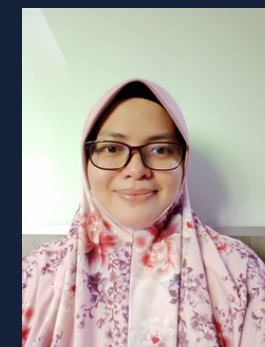


# DEVELOPMENT AND VALIDATION OF QUESTIONNAIRE TO ASSESS THE NUTRITIONAL KNOWLEDGE RELATED TO COGNITIVE FUNCTION AMONG OLDER ADULTS



Authors \_\_\_\_\_  
Teo CW1, Hanis Mastura Y1,  
Ponnusamy S2

Affiliations \_\_\_\_\_  
1Nutritional Science Programme, Centre of Healthy Ageing and Wellness, Faculty of Health Sciences  
Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, Kuala Lumpur, Malaysia  
2Clinical Psychology Program, Centre of Healthy Ageing and Wellness, Faculty of Health Sciences  
Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, Kuala Lumpur, Malaysia

## Introduction

- Prevalence of cognitive impairment among Malaysian older adults ranges from 11% to 22.4% (Lim et al. 2020).
- A higher nutrition-related knowledge and attitude score associated with lower BMI and higher physical activity level among older adults in Europe (Jeruszka-Bielak et al. 2018).
- A good nutritional knowledge related to cognitive function is important to encourage healthy eating habit which can help in improving cognitive function of the older adults.

## Objective

- The objective of this study was to develop a validated and reliable questionnaire to assess the nutritional knowledge related to cognitive function among older adults in Malaysia.

## Questionnaire development

References used in the development of questionnaire items:

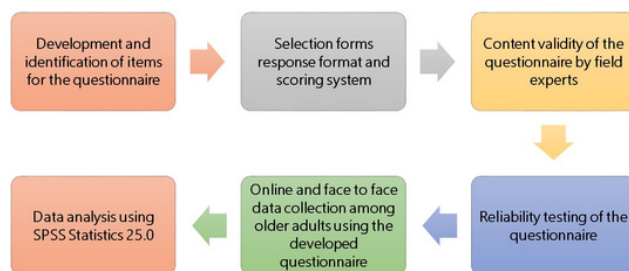
- 7 guides to enhance memory of older adults (Suzana et al. 2009),
- 10 guides to improve memory in WeSihat 2.0
- Malaysia Recommended Nutrient Intakes(2017)
- Malaysian Dietary Guidelines (MDG 2010)

## Conclusion

- The developed questionnaire had 20 questions under seven domains with dichotomous response format.
- This questionnaire had also proven to be valid and has high reliability.
- Future improvement of the questionnaire can include the option of 'not sure' into the questionnaire to minimise the possibility of respondents guessing the correct answer.

## Methodology

- Flow chart of data collection:



- Processes in questionnaire development:

- Dichotomous with choices of 'correct' or 'wrong'
- Right answer: 1 mark
- Wrong answer: 0 mark

Response format

- Initial questionnaire items was 30.
- Final questionnaire consists of 20 items

Number of items

- Content validity
- Test-retest reliability
- Intra-class correlation coefficient (ICC)
- Limits of agreement (LOA)
- Standard error of measurement (SEM)

Statistical analysis

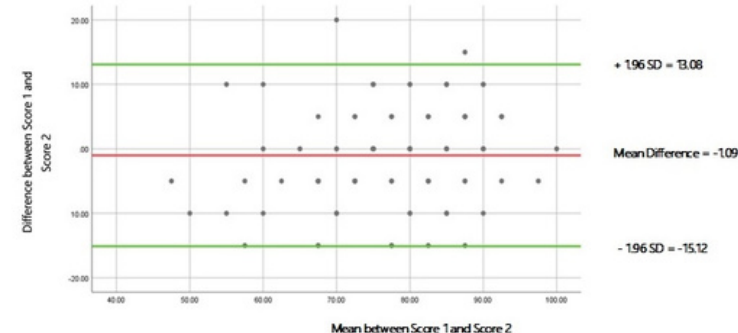
## Results

- Table 1: Intra-class Correlation Coefficient (ICC) and standard error of measurement of the Questionnaire

Assessment Tool	F	ICC Single	ICC Mean	ICC $\alpha$
Questionnaire	7.972	0.78	0.87	0.88
Assessment Tool	SEM	SEM%		
Questionnaire	3.37	4.38%		

- The ICC value has exceeded 0.75 (ICC value = 0.78-0.88), LOA graph showed close agreement between each assessment variability and the SEM value of 4.38% (lower than 10%).

- Figure 1: Bland-Altman Plot



## References

- Lim et al. 2020. Malaysian Journal of Medicine and Health Sciences 16(6): 163-169.
- Jeruszka-Bielak et al. 2018. Frontiers in Physiology 9(994): 1-13.
- Suzana et al. 2009. 7 Panduan bagi Meningkatkan Daya Ingatan Warga Emas. Kuala Lumpur: Fakulti Sains Kesihatan, UKM.