

Psychotropic Drug Utilisation in Older People in New Zealand from 2005 to 2013

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Outline

- **Background**
- **Aims**
- **Method**
- **Results**
- **Conclusions**
- **Acknowledgements**

Background

- International studies on psychotropic drug utilisation have shown high consumption levels (≥ 65 years)¹
- Long-term use has been associated with an increased risk of adverse events²
- Limited epidemiological information on psychotropic drug use in older people in New Zealand³

1. Nishtala PS, McLachlan AJ, Bell JS, Chen TF. *Am J Geriatr Psych*. 2008 Aug;16(8):621-32.

2. Gnjidic D, Bell JS, Hilmer SN. *J Am Geriatr Soc*. 2013 Sep;61(9):1640-1.

3. Ndukwe HC, Tordoff JM, Wang T, Nishtala PS, *Drugs Aging*, 2014; 31(10):755-68.

Aims

To describe and characterise national utilisation trend of psychotropic drugs used in older people New Zealand from 2005 to 2013

Method

- Repeated cross-sectional analysis of population-level dispensing data
- De-identified dispensing data extraction from Pharmaceutical collections by a unique identifier
- Categorised using WHO-DDD classification system
- Defined daily dose (DDD) per 1000 older people per day (TOPD)

Defined Daily Dose

For example, Citalopram 20mg; WHO assigned (20 mg)

$$\text{DDD} = \frac{\text{Strength (20mg/tablet)} * \text{Quantity Dispensed (1 tablet/day)}}{\text{WHO-DDD (20mg)}}$$

DDD per year for a hypothetical weighted DDD sum of 25,000DDDs normalised by population of say 500,000 will give a standard weighted utilisation:

$$\text{DDD/1000 older people /day} = \frac{\text{DDD per year (0.05)} * 1000}{365}$$

