

2018
28-30 JUNE
VIENNA

MASCC/ISOO
ANNUAL MEETING
SUPPORTIVE CARE IN CANCER



MAKES EXCELLENT
CANCER CARE POSSIBLE

Faculty Disclosure

X	No, nothing to disclose
	Yes, please specify:

<i>Company Name</i>	<i>Honoraria/ Expenses</i>	<i>Consulting/ Advisory Board</i>	<i>Funded Research</i>	<i>Royalties/ Patent</i>	<i>Stock Options</i>	<i>Ownership/ Equity Position</i>	<i>Employee</i>	<i>Other (please specify)</i>



Background

- Decline in cognitive function observed in 13-70% of cancer patients after chemotherapy¹
- Ongoing research into mechanism including psychosocial factors, cytokines and genetic polymorphisms
- Possible genetic factors: *APOE* Cys130Arg, *COMT* Val158Met, *BDNF* Val66Met²

¹Wefel et al. Lancet Oncol 2011;12:703-08.

²Ng et al. Cancer Treat Rev 2014;40(2014)1199-1214



Background

- Previous work by our research team showed protective effect of *BDNF* Val66Met in FACT-Cog domains of:
 - Multitasking (OR = 0.37, 95% CI: 0.15-0.91)¹
 - Verbal ability (OR = 0.34, 95% CI: 0.12-0.90)¹

Objective

To validate the associations observed between *BDNF*Val66Met polymorphism and subjective cognitive decline in breast cancer patients undergoing chemotherapy

¹Ng et al. Neuro Oncol 2016;18(2):244-51



Methods

- Multicentered, prospective, longitudinal study between Feb 2014 and Nov 2017 in Singapore



- Early-stage breast cancer patients with chemotherapy planned recruited
- Ethics approval obtained; written informed consent sought from all participants



Methods

- Subjective cognitive impairment: FACT-Cog 3.0

- 6 cognitive domains¹

Memory	Concentration	Functional interference
Verbal ability	Mental acuity	Multitasking

- Decline: >15% decrease from baseline²
- Validated in study population¹

- Genotyping: Sanger sequencing

- Statistical analysis: Logistic regression

- Adjusted for potential confounders: age, ethnicity, anxiety, fatigue, insomnia, chemotherapy regimen, menopausal status, education level

¹ Cheung et al. Value Health 2013;16(6):1001-13

² Cheung et al. J Clin Epidemiol 2014;67(7):811-20

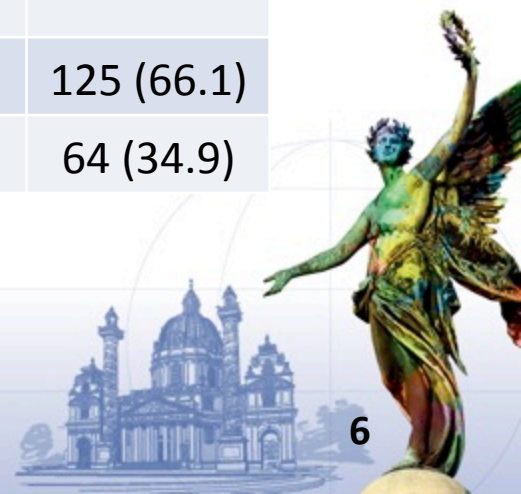


Results

- 189 participants included in final analysis
- Mean \pm SD age = 51.8 \pm 9.0 years

Variable	N (%)
Menopausal status	
Premenopausal	94 (49.7)
Postmenopausal	95 (50.3)
ECOG	
0	184 (97.4)
1	5 (2.6)

Variable	N (%)
Chemotherapy	
Anthracycline	123 (65.1)
Non-anthracycline	66 (34.9)
Radiotherapy	
Yes	125 (66.1)
No	64 (34.9)



