TELOMERE RESEARCH NETWORK

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RECENT PUBLICATIONS IN TELOMERE RESEARCH

APRIL – JUNE | QUARTER 2, 2022

A quarterly collection from the Telomere Research Network, featuring recent publications in population-based telomere research

Primary Research Articles:

Aging & Lifestyle

Bountziouka, V., Musicha, C., Allara, E., Kaptoge, S., Wang, Q., Angelantonio, E. D., Butterworth, A. Bountziouka, V., Musicha, C., Allara, E., Kaptoge, S., Wang, Q., Angelantonio, E. D., Butterworth, A. S., Thompson, J. R., Danesh, J. N., Wood, A. M., Nelson, C. P., Codd, V., & Samani, N. J. (2022). Modifiable traits, healthy behaviours, and leukocyte telomere length: a population-based study in UK Biobank. *The Lancet. Healthy longevity*, *3*(5), e321–e331. https://doi.org/10.1016/S2666-7568(22)00072-1

TL Method(s) Featured: MMqPCR

Hu, L., Bai, Y., Hu, G., Zhang, Y., Han, X., & Li, J. (2022). Association of Dietary Magnesium Intake With Leukocyte Telomere Length in United States Middle-Aged and Elderly Adults. *Frontiers in nutrition*, *9*, 840804. https://doi.org/10.3389/fnut.2022.840804

TL Method(s) Featured: qPCR

Psychiatric Conditions

Llorente, H., Perez-Rivera, J. A., Perez-Nieto, M., Cieza-Borrella, C., Pastor, I., Novo-Veleiro, I., Fernández-Mateos, J., Chamorro, A. J., Crecente-Otero, P., Laso, F. J., González-Sarmiento, R., & Marcos, M. (2022). Genetic susceptibility to telomere shortening through the rs2293607 polymorphism is associated with a greater risk of alcohol use disorder. *Mechanisms of ageing and development*, *206*, 111693. Advance online publication. https://doi.org/10.1016/j.mad.2022.111693

TL Method(s) Featured: qPCR

Kuehl, L. K., de Punder, K., Deuter, C. E., Martens, D. S., Heim, C., Otte, C., Wingenfeld, K., & Entringer, S. (2022). Telomere length in individuals with and without major depression and adverse childhood experiences. *Psychoneuroendocrinology*, *142*, 105762. https://doi.org/10.1016/j.psyneuen.2022.105762

TL Method(s) Featured: MMqPCR

Carvalho, C. M., Coimbra, B. M., Xavier, G., Bugiga, A., Fonseca, T., Olff, M., Polimanti, R., Mello, A. F., Ota, V. K., Mello, M. F., & Belangero, S. I. (2022). Shorter Telomeres Related to Posttraumatic Stress Disorder Re-experiencing Symptoms in Sexually Assaulted Civilian Women. *Frontiers in psychiatry*, *13*, 835783. https://doi.org/10.3389/fpsyt.2022.835783

TL Method(s) Featured: MMqPCR

Durand, M., Nagot, N., Michel, L., Le, S. M., Duong, H. T., Vallo, R., Vizeneux, A., Rapoud, D., Giang, H. T., Quillet, C., Thanh, N., Hai Oanh, K. T., Vinh, V. H., Feelemyer, J., Vande Perre, P., Minh, K. P., Laureillard, D., Des Jarlais, D., & Molès, J. P. (2022). Mental Disorders Are Associated With Leukocytes Telomere Shortening Among People Who Inject Drugs. *Frontiers in psychiatry*, *13*, 846844. https://doi.org/10.3389/fpsyt.2022.846844

TL Method(s) Featured: aTL-qPCR

Environmental Exposure

Bozack, A. K., Boileau, P., Hubbard, A. E., Sillé, F., Ferreccio, C., Steinmaus, C. M., Smith, M. T., & Cardenas, A. (2022). The impact of prenatal and early-life arsenic exposure on epigenetic age acceleration among adults in Northern Chile. *Environmental epigenetics*, *8*(1), dvac014. https://doi.org/10.1093/eep/dvac014

TL Method(s) Featured: DNAmTL

Development

Zhang, R., Du, J., Xiao, Z., Jiang, Y., Jin, L., & Weng, Q. (2022). Association between the peripartum maternal and fetal telomere lengths and mitochondrial DNA copy numbers and preeclampsia: a prospective case-control study. *BMC pregnancy and childbirth*, *22*(1), 483. https://doi.org/10.1186/s12884-022-04801-0

TL Method(s) Featured: qPCR

Andreu-Sánchez, S., Aubert, G., Ripoll-Cladellas, A., Henkelman, S., Zhernakova, D. V., Sinha, T., Kurilshikov, A., Cenit, M. C., Jan Bonder, M., Franke, L., Wijmenga, C., Fu, J., van der Wijst, M., Melé, M., Lansdorp, P., & Zhernakova, A. (2022). Genetic, parental and lifestyle factors influence telomere length. *Communications biology*, *5*(1), 565. https://doi.org/10.1038/s42003-022-03521-7

