“Quantity has a Quality all its Own”

- Joseph Stalin

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The Proposition…

All human behaviours have (multiple, interacting) causes that are specific to the person

We all have specific likes, dislikes, and things that 'push our buttons'

The same is true for those living with dementia

Current Management Recommendations for BPSD

Psychosocial interventions should be trialled first

Psychotropic medications should be used as a last resort

And yet…

Psychotropic prescription rates in RACF for PLWD are estimated at ~50%[1], whilst only 10% of this prescribing is felt to be appropriate[2]

1. Brimelow et al. International Psychogeriatrics 2019
2. Van der Spek et al. International Psychogeriatrics, 2016

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The Implications?

Psychosocial interventions are ineffective?

Very few RCTs of psychosocial interventions have been done, and these have been of low quality[1,2]

1. Livingstone et al. American Journal of Psychiatry 2005
2. Brodaty et al. American Journal of Psychiatry 2012

Psychosocial Interventions: The Dilemma

If the causes of BPSD are highly individual, an RCT examining the effectiveness of a single psychosocial intervention for any given behaviour is doomed to fail

Individualised, multimodal psychosocial interventions are necessary to manage BPSD

And yet, it's impossible to design an RCT to test this hypothesis

Why?

Need for multiple interventions, applied simultaneously

Intervention(s) not standardised (by definition)

‘Randomisation’ defeats the purpose

Expense (who would fund such a trial?)

Can Big Data Address the Problem?

Dementia Behaviour Management Advisory Service (DBMAS) funded in Australia since 2007

8 separate State and Territory services, no consistent data collection

2016: Change to a single National service provider (DSA)

→ Development of a single national BPSD dataset

→ Consistent use of validated outcome measure (NPI)

DSA Service Model

Individualised non-pharmacological interventions prioritised

Holistic assessment by a multidisciplinary workforce

Supported by a network of geriatricians/geriatric psychiatrists

Emphasis on deprescription

A Typical DSA Client

Male, late 70's, Alzheimer's dementia

4-6 different behaviours (agitation, aggression, resistiveness to care, aberrant motor behaviour, sleep disturbance….)

4-6 contributing factors identified

Case Study - Jerry

72y.o. with frontotemporal dementia, residing in small rural RACF

Referred due to daily threats and physical aggression to staff and visitors

Married former factory worker and committed union member

Lifelong suspicion of authority figures; aggressive premorbidly

Arthritic pain from a lifetime of manual labour – continued to sweep floor of facility with broom provided by staff

Case Study – Jerry (2)

Dementia consultant attended, observed Jerry across several days

Extensive information sought from staff, family, GP

(Staff- "Behaviour seems unprovoked…no evidence of pain")

Aggression to staff taking notes on clipboards (interpreted this as 'management snooping,' and attempted to take them from staff)

Targeting of male staff/visitors wearing white shirts (perceived as 'management')

Other relevant issues

- 6 cups of caffeinated coffee/day
- Inadequate pain management (arthritis) aggravated by short-handled broom
- Constipation

Case Study – Jerry (3)

Intervention

- Staff education around triggers, response to aggression
- Review of analgesia, bowel regimen
- A new broom!
- Switched to decaffeinated coffee

Outcome

- Letter from daughter:

> "….how delighted I was when I visited dad yesterday. For the first time in months he had a genuine smile on his face. He seemed happy and joyful, addressing me by name and asking after other family members…."
>
> "Medication changes alone cannot be the whole explanation. I am confident that staff have played a major part. Please pass onto them my deepest gratitude"

Enter, Big Data.....

ORIGINAL RESEARCH ARTICLE

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Evaluating the Clinical Impact of National Dementia Behaviour Support Programs on Neuropsychiatric Outcomes in Australia

Provisionally accepted The final, formatted version of the article will be published soon. Notify me

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Methods

2-Year, retrospective, pre-post study

5,914 referrals from 1,996 Australian nursing homes

Neuropsychiatric Inventory (NPI) pre- and post- service involvement

Essentially, a case series of 5,916 patients

- “Quantity has a Quality all its own….”

