Pharmacist-led academic detailing intervention in primary care: A mixed methods feasibility study

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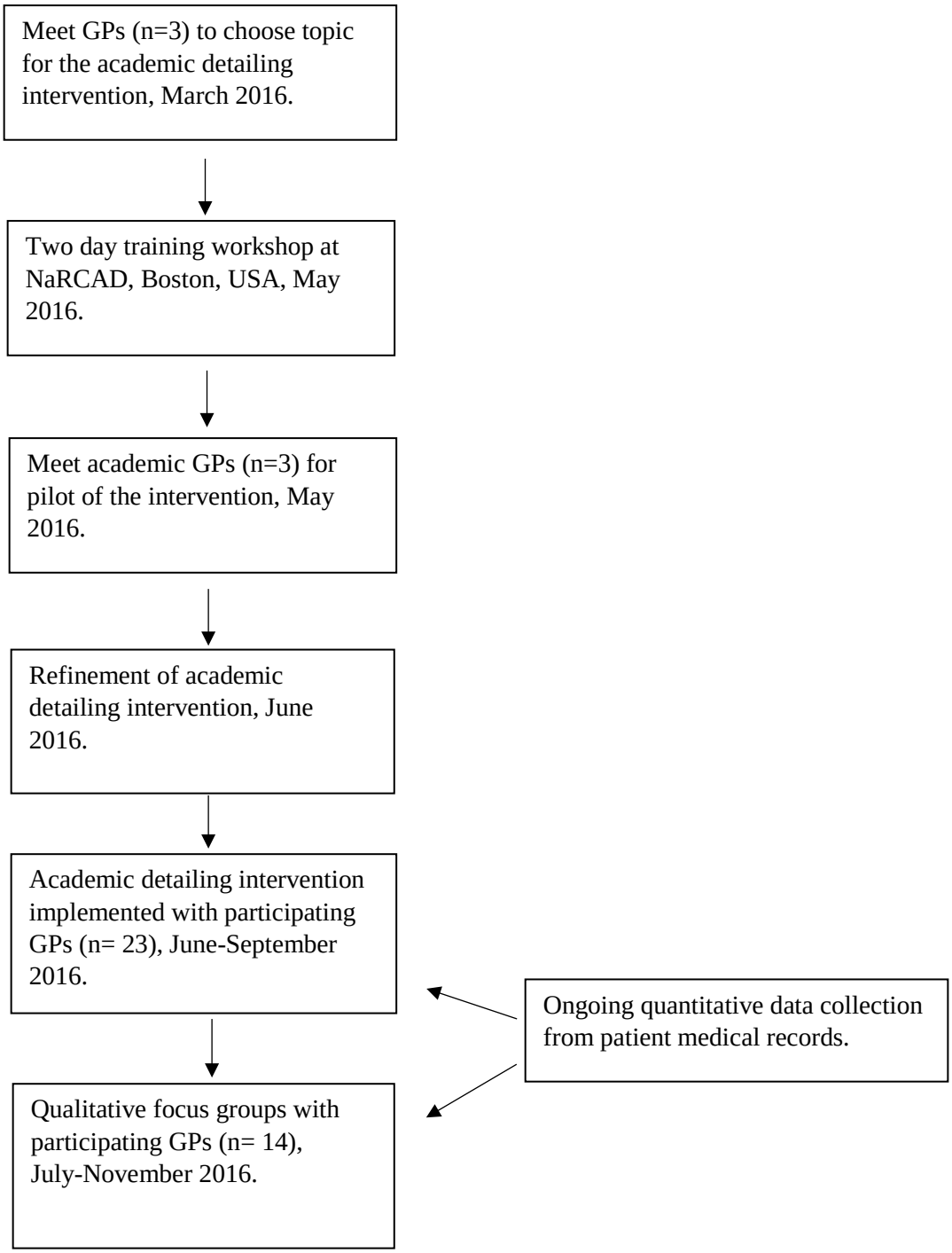

Supplementary Figure 1: Timeline of the study

Supplementary Table I: List of selected medicines with anticholinergic or sedative properties

