

## EXERCISE PRESCRIPTION AND LEGISLATIVE ADVANCEMENTS: ANALYZING THE POTENTIAL IMPACT OF THE NEW BILL PROPOSED BY THE ITALIAN GOVERNMENT

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### ABSTRACT

Exercise prescription has been extensively explored and debated by both national and international organizations. It has been shown that insufficient physical activity is linked to premature mortality from all causes and the development of chronic diseases. Although adopting an active lifestyle is one of the most effective preventive measures for chronic conditions, findings from the 2023 Sport Report by Sport e Salute reveal alarming trends in Italy: 33.7% of the population does not engage in any physical activity. Recently, the X Commission of the Italian Senate unanimously endorsed Bill 287, which aims to revolutionize the role of physical activity in public health. This legislative initiative appears crucial to addressing the growing health burden in Italy.

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Recently, the X Commission of the Italian Senate unanimously endorsed Bill 287, introduced by Senator Daniela Sbröllini. The bill serves a dual purpose: i) to enable general practitioners (GPs), pediatricians, and specialists to prescribe physical activity as they would a medication; and ii) to formally recognize sports and physical exercise as tools for prevention and treatment, allowing families to deduct related expenses from their taxes.

Physical activity plays a fundamental role in every individual's life, from social, economic, and medical perspectives. Its positive impact on chronic non-communicable diseases – such as cardiovascular disease, diabetes, and certain cancers like breast and colon cancer – is well documented by numerous international studies.

According to a study conducted by Sport e Salute, the 2023 Sport Report, (1) 33.7% of Italians, equivalent to 19.7 million people, do not engage in any physical activity at all; 31.7% (18.5 million) engage in only some physical activity; 10.9% (11 million) occasionally participate in sports, and only 23.6% (13.8 million) engage in sports regularly. To make matters worse, 6 out of 10 schools lack a gym, and only 16% of Italians use bicycles, compared to a European average of 24%. In a country like Italy, where even the famous and healthy Mediterranean diet is increasingly being abandoned by young adults, a bill like that proposed by Senator Sbröllini seems essential.

A recent survey investigated the general shift away from the Mediterranean dietary pattern among the Italian population, showing that in a sample of 3,732 Italians, 83.82% had medium adherence to the Mediterranean diet, 11.33% low,

and only 4.85% high. Analysis of the data obtained from this national research showed that female sex, young age (17-40 years old), being a student and not working, and vegan and vegetarian diets were likely determinants of higher adherence to the Mediterranean diet. On the contrary, males, subjects aged >40 years, workers, and the unemployed need to improve their dietary habits to better align with the Mediterranean dietary pattern. No significant differences were observed among geographical areas of residence for sex ( $p=0.060$ ), health conditions ( $p=0.109$ ), adherence to special diets ( $p=0.563$ ), and frequency of physical activity ( $p=0.183$ ). (2)

As lifestyle habits deteriorate, pharmaceutical use in Italy has increased. According to the 2022 national report on medicine use, total pharmaceutical expenditure (public and private) reached €34.1 billion, a 6% rise compared to 2021. Women had a higher exposure to medications (70.4%) compared to men (62.0%). Cardiovascular drugs were the most prescribed (42.7%), with 26.6% of Italians taking medications for hypertension and heart failure. Use of diabetes medications also rose slightly, with metformin remaining the most prescribed. (3)

In this context, integrating physical activity into medical practice – as proposed in Bill 287 – becomes essential for improving overall health and reducing medication dependency.

As a matter of fact, physical activity is indeed recognized as a complementary and alternative medicine, alongside practices such as acupuncture and massage therapy, as well as other non-pharmacological methods for preventing and treat-

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ing chronic diseases, such as nutrition. (4) On the other hand, physical inactivity, which does not necessarily coincide with the mere lack of exercise, is one of the main causes of most chronic diseases and is harmful to health and well-being.

In this context, the role of general practitioners and pediatricians is essential to promote a healthy lifestyle and combat sedentary behavior. They are the first line of clinical evaluation for the population and can undertake primary prevention interventions for individuals with low or very low risk. Once they have identified or suspected the need for interventions at higher risk levels, they must be able to refer the patient to a network of specialized facilities connected to primary healthcare. These facilities are intended for patients with medium- to high-risk levels, whether clinically silent but carrying risk factors or already with established conditions. These territorial centers will operate in a network within the regional territory. In this regard, Bill 287, presented by Senator Sbröllini, aims to make them coincide with sports medicine facilities. According to the organizational models in place in different regions, these facilities are responsible for issuing certificates of fitness for competitive sports, which are included in the essential levels of care, with the goal of making the best use of the expertise and experience already available within the regional health services. In their operations, these centers can also rely on the collaboration of nutritionists, psychologists, and graduates in exercise science.

