



Short Communication

The Importance and Course Direction of Sports Pharmacy Courses

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Abstract

The aging of our global population presents a significant challenge, as one in six individuals will be aged 60 or older, and this age group is expected to reach one billion by 2030. As people continue to live longer, the health concerns the elderly face are becoming increasingly complex, including lifestyle-related diseases.

One trend worth watching is the emergence of sports nutrition pharmacies. Community pharmacies worldwide are transforming their role from merely dispensing medication to healthcare providers. Currently, health support pharmacies in Japan have begun offering nutrition consulting services. In the future, sports nutrition pharmacies will focus more on integrating nutritional and sports pharmacy to offer more comprehensive health support and services. This approach will help patients better manage the relationship between medications and nutrition, ultimately improving physical health.

Integrating sports medicine and nutritional medicine is crucial to promoting healthy aging. To provide more comprehensive health support and services and to help manage the relationship between medicines and nutrition, pharmacy students and practitioners must receive appropriate education. This approach will ultimately improve physical fitness levels and contribute to healthier aging.

Keywords: Sports pharmacy; Nutritional pharmacy; Sports nutrition pharmacy; Healthy aging; Lifestyle diseases

Introduction

The trend of global population aging is becoming increasingly apparent. In 2030, the world will have 1 billion people aged 60 or above, making up 1 in 6 of the global population [1]. The aging population of Western countries is one of the significant challenges facing sustainable development. As life expectancy increases, older people suffer from multiple health problems that become

increasingly complex [2], including lifestyle-related diseases [3]. The aging society dramatically impacts the environment, health risks, health and social care, and opportunities brought by aging [4].

World Health Organization (WHO) mention the importance of exercise for health and defines health as follows: health does not mean being sick or weak, but being in a complete state of physical, mental, and social adaptation [5]. Therefore, three elements necessary to maintain good health are nutrition, exercise, and rest. WHO announced the “Global Physical Activity Action Plan

2018-2030” and saw the importance of exercise intervention in the plan [6]. Therefore, sports medicine, pharmacy and nutrition have become popular recently. However, the combination of sports, the health industry, and medicine is inseparable, and doctors and pharmacists play an essential role. Therefore, departments in related fields must understand the impact of combining exercise, nutrition, and medicine to treat lifestyle diseases in older adults and improve public health.

Good nutrition is an essential component of patient care [7]. In recent years, the World Health Organization has proposed the “United Nations Decade of Action on Nutrition” (2016-2025) and advocated the concept of “food is medicine”, which has attracted domestic and foreign attention to nutrition and dietetics [8]. Nutritional effects of drugs can pose risks, especially if changes in vitamins, minerals, or other food components affect the use of the drug or if the drug causes nutritional deficiencies. In addition, drugs may also affect nutrition-related factors such as appetite, taste acuity, and gastrointestinal function [9]. In the nutritional management of patients, the combination of nutrition and medicine is essential. In 2015, Japan’s MHLW (Ministry of Health, Labour and Welfare) launched the “Patient Pharmacy Vision” to transform pharmacies into patient-centred family pharmacies and restore drug-related responsibilities [10]. The “Health Support Pharmacy” was opened in 2016, where nutritional care plays a key role, and pharmacists need to coordinate with various health professionals, consider the interaction between nutrition and medications, and participate in nutritional care for each patient [11]. However, pharmacy education models have yet to incorporate nutrition and multidisciplinary collaboration into comprehensive educational programs fully. Introducing “nutritional pharmacy” as a new specialty field is crucial to addressing these issues [12]. Research has also suggested that completing a nutrition course increases students’ confidence in providing primary care nutrition and makes them more comfortable talking about the role of nutrition in preventing disease [13].

As society places greater emphasis on personal health and fitness, pharmacies are no longer solely focused on dispensing medication. The emergence of sports pharmacy, a specialized field within healthcare, has become increasingly important. Health systems and their professionals are vital in promoting and maintaining healthy habits that lead to higher physical activity levels. Research suggests that pharmacists, especially young ones, are well-positioned to provide brief advice on increasing physical activity and serve as a valuable resource in the community. This paper explores the prospect of pharmacists becoming primary healthcare providers and advocates for physical activity within their field [14].

Pharmacies and pharmacists are essential healthcare resources for patients, providing various medical services and

collaborating with community partners to save healthcare costs [15]. The Global Physical Activity Action Plan 2018-2030 emphasizes the importance of the healthcare sector in promoting physical activity [16]. Physicians can encourage patients to adopt healthy lifestyles, including regular physical activity [17]. Healthcare professionals interact with numerous people daily, and even brief exercise training consultations can be a cost-effective and efficient way to boost physical activity and benefit various patient groups [18]. Additionally, they can assist patients in discovering local opportunities such as walking groups and other community events [19].

Promoting physical activity in community pharmacies is essential for educating people about lifestyle changes and health promotion services [20]. Promoting exercise as a vital tool for integrated healthcare and disease management is crucial. To make fundamental changes, providing primary and continuing education and training to healthcare professionals is necessary. The processes for assessing their needs, prescribing, and delivering exercise should also be improved. Additionally, funding for Research on the efficacy, effectiveness, feasibility, interaction, and comparability of exercise with other prevention, treatment, and rehabilitation modalities is required. This change requires credible, skilled, and solid initiatives within the medical community and healthcare system (HCS) [18].

