Long-lived parents could mean a healthier heart into your 70s

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Credit: Bill Kuffrey/public domain

The longer our parents lived, the longer we are likely to live ourselves, and the more likely we are to stay healthy in our sixties and seventies. Having longer-lived parents means we have with much lower rates of a range of heart conditions and some cancers.

The major study, funded by the Medical Research Council and involving

almost 190,000 participants in the UK Biobank, is the largest of its kind. It found that our chances of survival increased by 17 per cent for each decade that at least one parent lives beyond the age of 70.

The study, published today in the *Journal of the American College of Cardiology*, was led by the University of Exeter and involved an international team of academics from the University of Cambridge (UK), UConn Center on Aging at UConn Health in Connecticut, USA, the French National Institute of Health, and the Indian Institute of Public Health. It found evidence showing for the first time that knowing the age at which your parents died could help predict your risk not only of heart disease, but many aspects of heart and circulatory health.

The researchers used data on the health of 186,000 middle-aged offspring, aged 55 to 73 years, followed over a period of up to eight years. The team found that those with longer lived parents had lower incidence of multiple circulatory conditions including heart disease, heart failure, stroke, high blood pressure, high cholesterol levels and atrial fibrillation. For example, the risk of death from heart disease was 20% lower for each decade that at least one parent lived beyond the age of 70 years. In addition, those with longer lived parents also had reduced risk of cancer; 7% reduced likelihood of cancer in the follow-up per longer-lived parent.

Although factors such as smoking, high alcohol consumption, low physical activity and obesity were important, the lifespan of our parents was still predictive of disease onset after accounting for these risks.

Dr Janice Atkins, a Research Fellow in the Epidemiology and Public Health group at the University of Exeter Medical School and lead author on the paper, said: "To our knowledge, this is the largest study to show that the longer your parents live, the more likely you are to remain healthy in your sixties and seventies. Asking about parents' longevity

could help us predict our likelihood of ageing well and developing conditions such as heart disease, in order to identify patients at higher or lower risk in time to treat them appropriately."

The study built on previous findings published by the University of Exeter Medical School researchers earlier this year, which established a genetic link between parents' longevity and heart disease risk. That paper, published in the journal *Aging*, studied 75,000 participants in the UK Biobank, and found that offspring of longer-lived parents were more likely to have protective variants of genes liked to coronary artery disease, systolic blood pressure, body mass index, cholesterol and triglyceride levels, type 1 diabetes, inflammatory bowel disease and Alzheimer's disease.

Dr Luke Pilling, lead author of the second study, said: "This work helps us identify genetic variations explaining the better health of people with longer-lived parents. We prominently found genetic factors linked to blood pressure, cholesterol levels and smoking, which underlines how important these avoidable and treatable risks are. However, we also found novel genetic factors, which could provide new clues to help us understand why having longer-lived parents has health benefits."

Professor David Melzer, who leads the research programme, said: "It's been unclear why some older people develop heart conditions in their sixties while others only develop these conditions much later in life or even avoid them completely. Our research tells us that, while avoiding the well-known risk factors such as smoking is very important, there are also other factors inherited from parents. As we understand these parental factors better, we should be able to help more people to age well."

Professor George Kuchel, study co-author and Director of the UConn Center on Aging also noted: "This study provides additional fuel to really

bolster research efforts by us and others in Geroscience, a field that seeks to understand relationships between the biology of aging and age-related diseases. Aging is the most important risk factor for common chronic conditions such as heart disease, Alzheimer's and cancer, which are likely to share pathways with aging and therefore interventions designed to slow biological aging processes may also delay the onset of disease and disability, thus expanding years of healthy and independent lives for our seniors."

Provided by University of Exeter