



## Lifestyle Effects On Delayed Ageing “EDASTUR”.

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**Abstract:** The survival of developed populations has increased by 10 years between 1980 and 2015 (Wang et al., 2016). This is a great achievement, however, is accompanied by pathological changes that deteriorate ageing, with a high economic cost. This is relevant in the Principality of Asturias where the population is ageing and there is a high level of chronic diseases and is reflected in the "Estrategia de especialización inteligente del Principado de Asturias 2021-2027". The adherence to healthy lifestyle can help maintain life expectancy and population's health (Partridge et al., 2018). Genomic biological age analysis techniques, known as epigenetic clocks (Horvath & Raj, 2018) are the most accurate approach, to determine the degree of senescence of tissues or individuals (Simpson & Chandra, 2021). In this context, the consortium “Lifestyle effects on delayed ageing -EdAstur-“ was born, composed by Human Analytics, Bioquochem, Ispa-Finba and the University of Oviedo. The scientific and technical mission of the consortium is to develop strategies and tools aimed at the primary prevention of disease and attenuation of ageing. The aim of the pilot project is to analyse the effect of physical exercise on epigenetic biological age and systemic oxidative status, habits, and motivations for the different lifestyles in two age groups of the Asturian population. Moreover, the development of a balance for double weighing and the development of a system for assessing movement by accelerometry. The study was approved by the ethical committee. In this pilot project we will study sedentary and active people, belonging to two age groups, young people aged 18 to 25 years and adults aged 50 to 65 years, men, and women. We will study biological age by analysing DNA methylation and systemic oxidative status and the adherence to regular physical activity and healthy lifestyles. Finally, we will monitor physical activity using the integral digital tool. Preliminary results: In this pilot study we obtained blood samples from 100 volunteers. On the technological side, we are finishing the scale for the study of diet by double weighing, and the development of an accelerometer for the study of physical and sporting activities. The study will allow us to understand differences in DNA methylation as a function of lifestyle, particularly in relation to physical activity. In addition, we will learn about the motivations for different behaviours in relation to adherence to physical activity and healthy diets. It is necessary to develop technological tools that allow the study of health-related factors. Finally, our goal is to turn ageing into an active and healthy option. Our goal is to turn ageing into an active and healthy option.

**Keywords:** Aging, Lifestyle, Exercise, Nutrition, Technology.