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Double depot antipsychotic treatment: a case control study

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Background

- Antipsychotic medication remains widely used in treatment of psychosis
- Associated with burden of side effects and risks
- Administration: long acting injectable (“depot”)

Rationale

- Emergent practice of the use of two depot antipsychotic medications simultaneously
- Not just in “cross-over” treatment

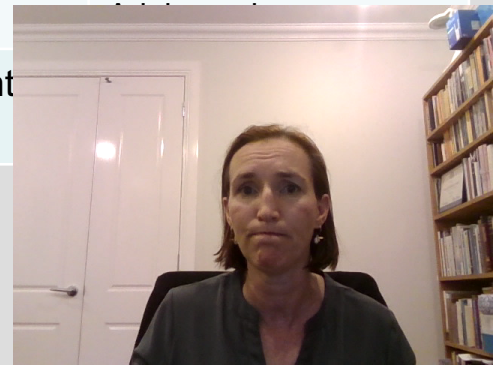
- Sought to understand the person and medication characteristics, the efficacy and the safety of this practice

- Aim to create a Practice Guideline

Pre-existing literature

- 9 single case reports 2009-2016, three in forensic settings
- One case series of three adolescents in a forensic setting
- Later studies tend to use monthly depot treatments
- No case control reports

Year	Authors	Setting	Depot combination
2009	Ladds et al	Adult	Risperidone Fluphenazine
2013	Ross et al	Adult	Paliperidone Haloperidol
2014	Legrand et al	Adult	Paliperidone Olanzapine
2015	Wartelsteiner et al	Adult	Risperidone Olanzapine
2016	Scangos et al	Adult, forensic	Olanzapine Haloperidol
2016	Lenardon et al	Adult, forensic	Olanzapine
2016	McInnis et al	3 adolescent forensic	



Method

- Persons accessing Mental Health Service with known double depot administration over 2017-2018
- HREC approval
- Electronic clinical record extensively and systematically examined by mental health nurse/RA
- Data recorded for:
  - Drug: dose, duration
  - Person factors: age, gender, diagnosis, medical conditions, treatment resistant illness, non-adherence, substance use disorder, legal status, cloz trial, forensic hx, F
  - Efficacy: GAF, HoNOS scores, PANSS, hospital admission number pre & po
  - Safety: side effects, ECG abnormalities

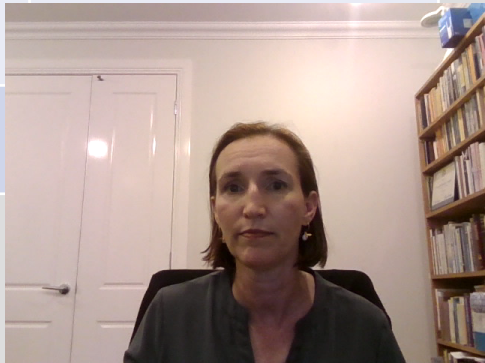
Method

- Control group: people in AMHS during 2017-2018 who received depot plus oral antipsychotic simultaneously

- Statistical analyses:
  - t-tests and comparison of proportions
  - Non-parametric tests
    - Mann-Whitney U tests (before/after analyses)
    - Kolmogorov-Smirnov test (before/after, cases/controls)

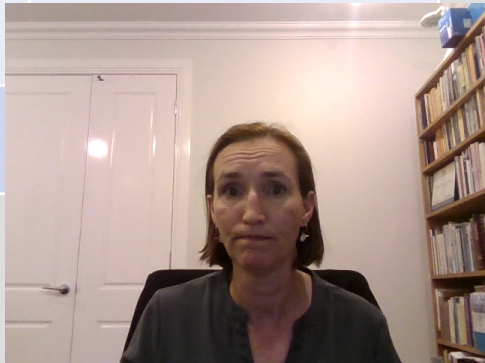
Results

	Cases n=19		
Age (years)	40.6		
Gender (male %)	13 (68%)		
Duration psychosis (years)	17.5		
Two or more psychiatric diagnoses	15 (79%)		
Three or more medical diagnoses	8 (42%)		
Involuntary legal status	16 (84%)		



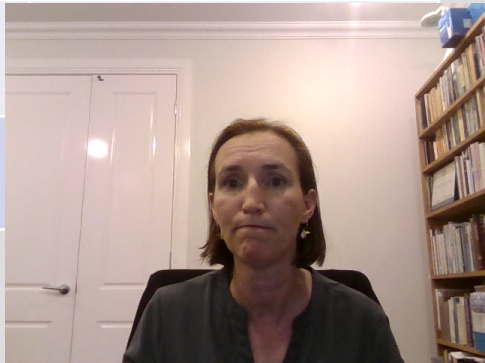
Results

	Cases n=19	Controls n = 9	p
Age (years)	40.6	42.7	NS
Gender (male %)	13 (68%)	5 (56%)	NS
Duration psychosis (years)	17.5	19	NS
Two or more psychiatric diagnoses	15 (79%)	5 (55%)	NS
Three or more medical diagnoses	8 (42%)	1 (11%)	NS
Involuntary legal status	16 (84%)	6 (67%)	



Results

	Cases n=19		
Treatment resistance	18 (95%)		
Non-adherence	18 (95%)		
Previous trial clozapine	10 (53%)		
Previous ECT	7 (37%)		
Substance use disorder	15 (79%)		
Forensic history	13 (68%)		
Family violence history	14 (74%)		



Results

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	Cases n=19	Controls n=9	p
Treatment resistance	18 (95%)	7 (78%)	NS
Non-adherence	18 (95%)	7 (78%)	NS
Previous trial clozapine	10 (53%)	3 (44%)	NS
Previous ECT	7 (37%)	2 (22%)	NS
Substance use disorder	15 (79%)	4 (44%)	NS
Forensic history	13 (68%)	5 (56%)	
Family violence history	14 (74%)	7 (78%)	

Results

- Paliperidone – 10
- Olanzapine – 9
- Aripiprazole – 9
- Risperidone - 1
- 1st generation - 9

Results (cases only)

	Pre	Post	Z	p
Hosp admit	16.0	1.8	-2.697	0.007
ED admit	20.0	5.1	-0.889	NS
GAF	21.9	30.6	-2.640	0.008
HoNOS	21.1	20.1	-1.073	NS

Results: cases vs controls

	Z score	P value
Hosp admit	1.117	NS
ED admit	0.632	NS
GAF	1.549	0.016
HoNOS	1.040	NS

Results: safety and side effects

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	Cases n=19	Controls n=9	p
EPSE	4 (21%)	0 (0%)	-
Weight gain/metabolic issue	5 (26%)	3 (33%)	NS
Sexual side effects	2 (11%)	1 (11%)	NS
ECG abnormality	1 (5%) 1 x borderline QTc prolongation	1 (11%) 1 x SVT	

Discussion

- Profile of diagnostic complexity, treatment resistance, non-adherence and background of forensic involvement and FV
- Appears to be effective in reduction of hospital admissions and improved global functioning
- Similar rates of side effects, higher EPS compared to oral combination antipsychotic treatment
- No increase in cardiac toxicity

Limitations

- Small case numbers
- Very small number of controls
- Non-random sampling

- Control group similarities

Recommendations

- A practice that should be **limited**, and consider the risk of:
  - increased side effects
  - medication toxicity
  - burden upon the person (eg twice as many needles)
- A practice that should be:
  - frequent and standardized monitoring:
    - safety and side effects: ECG monitoring, routine monitoring of EPSE
    - objective signs of efficacy
  - active review for continuation or discontinuation

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Thank you