Results

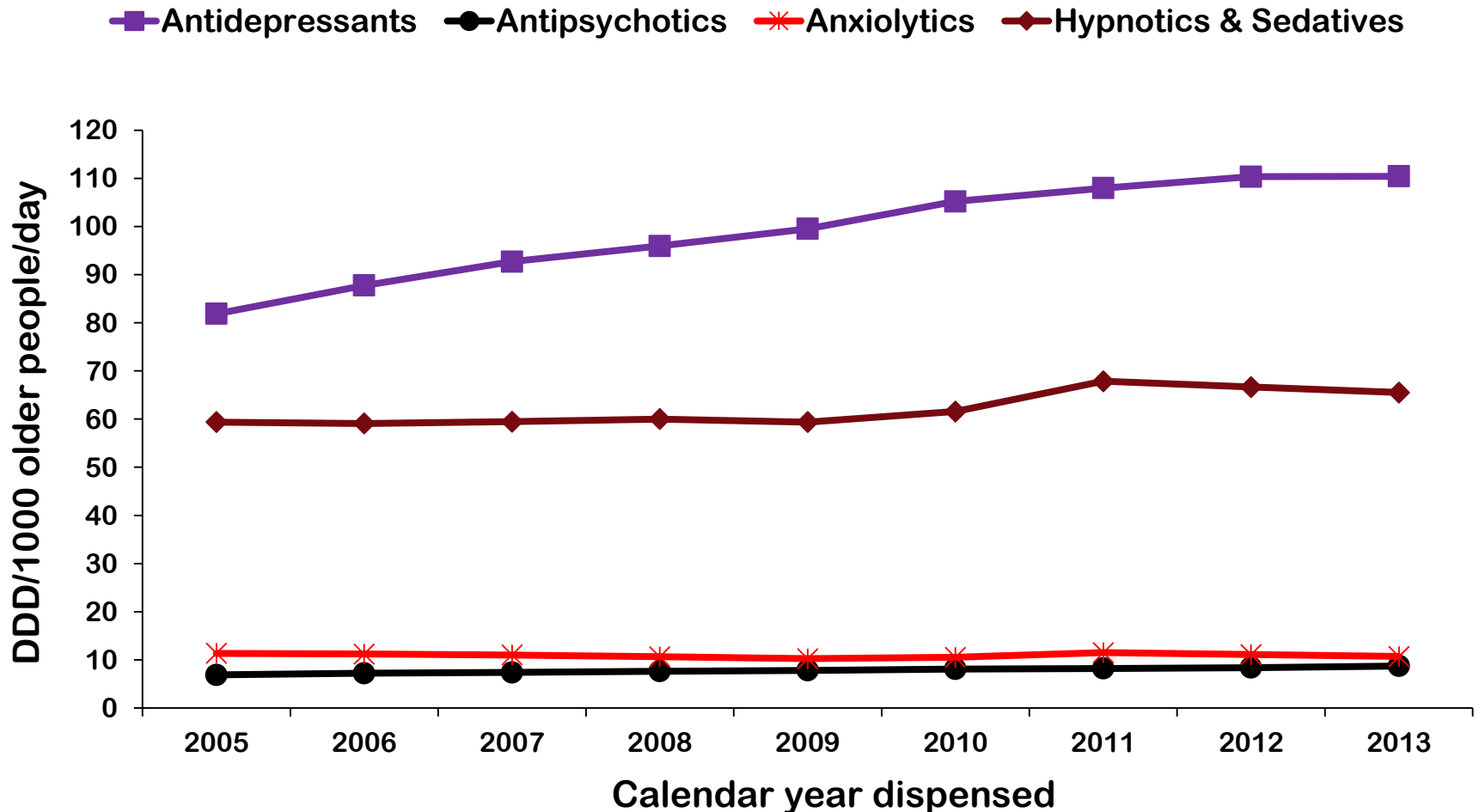


Fig 1. Psychotropic drug utilisation, yearly, in older people between 2005 to 2013. DDD defined daily dose

Published article for a part of this study can be found in *Drugs Aging*. 2014 Oct;31(10):755-68. doi: 10.1007/s40266-014-0205-1.

Table 1: Psychotropic drug utilisation (in DDD/TOPD) compared by therapeutic class and subclass between 2005 and 2013 calendar years

Therapeutic class	Therapeutic subclass	ATC CODE	2005 DDD/TOPD	2013 DDD/TOPD	
Antidepressants	SSRI	N06AB	53.9	73.4	↑
	TCA	N06AA	23.2	22.2	↓
	TeCA	N06AX/AA	0.2	3.1	↑
	MAOI	N06AF	0.4	0.3	↓
	SNRI	N06AX	2.2	10.0	↑
	RIMA	N06AG	2.1	1.4	↓
Antipsychotics	FGA	N05A	2.2	1.6	↓
	SGA	N05A	4.6	7.1	↑

Table 2: Psychotropic drug utilisation (in DDD/TOPD) compared by therapeutic class and subclass between 2005 and 2013 calendar years

Therapeutic class	Therapeutic subclass	ATC CODE	2005 DDD/TOPD	2013 DDD/TOPD	
Anxiolytic	BDZ	N05BA	11.2	10.5	↓
	Non-BDZ	N05BE	0.2	0.2	↓
Hypnotic and Sedatives	BDZ Hypnotics	N05CD	25.5	17.5	↓
	Zopiclone	N05CF	33.8	48.1	↑
National Total			159.5	195.4	↑

Red markings highlight increase in drug utilisation; *ATC* Anatomical Therapeutic Chemical, *BDZ* benzodiazepine, *DDD* defined daily dose, *FGA* first generation (typical) antipsychotic, *MAOI* monoamine oxidase inhibitor, *RIMA* Reversible inhibitor of monoamine oxidase-A, *SGA* second generation (atypical) antipsychotic, *SNRI* serotonin-norepinephrine reuptake inhibitor, *SSRI* selective serotonin reuptake inhibitor, *TCA* tricyclic antidepressant, *TeCA* tetracyclic antidepressant, *WHO* World Health Organization.

