Anxiety and depression may lead to shorter telomeres

DOI: 10.1038/MP.2014.89

Young women with anxiety disorders and young adults with major depression despite current use of antidepressants may be more susceptible to shortening of telomeres—the ends of chromosomes that protect DNA from deterioration. The authors of this research, published this week in Molecular Psychiatry, stress that there is no direct relationship between antidepressant medication and telomere length or between telomere length and depressive or anxiety disorders in young adults, but that these disorders may influence telomere length in these two groups.

Depression and anxiety disorders increase the risk of numerous diseases occurring later in life, including cardiovascular disease, osteoporosis, and cognitive decline. Previous work has suggested that telomere length, which normally shortens with age and in response to stress, may be associated with
these diseases and mental health disorders, and potentially serves as a biomarker for risk. However, these studies have largely used clinical samples, and produced conflicting results.

Belinda Needham and colleagues analyzed psychiatric assessments and telomere length of 1,164 participants (56.4% women), ranging in age from 20-39. The authors note that participants were ethnically diverse and representative of the US population. In the population participating in the study, they found that there was no association between depression or anxiety and telomere length. Additionally, the lack of association did not appear to vary across race and ethnicity. However, Needham and colleagues found that when they separated the genders in their population study, the telomere length in women, but not men, with general anxiety disorder was 169 DNA base pairs shorter on average than counterparts with no anxiety symptoms. Furthermore, in the population of people from both genders who were currently using antidepressants, they found that those with major depression had telomeres that were 651 DNA base pairs shorter than those without major depression. The authors suggest that this shorter telomere length may be related to depressive symptoms serious enough to warrant treatment, rather than directly linked to antidepressant use. However, additional studies are needed to further explore these findings.

CONTACT:
Belinda Needham (University of Michigan, Ann Arbor, MI, USA)
Tel: +1 734 615 9228; E-mail: needhamb@umich.edu

Editorial contact at Molecular Psychiatry:
Julio Licinio (South Australian Health and Medical Research Institute, Adelaide, Australia)
Tel: +61 8 8116 4400; E-mail: julio.licinio@sahmri.com

Please link to the scientific paper in online versions of your report (the URL will go live after the embargo ends): http://dx.doi.org/10.1038/MP.2014.89

Press contacts:
For media inquiries relating to embargo policy for the journal Molecular Psychiatry:

Lisa Boucher (Nature London)
Tel: +44 20 7843 4804; E-mail: l.boucher@nature.com

Neda Afsarmanesh (Nature New York)
Tel: +1 212 726 9231; E-mail: n.afsarmanesh@us.nature.com

About Nature Publishing Group (NPG)

Nature Publishing Group (NPG) is a publisher of high impact scientific and medical information in print and online. NPG publishes journals, online databases and services across the life, physical, chemical and applied sciences and clinical medicine.

Focusing on the needs of scientists, Nature (founded in 1869) is the leading weekly, international scientific journal. In addition, for this audience, NPG publishes a range of Nature research journals and Nature Reviews journals, plus a range of prestigious academic journals including society-owned publications. Online, nature.com provides over 5 million visitors per month with access to NPG publications and online databases and services, including Nature News and NatureJobs plus access to Nature Network and Nature Education's Scitable.com.

Scientific American is at the heart of NPG’s newly-formed consumer media division, meeting the needs of the general public. Founded in 1845, Scientific American is the oldest continuously published magazine in the US and the leading authoritative publication for science in the general media. Together with scientificamerican.com and 15 local language editions around the world it reaches over 3 million consumers and scientists. Other titles include Scientific American Mind and Spektrum der Wissenschaft in Germany.
Throughout all its businesses NPG is dedicated to serving the scientific and medical communities and the wider scientifically interested general public. Part of Macmillan Publishers Limited, NPG is a global company with principal offices in London, New York and Tokyo, and offices in cities worldwide including Boston, Buenos Aires, Delhi, Hong Kong, Madrid, Barcelona, Munich, Heidelberg, Basingstoke, Melbourne, Paris, San Francisco, Seoul and Washington DC. For more information, please go to www.nature.com.

Neda Afsarmanesh
Senior Press Officer

Nature Publishing Group
75 Varick St, 9th Floor
New York, NY 10013, USA
t: (212) 726-9231
f: (646) 563-7117
e: n.afsarmanesh@us.nature.com
w: www.nature.com