Number	Generic medicine name	Min dose (mg)
1.	Aclidinium	0.644
2.	Alprazolam	0.5
3.	Alimemazine	10
4.	Alverine	60
5.	Amantadine	100
6.	Amitriptyline	30
7.	Apriprazole	15
8.	Atenolol	50
9.	Atropine	0.6
10.	Baclofen	15
11.	Bromocriptine	7.5
12.	Brompheniramine	9
13.	Buprenorphine	0.12
14.	Bupropion	150
15.	Buspirone	10
16.	Captopril	12.5
17.	Carbamazepine	100
18.	Cetrizine	10
19.	Chlordiazepoxide	15
20.	Cimetidine	800
21.	Citalopram	10
22.	Clomipramine	10
23.	Clonazepam	0.5
24.	Chlorphenamine	12
25.	Chlorpromazine	10
26.	Clonidine	0.1
27.	Clozapine	12.5
28.	Codeine	120
29.	Colchicine	1
30.	Darifenacin	7.5
31.	Desloratidine	5
32.	Diazepam	3
33.	Digoxin	0.0625
34.	Diphenhydramine	50
35.	Dihydrocodeine	120
36.	Dimenhydrinate	120
37.	Dipyridamole	400
38.	Disopyramide	500
39.	Domperidone	30
40.	Dosulepin	50
41.	Doxylamine	20

42.	Doxazosin	1
43.	Entacapone	200
44.	Escitalopram	5
45.	Fentanyl	0.288
46.	Fesoterodine	4
47.	Fexofenadine	112
48.	Flavoxate	600
49.	Flunitrazepam	0.5
50.	Fluoxetine	20
51.	Fluphenazine	6.25
52.	Flurazepam	15
53.	Fluvoxamine	50
54.	Furosemide	20
55.	Gabapentin	900
56.	Glycopyrronium	0.044
57.	Haloperidol	0.75
58.	Hydralazine	50
59.	Hydrocortisone	20
60.	Hyoscine	80
61.	Ipatropium	0.06 (Atrovent) 1.5 (Combivent Nebules)
62.	Isosorbide	60
63.	Ketorolac	10
64.	Lamotrigine	100
65.	Levetiracetam	500
66.	Levocetirizine	5
67.	Levomepromazine	25
68.	Lithium	200
69.	Loperamide	2
70.	Loratidine	10
71.	Lorazepam	0.5
72.	Lormetazepam	0.5
73.	Meclozine	25
74.	Methadone	10
75.	Methyldopa	500
76.	Metoclopramide	10
77.	Metroprolol	100
78.	Mianserin	30
79.	Mirtazepine	15
80.	Moclobemide	300
81.	Morphine	-
82.	Nefopam	90
83.	Nifedipine	30
84.	Nitrazepam	2.5
85.	Nortriptyline	30
86.	Olanzepine	5
87.	Oxazepam	30
88.	Oxybutynin	5 (*Kentera 3.9)
89.	Oxcarbazepine	600

90.	Oxycodone	-
91.	Paliperidone	6
92.	Paroxetine	20
93.	Phenobarbital	60
94.	Phenytoin	150
95.	Pizotifen	0.5
96.	Pramipexole	0.264
97.	Prazepam	15
98.	Prazosin	1
99.	Primidone	125
100.	Prochlorperazine	10
101.	Procyclidine	7.5
102.	Promethazine	25
103.	Propiverine	30
104.	Quetiapine	50
105.	Ranitidine	300
106.	Risperidone	1
107.	Ropinirole	0.75 (week 1) 3 (week 4)
108.	Selegiline	5
109.	Sertraline	50
110.	Solifenacin	5
111.	Tamsulosin	0.4
112.	Temazepam	10
113.	Terazosin	1
114.	Theophylline	400
115.	Tiotropium	0.018 (Spiriva) 0.005 (Spiriva Respimat)
116.	Tizanidine	2
117.	Tolterodine	4
118.	Tramadol	100
119.	Triamterene	150
120.	Trazodone	100
121.	Tranylcypromine	20
122.	Triazolam	0.125
123.	Trifluoperazine	5
124.	Trimipramine	25
125.	Trospium	40
126.	Umeclinidium	0.055
127.	Valproic acid	600 (*Epilepsy), 750 (*Manic episodes in bipolar disorder)
128.	Venflaxine	75
129.	Ziprasidone	80
130.	Zoplicone	3.75
131.	Zolpidem	5
132.	Zuclopenthixol	20
133.	Warfarin	-

Supplementary Table II: GRAMMS framework.