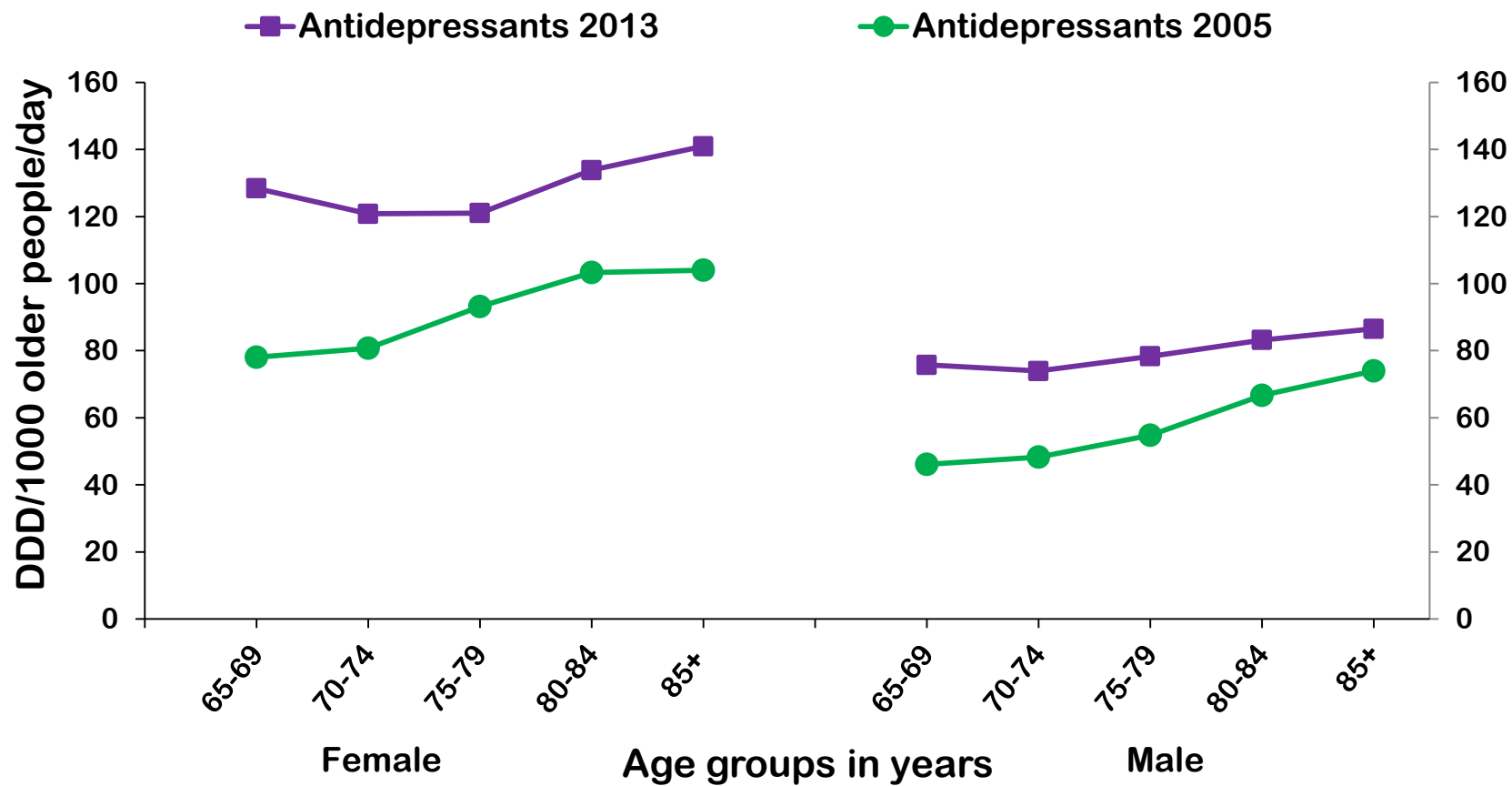


Fig 2: Utilization of antidepressant medicines normalized by sex and five-year age group