TL Method(s) Featured: Flow-FISH

Elam, K. K., Johnson, S. L., Ruof, A., Eisenberg, D., Rej, P. H., Sandler, I., & Wolchik, S. (2022). Examining the influence of adversity, family contexts, and a family-based intervention on parent and child telomere length. *European journal of psychotraumatology*, *13*(1), 2088935. https://doi.org/10.1080/20008198.2022.2088935

TL Method(s) Featured: MMqPCR

Physiology & Pathophysiology

Lim, H. F., Tan, N. S., Dehghan, R., Shen, M., Liew, M. F., Bee, S., Sia, Y. Y., Liu, J., Khor, C. C., Kwok, I., Ng, L. G., Angeli, V., & Dorajoo, R. (2022). Shortened Telomere Length in Sputum Cells of Bronchiectasis Patients is Associated with Dysfunctional Inflammatory Pathways. *Lung*, *200*(3), 401–407. https://doi.org/10.1007/s00408-022-00535-0

TL Method(s) Featured: qPCR

von Falkenhausen, A. S., Freudling, R., Waldenberger, M., Gieger, C., Peters, A., Müller-Nurasyid, M., Kääb, S., & Sinner, M. F. (2022). Common electrocardiogram measures are not associated with telomere length. *Aging*, *14*(undefined), 10.18632/aging.204149. Advance online publication. https://doi.org/10.18632/aging.204149

TL Method(s) Featured: qPCR

Jiang, L., Tang, B. S., Guo, J. F., & Li, J. C. (2022). Telomere Length and COVID-19 Outcomes: A Two-Sample Bidirectional Mendelian Randomization Study. *Frontiers in genetics*, *13*, 805903. https://doi.org/10.3389/fgene.2022.805903

TL Method(s) Featured: qPCR

Robinson, H., Ali, S. I., Diaz-Hernandez, M. E., & Lopez-Gonzalez, R. (2022). Telomere Attrition in Induced Pluripotent Stem Cell-Derived Neurons From ALS/FTD-Related *C9ORF72* Repeat Expansion Carriers. *Frontiers in cell and developmental biology*, *10*, 874323. https://doi.org/10.3389/fcell.2022.874323

TL Method(s) Featured: qPCR

Barnes, R. P., de Rosa, M., Thosar, S. A., Detwiler, A. C., Roginskaya, V., Van Houten, B., Bruchez, M. P., Stewart-Ornstein, J., & Opresko, P. L. (2022). Telomeric 8-oxo-guanine drives rapid premature senescence in the absence of telomere shortening. *Nature structural & molecular biology*, 10.1038/s41594-022-00790-y. Advance online publication. https://doi.org/10.1038/s41594-022-00790-y

TL Method(s) Featured: TRF & TeSLA

Reviews & Meta-Analyses:

Gampawar, P., Schmidt, R., & Schmidt, H. (2022). Telomere length and brain aging: A systematic review and meta-analysis. *Ageing research reviews*, *80*, 101679. Advance online publication. https://doi.org/10.1016/j.arr.2022.101679

TL Method(s) Featured: qPCR and Southern Blot

Buttet, M., Bagheri, R., Ugbolue, U. C., Laporte, C., Trousselard, M., Benson, A., Bouillon-Minois, J. B., & Dutheil, F. (2022). Effect of a lifestyle intervention on telomere length: A systematic review and meta-analysis. *Mechanisms of ageing and development*, *206*, 111694. Advance online publication. https://doi.org/10.1016/j.mad.2022.111694

TL Method(s) Featured: MMqPCR, aTL-qPCR, Q-FISH, qPCR

Khosravaniardakani, S., Bokov, D. O., Mahmudiono, T., Hashemi, S. S., Nikrad, N., Rabieemotmaen, S., & Abbasalizad-Farhangi, M. (2022). Obesity Accelerates Leukocyte Telomere Length Shortening in Apparently Healthy Adults: A Meta-Analysis. *Frontiers in nutrition*, *9*, 812846. https://doi.org/10.3389/fnut.2022.812846

TL Method(s) Featured: qPCR

Banerjee, P., Olmsted-Davis, E. A., Deswal, A., Nguyen, M. T., Koutroumpakis, E., Palaskas, N. L., Lin, S. H., Kotla, S., Reyes-Gibby, C., Yeung, S. J., Yusuf, S. W., Yoshimoto, M., Kobayashi, M., Yu, B., Schadler, K., Herrmann, J., Cooke, J. P., Jain, A., Chini, E., Le, N. T., … Abe, J. I. (2022). Cancer treatment-induced NAD+ depletion in premature senescence and late cardiovascular complications. *The journal of cardiovascular aging*, *2*, 28. https://doi.org/10.20517/jca.2022.13

TL Method(s) Featured: N/A