noormohammadpour P, Halabchi F, Mazaheri R, et al. Designing and implementing a curriculum for Sports and Exercise Medicine elective course for undergraduate medical students of Tehran University of Medical Sciences. *Br J Sports Med.* 2019; 53(10):601-604. doi:10.1136/bjsports-2018-099462
 27. Pandya T, Marino K. Embedding sports and exercise medicine into the medical curriculum; a call for inclusion. *BMC Med Educ.* 2018;18(1):306. doi:10.1186/s12909-018-1422-9
 28. Roberts A, Wilson R, Gaul CA. Incorporating exercise prescriptions into medical education exercise: The one prescription that can prevent and treat dozens of diseases. *Br. Columbia Med. J.* 2021; 63:238–241.
 29. Hardt F, Cristiano Geiss Santos R. The Primary Care Sports and Exercise Medicine Physician: A Key Role in a Continuum Remodeling Medical Career. Sports, Health and Exercise Medicine. *IntechOpen.* 2020. Available from: <http://dx.doi.org/10.5772/intechopen> (accessed on 09.09.2024).
 30. Carter-Roberts H, Antbring R, Angioi M, Pugh G. Usability testing of an e-learning resource designed to improve medical students' physical activity prescription skills: a qualitative think-aloud study. *BMJ Open.* 2021;11(7):e042983. doi:10.1136/bmjopen-2020-042983
 31. Brennan FH Jr, Rao AL, Myers RA, et al. Suggested Curricular Guidelines for Musculoskeletal and Sports Medicine in Family Medicine Residency Training. *Curr Sports Med Rep.* 2020;19(5):180-188. doi:10.1249/JSR.0000000000000713
 32. Vishnubala D, Iqbal A, Marino KR, et al. Creating a Sport and Exercise Medicine Masters syllabus for doctors: a Delphi study. *BMJ Open Sport Exerc Med.* 2022;8(2):e001252. Published 2022 Apr 8. doi:10.1136/bmjsem-2021-001252
 33. Programul național de prevenire și control al bolilor netransmisibile prioritare în Republica Moldova pentru anii 2023-2027. Available from: https://www.legis.md/cautare/getResults?doc_id=136642&lang=ro (accessed on 09.09.2024)
 34. Strategia Națională "Sănătate 2030". Available from: <https://faolex.fao.org/docs/pdf/mol223407.pdf> (accessed on 09.09.2024).
 35. WHO. Physical activity strategy for the WHO European Region 2016–2025, 2016, 24 p. Available from: <https://www.who.int/europe/publications/i/item/9789289051477> (accessed 09.09.2024).
 36. WHO. Global action plan on physical activity 2018–2030: more active people for a healthier world, Geneva, 2018, 101 p. Available from: <https://apps.who.int/iris/bitstream/handle/10665/279655/WHO-NMH-PND-18.5-rus.pdf> (accessed 10.09.2024).
 37. Cebanu S. Importanța promovării sănătății și edu-