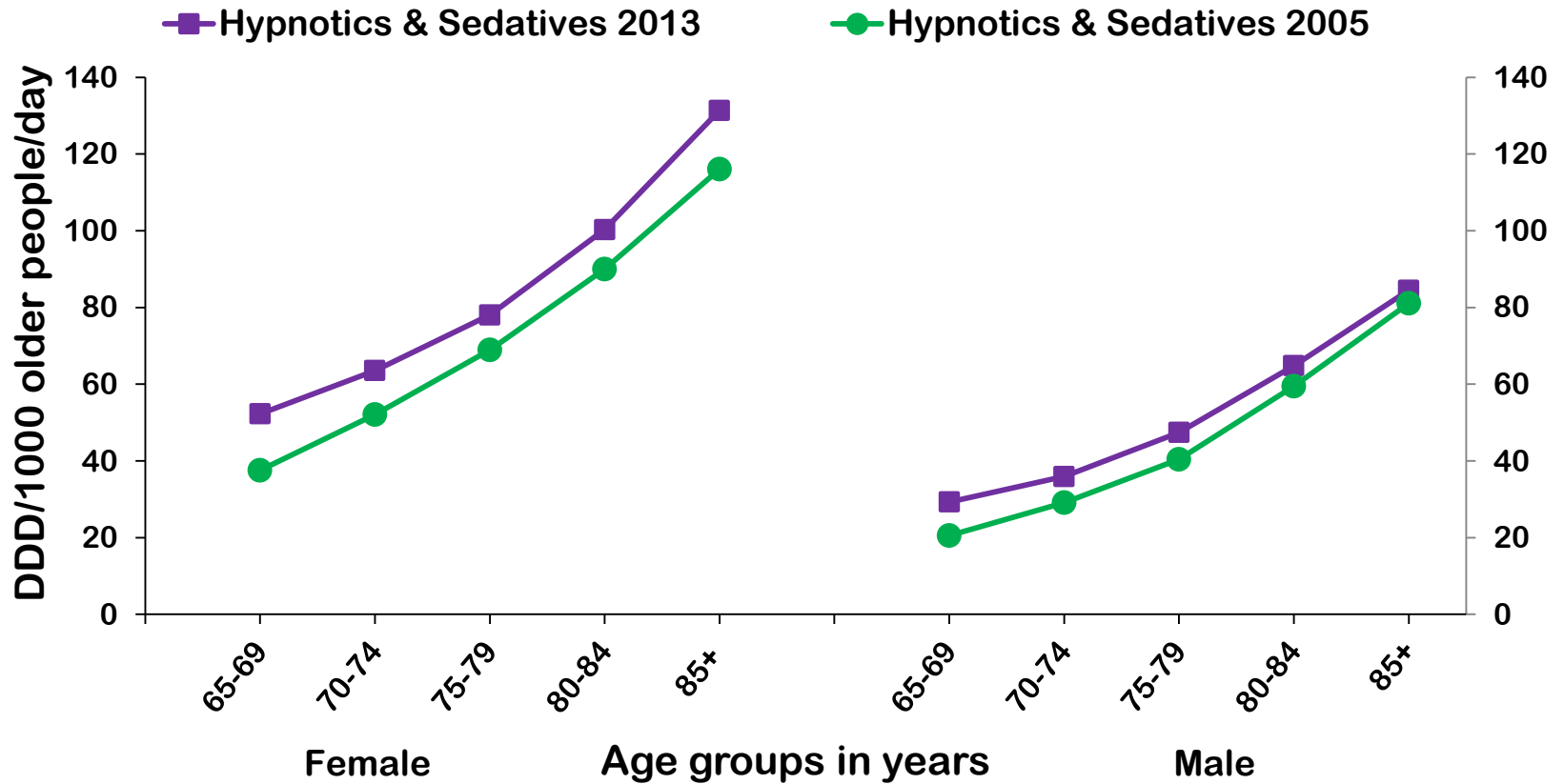


Fig 3: Utilization of hypnotic and sedative medicines normalized by sex and five-year age group