Some physicians may not have enough knowledge or confidence to recommend exercise programs to their patients, which can hinder their ability to provide exercise counselling. Improved educational programs for healthcare practitioners are needed to overcome this barrier. By enhancing the education of pharmacy students, the confidence of future practitioners to implement this change can be increased [21]. There is no better time than now to incorporate physical activity assessment and promotion into healthcare in a way that involves clinicians and patients [17].

Sports Pharmacy and Nutritional Pharmacy Courses

Sports and nutritional medicine courses should include pharmacology and physiological sciences training related to “treating diseases with nutrition and physical activity.” Lifestyle diseases cannot be treated with medication alone; diet control and exercise therapy must also be incorporated. While doctors and pharmacists recognize the significance of diet and exercise, they are not authorized to prescribe it. Therefore, it is crucial to educate healthcare professionals about sports and nutritional medicine to enable them to provide optimal care for their patients.

Sports medicine courses today prioritize enhancing sports performance by addressing athletes’ distinct health and nutritional requirements, enabling them to attain maximum physical fitness,

recover quickly, and boost their endurance. In anticipation of the 2022 Tokyo Olympics, Japan has trained sports pharmacists who deeply understand drugs, supplements, and their effects on sports performance and health [22]. However, these courses should also emphasize the interplay between medication and exercise for elderly and ill individuals and healthcare support for diseases linked to physical activity and lifestyle. As such, sports pharmacy courses should include instruction on advising patients on lifestyle modifications, physical activity, and essential nutrition while under medication, giving students a comprehensive foundation in medication care skills.

Sports pharmacy courses offer comprehensive training on sports-related medications, performance supplements, and nutrition specifically designed for athletes and cover the essential topics of exercise, nutrition, disease, and drug interactions. The aim is to equip students with the skills and knowledge necessary to be strong patient advocates, encouraging physical activity and promoting healthy dietary habits to prevent and treat illness. These courses are critical in promoting healthy aging for personal and societal well-being.

Establishment of health support (exercise and nutrition) pharmacy

According to recent trends and policies, pharmacies worldwide are transforming from mere dispensers to providers of extensive healthcare knowledge [23]. With the emergence of automated drug dispensing systems (ADD), pharmacists can utilize their free time to prioritize patient care while ADD streamlines dispensing practices and medication reviews. These changes in the profession are necessary to meet society's healthcare needs and ensure safe and effective healthcare delivery. Pharmacists are an invaluable resource, yet they often need to be more utilized. In Japan, health support pharmacies now offer nutritional consulting services. Still, in the future, they will focus on combining nutritional pharmacy and sports medicine to provide more comprehensive health support and services.

Status of sports medicine courses

Pharmacy schools are increasingly focusing on the emerging field of sports pharmacy. Studies by Awaisu et al. [24] and Dabrowska et al. [25], along with the report from the International Pharmaceutical Federation [26], indicate that while many schools focus on doping and athletic performance, pharmacists have the expertise and willingness to address the public health issue of doping in sport. Japan's Sports Pharmacist Certification Program, offered by the Association of Pharmacy and Pharmacy (JADA), provides pharmacists with opportunities to gain knowledge and practical experience in sports pharmacy. However, more research

is required to support pharmacists' role in this field fully. To this end, we recommend adding sports and pharmacy-related content to the syllabus, covering sports prohibition, performance, and primary care's response to aging.

According to the Japanese University of Pharmacy [27] and Medicine [28], nutrition courses are already included in pharmacy and medical schools. However, there is a need for greater emphasis on the interaction between drugs and nutrition. We propose that this aspect be strengthened and incorporated into the syllabus. Finally, while current books on sports and Medicine focus primarily on drug prohibition, we must develop new approaches and not neglect the topic of sports medicine for older people.

Conclusions

As the global population ages, lifestyle-related diseases pose increasingly severe challenges to the health management of the elderly. In response, the combination of sports and nutritional medicine has emerged as an essential trend. This article delves into the design and development of sports pharmacy and nutritional pharmacy curricula, highlighting the significance of these fields in the health management of older adults.

We start by acknowledging the crucial role of exercise and nutrition in promoting healthy aging and preventing lifestyle diseases. Physical activity and nutrition are essential components of maintaining good health, and proper training and balanced nutrition can aid in preventing and managing various illnesses.

Next, we focus on creating and growing sports pharmacy and nutritional pharmacy courses. These courses should encompass relevant scientific knowledge such as pharmacology, exercise physiology, and nutritional physiology, and they should integrate theoretical knowledge with clinical applications. Additionally, we stress the importance of improving education models and training professionals to ensure their ability to provide comprehensive health support and services.

Finally, we offer recommendations for establishing health support pharmacies that combine the knowledge of sports medicine and nutritional medicine. These pharmacies will offer traditional pharmaceutical services and comprehensive health management and support services, promoting the health and well-being of community residents.

In general, the combination of sports medicine and nutritional medicine brings new ideas and methods to the health management of older people. Through enhancing education and training, establishing health support pharmacies, and other measures, we can better meet the health needs of older people, improve their quality of life, and achieve the goal of healthy aging.

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