Supplementary material for the article

A symmetry based methodology reveal the correct model for predicting disease incidence with increasing age in the context of cancer

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1 Finding the symmetries of the three candidate models

The aim is to find the symmetries of three models predicting risk profiles over time. The focus of the article is the following three models

$$R(t) = Ae^{\alpha t}, \tag{1}$$

$$R(t) = At^{\gamma}, \tag{2}$$

$$R(t) = \frac{A}{e^{e^{-\alpha(t-\tau)}} - 1}. \tag{3}$$

The three models originally presented in [1] will be referred to as the exponential model in (1), the power law model in (2) and the mixed model in (3).

References

[1] S. Palmer, L. Albergante, C. C. Blackburn, and T. J. Newman, "Thymic involution and rising disease incidence with age," *Proceedings of the National Academy of Sciences*, vol. 115, no. 8, pp. 1883–1888, 2018.