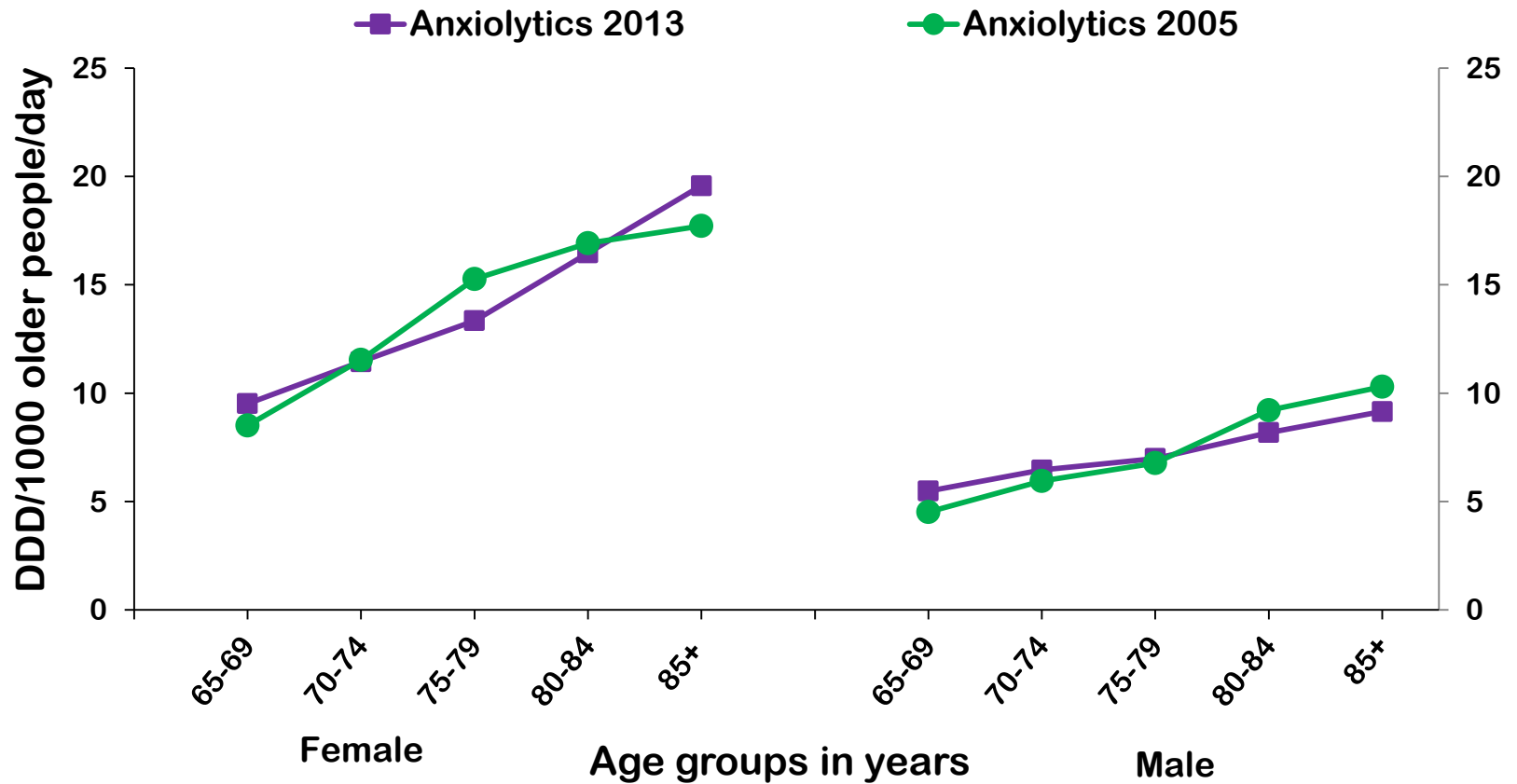


Fig 4: Utilization of psychotropic medicines normalized by sex and five-year age group

