OPEN ACCESS Freely available online

Journal of Gerontology & Geriatric Research

Brief Report

Environmental Effects on Aging and Lifecycle

G Suresh Babu*

R.V.R. & J.C. College of Engineering, Guntur, Andhra Pradesh, India

BRIEF REPORT

Aging is linked to a decline in cellular and tissue function over time, which is linked to a higher prevalence of chronic diseases. The assumption that ageing is regulated at the genetic level as well as by non-genetic variables is supported by evidence from invertebrate model organisms and human research. In controlled circumstances, even the longevity of isogenic individuals shows considerable disparities between the main and last death, implying that even minor environmental alterations can have a significant impact on ageing and lifespan. Dietary therapies, a better-regulated stress response, physical activity, and circadian rhythms are only a few examples of environmental ageing modulators.

After all, our bodies are designed to labour continually for dozens of years, causing wear and tear. What's interesting is that this isn't always the case. Aging is more than just the product of normal wear and tear. Metabolism is a term that refers to all of the activities that allow the body to function, including the beating of the heart, muscular contractions, breathing, and nerve signal firing. Because mice and bats have similar metabolisms, one would anticipate them to age and wear at the same pace. A mouse, on the other hand, has a two-year life span, whereas a bat can live for 30 years or more.

The pervasiveness of age-related changes in chromatin regulation across cell types and species is now well recognised, with studies of chromatin ageing across the lifespan of model organisms being the primary focus. Though it is evident that various epigenomic alterations occur as people age, it is less obvious how these changes may affect tissue and cell biology in the near future. Because chromatin may serve as a regulatory platform, age-related epigenomics may contribute to biological instability. For starters, changes in the chromatin landscape throughout time may result in diminished transcriptional accuracy and cell and tissue performance.

The transcriptional network's strength and integrity have been reported to deteriorate with age. It's still unclear if ageing is linked to increasing cell-to-cell transcriptional noise, which is another measure of transcription precision. Indeed, in cardiomyocytes with ageing, increased transcriptional noise has been identified for examined genes. It's also unclear if ageing is linked to increased cell-to-cell transcriptional noise, which is another component of transcription precision. Indeed, enhanced transcriptional noise has been seen in any of the six tested genes in hemopoietic stem cells from elderly mice.

It's important to note that these pioneering researches were confined to a few genes and cell types due to technical constraints. Recent advancements in single cell profiling techniques now allow for high-resolution genome-wide investigations of single cell transcription across a variety of cell types, which will be crucial in determining the significance of transcriptional noise regulation during ageing. Changes in chromatin modification with age may have an impact on transcriptional accuracy. Recent research suggests that the boosting transcriptional mechanism has a crucial role in aging.

Correspondence to: G Suresh Babu, R.V.R. & J.C. College of Engineering, Guntur, Andhra Pradesh, India, E-mail: gogineni1988@gmail.com

Received: September 09, 2021, **Accepted:** September 23, 2021, **Published:** September 30, 2021

Citation: Babu SG (2021) Environmental Effects on Aging and Lifecycle. J Gerontol Geriatr Res. 10: 572