- cației pentru sănătate în rândul tinerilor. *Revista de Științe ale Sănătății din Moldova*. 2020, nr. 3(25), pp. 89-96. ISSN 2345-1467. Available from: https://ibn.idsi.md/ro/vizualizare_articol/113592 (accessed 24.08.2024).
38. Jain NB, Borg-Stein J, Miranda-Comas G, Micheo W, Visco C, Fredericson M. Recommendations for Enhancing Sports Medicine Fellowship Training. *Am J Phys Med Rehabil*. 2020;99(4):348-352. doi: 10.1097/PHM.0000000000001332
39. Macaninch E., Buckner L., Amin P., et al. Time for nutrition in medical education. *BMJ Nutr. Prev. Health*. 2020;3:40. doi: 10.1136/bmjnph-2019-000049
40. Windt J, Windt A, Davis J, et al. Can a 3-hour educational workshop and the provision of practical tools encourage family physicians to prescribe physical activity as medicine? A pre-post study. *Open*. 2015;5:e007920. doi: 10.1136/bmjopen-2015-007920
41. Health Care Providers' Action Guide. Available from: [https://exerciseismedicine.org/assets/page_documents/HCP_Action_Guide\(3\).pdf](https://exerciseismedicine.org/assets/page_documents/HCP_Action_Guide(3).pdf) (accessed on 10.09.2024).
42. Finer S, Robb P, Cowan K, Daly A, Shah K, Farmer A. Setting the top 10 research priorities to improve the health of people with type 2 diabetes: a Diabetes UK-James Lind Alliance priority setting partnership. *Diabet Med*. 2018; 35(7): 862-870. doi:10.1111/dme.13613
43. Speed C. High-performance sports medicine. *Clin Med (Lond)*. 2013;13(1):47-9. doi: 10.7861/clinmedicine.13-1-47
44. Thornton J, Khan K, Weiler R, Mackie C, Petrella R. Are family medicine residents trained to counsel patients on physical activity? The Canadian experience and a call to action, *Postgraduate Medical Journal*. 2023;99(1169):207-210, doi: 10.1136/postgradmedj-2021-140829
45. Brannan M, Bernardotto M, Clarke N, et al. Moving healthcare professionals - a whole system approach to embed physical activity in clinical practice. *BMC Med Educ*. 2019;19:84. doi:10.1186/s12909-019-1517-y
46. Thornton JS, Frémont P, Khan K, Poirier P, Fowles J, Wells GD, Frankovich RJ. Physical activity prescription: a critical opportunity to address a modifiable risk factor for the prevention and management of chronic disease: a position statement by the Canadian Academy of Sport and Exercise Medicine. *Br J Sports Med*. 2016;50(18):1109-14. Epub 2016 Jun 22. doi: 10.1136/bjsports-2016-096291
47. Humphries D, Jaques R, Dijkstra HP, et al. Delphi-developed syllabus for the medical specialty of sport and exercise medicine: Part 2. *Br J Sports Med* 2021;55:81-3. doi:10.1136/bjsports-2020-102102
48. Dijkstra, HP, Pollock, N, Chakraverty, R, Alonso, JM. Managing the health of the elite athlete: a new integrated performance health management and coaching model. *Br J Sports Med*. 2014;48(7):523-31. doi: 10.1136/bjsports-2013-093222
49. Cox R, Morgan ZJ, Nithyanandam S, Puffer JC, Peterson LE. Practice Patterns of Family Physicians With and Without Sports Medicine Certification. *Clin J Sport Med*. 2020;30(3):210-215. doi: 10.1097/JSM.0000000000000838
50. Légaré F, Adekpedjou R, Stacey D, et al. Interventions for increasing the use of shared decision making by healthcare professionals. *Cochrane Database Syst Rev*. 2018;7(7): CD006732. doi: 10.1002/14651858.CD006732
51. Caron RM, Noel K, Reed RN, Sibel J, Smith HJ. Health Promotion, Health Protection, and Disease Prevention: Challenges and Opportunities in a Dynamic Landscape. *AJPM Focus*. 2023 Nov 8;3(1):100167. doi: 10.1016/j.focus.2023.100167
52. Smith-Ryan AE, Weaver MA, Viera AJ, et al. Promoting Exercise and Healthy Diet Among Primary Care Patients: Feasibility, Preliminary Outcomes, and Lessons Learned From a Pilot Trial With High Intensity Interval Exercise. *Front Sports Act Living*. 2021;3:690243. doi: 10.3389/fspor.2021.690243
53. Gleaves J, Petróczy A, Folkerts D, et al. Doping Prevalence in Competitive Sport: Evidence Synthesis with "Best Practice" Recommendations and Reporting Guidelines from the WADA Working Group on Doping Prevalence. *Sports Med*. 2021;51(9):1909-1934. doi: 10.1007/s40279-021-01477-y
54. Timercan, T, Jucov, A. Doping-free lifestyle and health care trends offered for athletes. *Sănătate Publică, Economie și Management în Medicină*. 2023;1(94):35-40. doi:10.52556/2587-3873.2023.1(94).05
55. Tabirta A, Chihai V, Cebanu S, Pogonea I, Timercan T, Jucov A, Stefanet Gh. Assessment of knowledge about the doping in the rehabilitation assistance of performance and recreational athletes. *Balneo and PRM Research Journal*. 2024;15(2):706. Available from: <https://bioclima.ro/Balneo706.pdf> (accessed on 09.10.2024).
56. Rubanovici, V, Ștefanet, Gh, Chirlici, A, Cebanu, S. Necesitatea educației antidoping a profesioniști-



- lor din domeniul sănătății. *Sănătate Publică, Economie și Management în Medicină*. 2023;1(94):45-50. doi: 10.52556/2587-3873.2023.1(94).07
57. Morente-Sánchez, J., Zabala, M. Doping in Sport: A Review of Elite Athletes' Attitudes, Beliefs, and Knowledge. *Sports Med.* 2015;43:395-411. doi:10.1007/s40279-013-0037-x
58. WADA. Information/Education Guidelines to Prevent Doping in Sport, 2016, 43 p. Available from: https://www.wada-ama.org/sites/default/files/resources/files/wada_guidelines_information_education_2016_v3.0_en.pdf (accessed on 24.08.2024).

Date of receipt of the manuscript: 21/08/2024

Date of acceptance for publication: 29/03/2025

Serghei CEBANU, WoS Researcher ID: AAD-2079-2022, SCOPUS ID: 57220030355

Alisa TABIRTA, SCOPUS ID: 57212270897