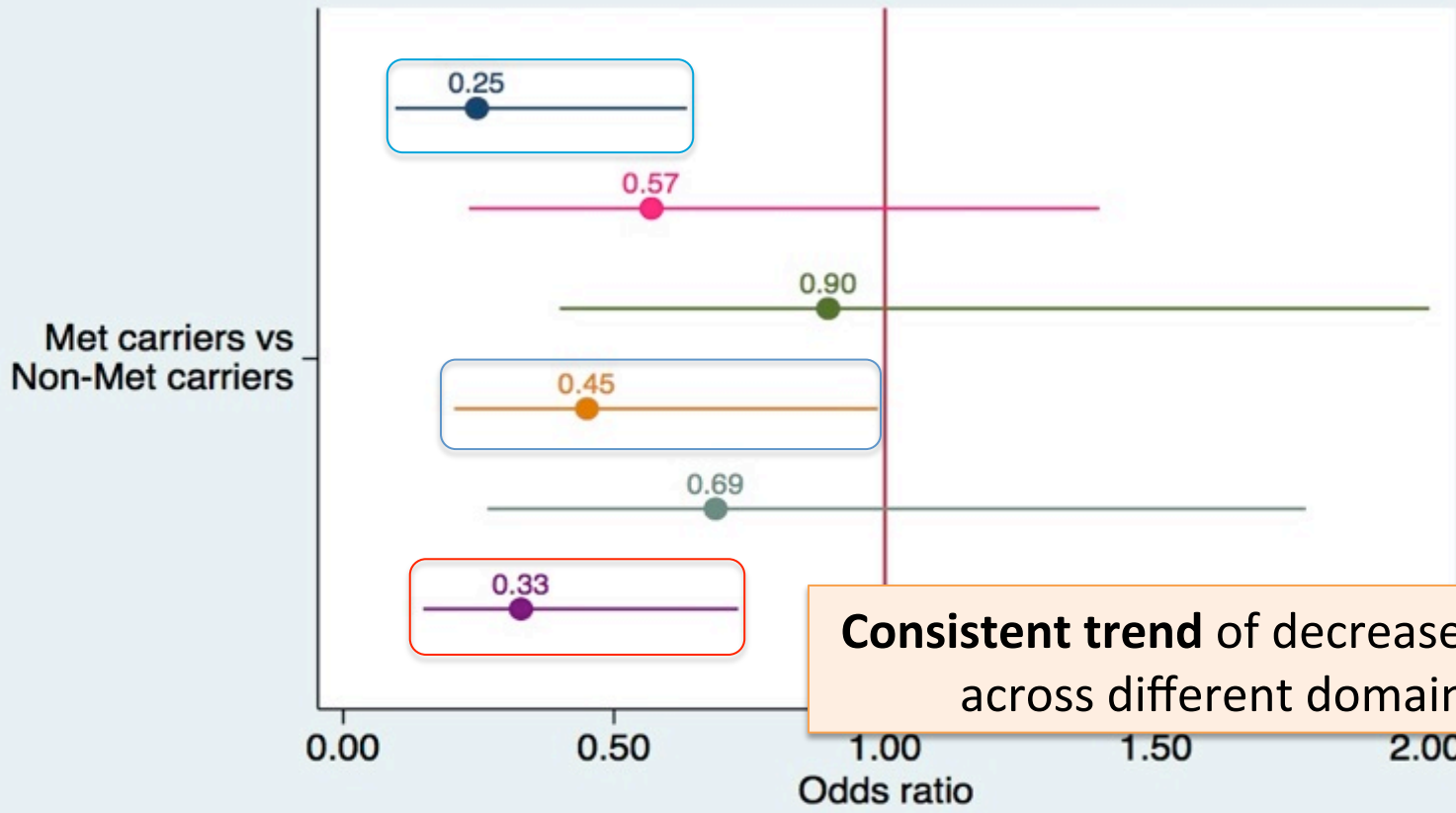
Results & Discussion



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Consistent trend of decreased odds across different domains

- Replicated
- New finding

- Memory
- Verbal Ability
- Concentration
- Mental Acuity
- Functional Interference
- Multitasking



Conclusion

- Replicated previous finding: protective effect of *BDNF* Val66Met in multitasking domain
- Further work
 - Examining different isoforms of BDNF
 - Quantitative analysis of BDNF protein in patients with cognitive decline



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