Incorporating Exercise is Medicine into Medical School Curriculums

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Background

Physical inactivity is a modifiable risk factor for seven of the ten leading preventable chronic diseases in the U.S., significantly contributing to national mortality rates.[1,2] There is well-established evidence that physical activity (PA) prevents disease and enhances overall well-being. Despite these proven benefits, exercise prescription is notably lacking in routine clinical practice. [3] A primary barrier to incorporating exercise prescription is inadequate education and training of healthcare professionals.[4] To bridge this evidence-education gap, an Exercise is Medicine® (EIM) elective was introduced into the West Virginia School of Osteopathic Medicine (WVSOM) curriculum. This presentation aims to highlight a gap in medical school curricula and present an effective solution and implementation guidance.

Exercise is Medicine ® (EIM)

Exercise is Medicine ® (EIM) is a global health initiative managed by the American College of Sports Medicine (ACSM) committed to the belief that physical activity supports optimal health and is essential in the prevention and treatment of many medical conditions. Their goal is to make physical activity assessment and promotion a standard in clinical care by creating a connection between healthcare and evidence-based physical activity resources. EIM promotes the inclusion of physical activity in treatment plans and encourages health care providers to refer patients to qualified exercise professionals and programs.

Evidence – Education Gap

- 13% of medical school in the U.S. offer some form of instruction in physical activity counseling [3]
- 6% of medical schools have this topic ingrained in core course work [3]
- ***87% of medical schools offer <u>no</u> curriculum in exercise medicine or prescription*** [3]

Methodology

A team of five medical students and three faculty members developed an EIM elective course based on ACSM standards and guidelines. The course included two-hour weekly sessions over 10 weeks, combining lecture-based and interactive, discussion-based components. At the course's end, students participated in a standardized patient encounter to assess their exercise prescription skills. Pre- and post-course surveys were conducted to evaluate the impact on students' knowledge and confidence in exercise counseling in a clinical setting.

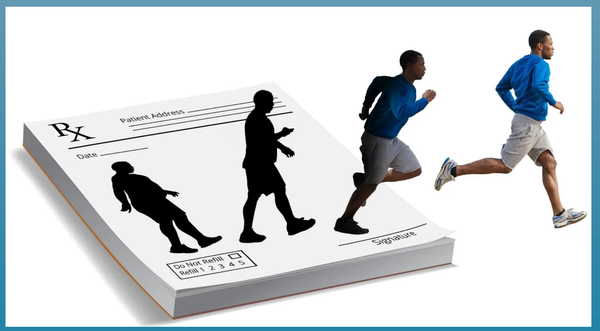

Image from: https://www.webmd.com/fitness/story/exercise-prescriptions

Course Objectives & Outline

1. Demonstrate appropriate use of exercise guidelines, exercise test as foundation to medical care, disease prevention and health promotion
2. Describe motivational interview skills that physicians engage with patients and family for positive behavior changes
3. Identify and practice history and physical examination specific to lifestyle-related health status including lifestyle "vital signs" such as diet, physical activity, stress level, sleep and emotional well-being.
4. Construct an evidence-based, achievable, specific, written action plan and develop exercise prescriptions
5. Identify appropriate use of community resources that support the implementation of healthy lifestyles.

Foundations of Exercise is Medicine	
Exercise is Medicine Introduction	Goals and background of EIM, EIM-on campus, and exercise prescription
Exercise Basics and Exercise Testing	Estimating and evaluating cardiorespiratory fitness from exercise and body composition tests. Using various exercise modalities to personalize exercise in accordance with safe exercise guidelines
Behavior Modification in Patient Encounters	Discussing transtheoretical model and strategies to overcome barriers to exercise with patients
Incorporating EIM into a clinical setting	Including Physical Activity as Vital Sign (PAVS), benefits and risks of exercise, fitting EIM into various specialties
Exercise Prescription of specific populations	
Diabetes and Metabolic Syndrome	Exercise modalities and their effects on blood glucose, obesity, weight loss, and metabolic syndrome
Cardiovascular Disease	Deter public misconceptions on physical activity exacerbations and promote physiologic changes to prevent disease progression
Neuromuscular Disease	Modifications to exercise and strength training to combat deficits after stroke. Benefits of multimodal exercise, specifically boxing, in Parkinson's Disease, dementia, and Alzheimer's Disease
Pulmonary Disorders	Exercise induced improvement in respiratory health and improvements in oxygen utilization
Immunocompromised	Changes in leukocytes with exercise. Increased benefits in cancer therapy and prognosis including pre-habilitation
Children and Elderly	Targeted exercises for both populations including increased bone mass, balance, and cognition

Results

The EIM elective was well-received by the students, who reported an increase in their knowledge and confidence in prescribing lifestyle changes for diverse patient populations. Additionally, the students reported an increased likelihood of incorporating the course material into their future clinical practice.

Discussion & Conclusion

The consequences of physical inactivity are well-known, and while most physicians are eager to address them, a lack of education presents a significant barrier.[4] Although nutrition counseling has gained traction in medical school curricula, exercise education is still lacking.[5, 6] Without proper training, this evidence-based method for disease prevention will continue to be underutilized. To address this, we established the EIM elective at WVSOM to enhance physicians' confidence and ability to provide individualized exercise counseling. I share our experience to encourage other medical schools to implement EIM, with the overarching goal of improving the health and well-being of patients.

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