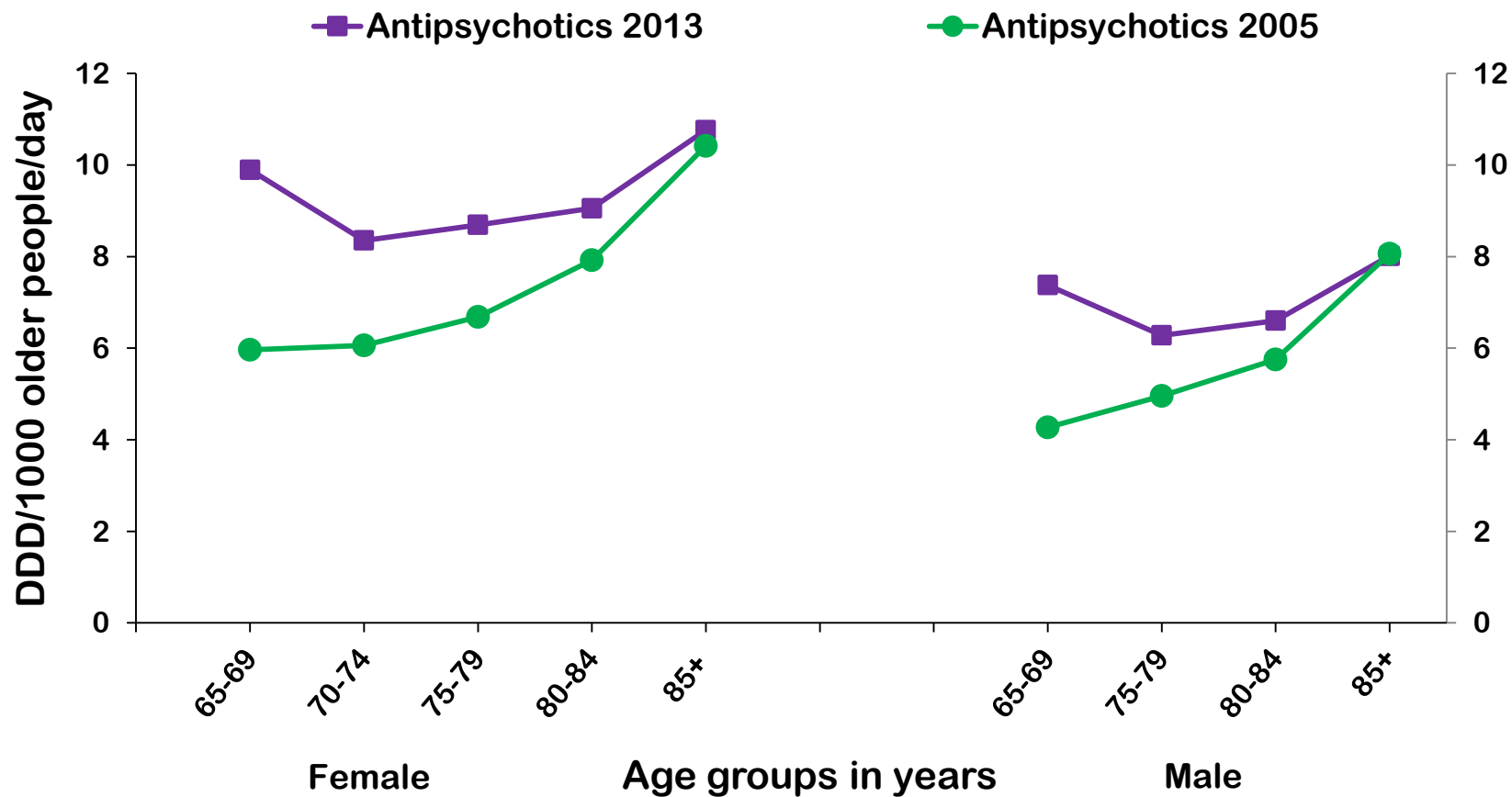


Fig 5: Utilization of antipsychotic medicines normalized by sex and five-year age group

Conclusions

- Overall, psychotropic drug utilisation in older people increased by one fifth (from 159.5 to 195.4 DDD/TOPD) from index date
- The utilisation of zopiclone was higher (>40%) despite it's association with adverse events in older people
- Compensatory substitution with newer psychotropic drugs like atypical antipsychotics and SSRI antidepressants

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Thank You for Listening



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