Physical activity includes “any bodily movement caused by the contraction of skeletal muscles and associated with energy expenditure”, while training is “regular, structured physical activity aimed at improving and/or maintaining physical fitness”, which in turn is understood as “the set of abilities (joint flexibility, muscle strength, body composition, and cardiorespiratory fitness) related to the ability to engage in physical activity and associated with a reduced risk of mortality and morbidity”. (5) The term “sport” instead means all forms of physical activity which, through casual or organized participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competition at all levels.

The European Society of Cardiology Guidelines on Sports Cardiology and Exercise drafted in 2020 emphasize that the effects of physical activity in individuals with a history of cardiovascular events include an increase in the ischemic threshold with a lower risk of recurrent coronary injuries, an increase in functional capacity, and an increase in the body’s aerobic metabolic capacity, with a reduction in both cardiac and overall mortality. (6,7)

Physical activity can be incorporated into a therapeutic or prophylactic program for preventive, therapeutic, or physical fitness maintenance purposes. The regular and continuous practice of physical activity produces a substantial range of benefits, including a reduction in metabolic disorders and an improvement in quality of life, increased cardiopulmonary function and muscle strength, improved endothelial function, metabolic and coagulative profile, reduced body weight, and lower average blood pressure values. (6,7)

The Italian primary health care system still lacks a structured and standardized approach to exercise prescription. GPs seldom include physical activity as a formal part of patient care, partly due to insufficient training, the absence of clear national guidelines, and limited integration with allied health professionals such as exercise physiologists or kinesiologists.

Compared to several European countries – such as Finland, Sweden, and the United Kingdom – Italy lags in establishing institutional frameworks for physical activity prescription. In Finland, for instance, the Physician’s Health Check Program integrates physical activity counseling into routine visits, supported by government funding and interdisciplinary teams. Similarly, the UK’s Exercise Referral Scheme connects GPs with certified fitness professionals in community settings, with demonstrated benefits in patient adherence and health outcomes. Preliminary models, based on analogous reforms in Scandinavian countries, suggest that systematic physical activity prescription could reduce the prevalence of sedentary behavior by 15-20% within 5 years, leading to a potential 5-8% reduction in the burden of non-communicable diseases such as type 2 diabetes, hypertension, and cardiovascular disease. Financial projections indicate possible annual savings of up to €1.5 billion through decreased hospital admissions and drug consumption, accompanied by increased productivity and quality-adjusted life years.

Certain medications may affect exercise outcomes. For example, beta-blockers can suppress heart rate, complicating efforts to determine exercise intensity and

thresholds. Similarly, while physical activity is a first-line treatment for type 2 diabetes, studies on metformin have shown mixed results. Some studies report reduced athletic performance, while others found no significant impact on exercise capacity. (8) A meta-analysis of 14 clinical trials, published more than 20 years ago, demonstrated that physical exercise lowers glycated hemoglobin (HbA1c) levels independently of changes in body weight. (9) These long-term effects are attributed to adaptations in skeletal muscle, liver metabolism, and body composition. (10) More recently, an interventional study involving 262 sedentary adults with type 2 diabetes demonstrated that combining aerobic and resistance training improved HbA1c more effectively than either modality alone or no exercise, regardless of medication use.

Exercise can be described as a “pleiotropic drug”, not only aiming to reduce cardiovascular events and metabolic diseases but also seeking to mitigate or prevent the toxic effects of cancer therapy on the myocardium, skeletal muscle, and endothelium. (11) Physical activity can play a preventive role against certain cancers and is considered a valuable therapeutic tool for oncology patients. In fact, exercise appears to contribute to greater physical and psychological autonomy and to improved psychological well-being, allowing for better functional recovery and a reduction in complications. (12)

## Conclusions

If passed, Bill 287 could significantly improve the health and well-being of the Italian population by encouraging regular physical activity and reducing the burden of chronic diseases. However, caution is necessary. Vulnerable individuals – such as those with advanced heart failure, cancer, neurodegenerative diseases, sarcopenia, or severe obesity – require close supervision and individualized exercise plans. For these patients, physical activity may not always be feasible due to motor or cognitive limitations. Therefore, exercise prescription should always be personalized, carefully monitored, and integrated into a broader, multidisciplinary approach to care.

**Conflict of interest:** the authors have no conflict of interest to declare.

**Ethics approval and consent to participate:** not applicable.

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