Reviewer's report

Title: 10-year follow-up of the Super-Seniors Study: Compression of morbidity and genetic factors

Version: 1 Date: 27 Jan 2019

Reviewer: Irene Maeve Rea

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The authors have presented as short manuscript of follow-up assessment a range functional, clinical, biometric and genetic variables of Super Seniors (those who at the age 85 have had no evidence major age-related disease), in comparison to the initial assessments made 10-14 years previously at recruitment. Cognitive function, mobility and ability to take part in activities of daily living showed apparent decreases while depression scale measurement appeared somewhat height in the followed-up seniors. Systolic and diastolic blood pressure and BMI showed lower values in the 13 surviving participants. The group of 13 centenarians appeared to show an accentuation the ApoE 2 allele with a reciprocal decrease in the ApoE4 allele and a marginal increase in the FOX3 gene frequency.

Issues:Overall this is a difficult group to carry out a follow-up study with difficulty with recurrent illness, death, unknown residence and refused consent. A flow chart would be helpful in visualising the decision process for the Super Agers.

Assessments: Increased visual and hearing difficulties are common in this group and make cognitive assessments difficult to assess using standard MMSE-

Statistics: From the initially recruited 480 supercentenarian only 13 were available for follow-up. This makes statistical comparison unreliable and consideration should be given as to whether these change should be reported as observational in nature rather than statistically significant. The findings for Apo E2 and E4 and FOX3 frequencies do agree with the findings of other authors who have researched the supercentenarian group.

The limitations of the study should be emphasised.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
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Yes

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I recommend additional statistical review

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