

Editorial – ERMPS Healthspan: to improve lifespan in physical and mental health

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The inception of a new section of ERMPS, dedicated to Healthspan Medicine, is therefore of critical and timely importance, for open-access sharing of emerging evidence, controversies, and consensus in healthy aging, contributing to the progress of Healthspan Medicine in the development of healthy lifespan strategies. Such strategies are not just critically important to prevent, or stop disease progression, but may also be highly relevant for prevention of disease recurrence after a successful treatment.

I have spent my entire professional life on the front-line battle against type 1 diabetes, which is only the tip of the iceberg of autoimmune diseases that affect 20% of the population with 100 different conditions. Some of the risk factors of these diseases are similar to those contributing to severe disease progression in COVID-19, and age-related chronic diseases, where a state of subclinical inflammation, lack of protective molecules, unhealthy nutrition, and a sedentary lifestyle are associated with a premature consumption and exhaustion of the regenerative and repair capability of our organs and specialized tissues, resulting in accelerated, unhealthy aging.

This challenge in the US now affects 90% of the population over 65 years of age and is responsible for 90% of the US healthcare spending (now over \$4.3 trillion/year in the US alone or approximately 20% of our GTP). The traditional ranking of countries by life expectancy has been now complemented by the much more relevant Healthspan Ranking, where you may be surprised to learn how many, and which countries don't make the list of the top 10, or even the top 50. In the case of the US, for example, a 69th ranking is associated to 66.1 years of healthy life expectancy. This indicator is particularly worrisome if we consider that the US already spend approximately 20% of the GDP in healthcare, most of it in an age-range category that is projected to double in the next two decades. In addition, for the past three years, and for the first time in history, lifespan in the US has decreased, and it is now thought that children born now could represent the first generation living less than their parents¹⁻¹⁰.

This global threat is not necessarily associated to unavoidable genetic factors, but rather to factors related to the environment, unhealthy diets, lack of protective substances, and insufficient physical activity.

Investments in health are critically needed, rather than treating people only when they become "patients". However, this will require a major paradigm shift in healthcare systems currently relying on an increasingly unsustainable profit chain, associated with the growing tide of often preventable, age-related chronic diseases.

While living longer may become an indirect benefit of healthy lifespan strategies, the objective of ERMPS Healthspan is to contribute to the development of novel sustainable strategies to increase healthy lifespan, to preserve health, minimizing the phase of decline associated with unhealthy aging, to arrive to the end in good physical and mental conditions.

In addition to ongoing efforts at the forefront of cure focused transplantation research, such as islet transplantation for a cure of diabetes, where important clinical trials are in progress with both multi-organ donor and stem cell derived islets, research should also address the critical need for prevention of disease recurrence after an initially successful treatment, such as following islet transplantation where currently within two decades after treatment, less than 50% of grafts continue to function and less than 10% are still insulin independent¹¹.

The observations, hypotheses and emerging scientific evidence increasingly indicate that to allow the lasting success of a treatment it is necessary to prevent or eliminate the same risk factors that favor the progression of chronic diseases such as diabetes and other diseases associated with accelerated, unhealthy aging.

Preventing the phase of decline after an initial treatment is a problem that goes far beyond diabetes, but which is at the basis of many pathologies associated with an unhealthy progression of chronological age.

Improving healthy aging is not only desirable to prevent human suffering, but it also represents a moral objective that any responsible society should pursue and will have an unprecedented economic global impact because every year added to the healthy lifespan could save \$38 trillion to the global healthcare economy, and 10 added years could save \$367 trillion¹².

We hope you will enjoy and contribute to this important new section of ERMPS.

With my best Healthspan wishes,

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Conflict of Interest

The author declares that he has no conflict of interests.

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