Results

DBMAS program:

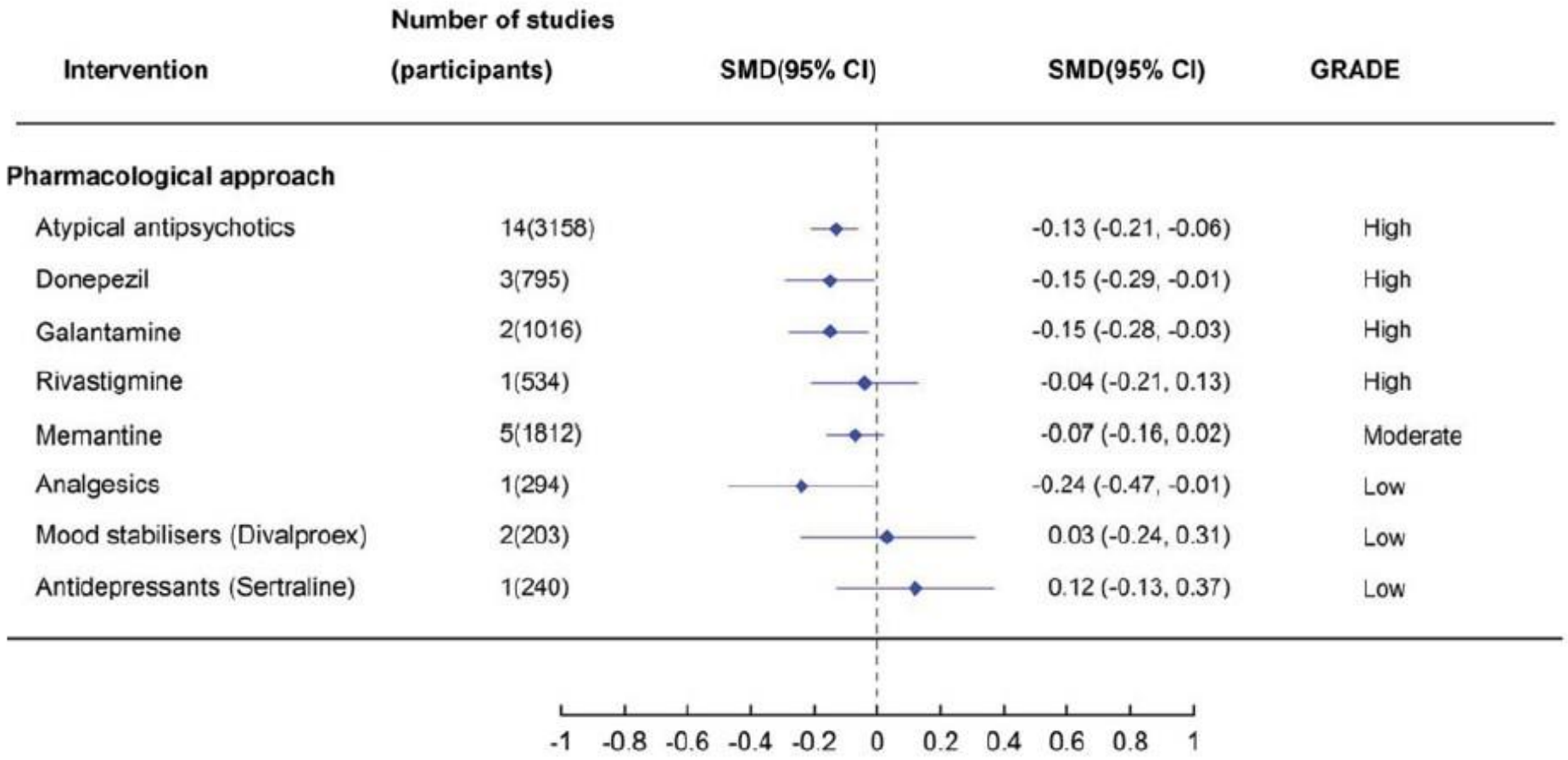
61.4% reduction in total NPI score (*d* = -1.18)

SBRT program:

74.3% reduction in total NPI score (*d* = -1.23)

Compared to Psychotropic Medications?

Dyer et al. International Psychogeriatrics 2017



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Conclusions

1. Effect size of non-pharmacological interventions dwarfs that of psychotropic medications for BPSD

2. Big data can help compensate for lack of methodological rigour where an RCT methodology is impractical