1. Describe the justification for using a mixed methods approach to the research question.

To date, no studies have evaluated the feasibility and acceptability to GPs of an academic detailing intervention in Ireland using mixed methods research. Therefore, the aim of this study was to assess the feasibility and acceptability to a sample of practicing GPs of a pharmacist-led academic detailing intervention using a mixed methods approach.

2. Describe the design in terms of the purpose, priority and sequence of methods.

In this study a convergent parallel mixed methods design was adopted as the qualitative and quantitative data were collected and analysed separately. Quantitative data were collected from patient medical records (PMRs) on the GP practice database, while qualitative focus groups were collected from GPs that participated in the intervention. The results of the qualitative and quantitative data analyses were then merged and interpreted.

3. Describe each method in terms of sampling, data collection and analysis.

The medical records for all patients aged ≥65 years who were attending a participating GP with a diagnosis of urinary incontinence were retrieved and analysed using a before-after approach. Their medical records were analysed at multiple time points before and after the intervention (six and three months before the intervention (T_{-6}), (T_{-3}), at the time of the intervention (T_0) and three and six months after the intervention (T_3), (T_6). The following patient information were recorded for each patient: patient demographics, body measurements, chronic prescription medicines and medical history. The following criteria were then applied to the data:

- LUTS-FORTA criteria. These criteria were applied as they are the only criteria that review drugs to treat lower urinary tract symptoms.
- The Drug Burden Index (DBI). These criteria were applied as they measure the cumulative exposure to anticholinergic and sedative medicines in older people and its impact on physical and cognitive function.
- Anticholinergic cognitive burden scale (ACB). These criteria were applied to measure the cumulative effect of taking multiple medicines with anticholinergic properties.

Qualitative focus groups were conducted to explore the feasibility and acceptability to GPs of the intervention. This interview method was chosen due to its ability to generate data by interaction between group participants. Participants can present their own views and can listen to the contributions from others in the group. This allows additional material to be triggered in response to what is reported by others. There was also a shared background to the research topic among the GPs (urinary incontinence). Data were analysed using thematic analysis. This flexible and useful research approach can potentially provide a rich and detailed account of the data.

4. Describe where integration has occurred, how it has occurred and who has participated in it.

The integration of the quantitative and qualitative data occurred in the discussion section of the manuscript.

5. Describe any limitation of one method associated with the presence of the other method.

Combining and analysing the quantitative and qualitative approaches in the study was time consuming as equal weight had to be given to both sets of data.

6. Describe any insights gained from mixing or integrating methods.

The quantitative data supplemented the qualitative data by identifying convergence and divergence between the two datasets.

Supplementary Table III: Drugs for the long-term treatment of lower urinary tract symptoms in older people

Drug class	Agent	FORTA class	Drugs identified by LUTS-FORTA in the study
5α-reductase inhibitors	Dutasteride	B	√
	Finasteride	B	X
α_1-blockers	Alfuzosin	D	X
	Doxazosin	D	X
	Sildosin	C	√
	Tamsulosin	C	√
	Terazosin	D	X
Antimuscarinics	Darifenacin	C	X
	Fesoterodine	B	√
	Oxybutynin standard dose/immediate release	D	√
	Oxybutynin low dose/extended release	C	√
	Propiverine	D	√
	Solifenacin	C	√
	Tolterodine	C	√
	Trospium	C	√
β_3-agonist	Mirabegron	C	√
PDE5 inhibitor	Tadalafil	C	X

PDE: Phosphodiesterase type 5 inhibitor