Holding on Tight: loss of bladder control in later life

Cath Sackley, Primary Care & General Practice
Background to methodological approach

- Health Services Research
- Applying findings to ‘real world’ older people and ‘real world’ services - hard!
- Translating findings, bench to bedside
- Gold standard RCTs.
- CONSORT quality standards.
UK MRC Framework for Evaluating Complex Interventions

Pre-clinical
Theory
Modelling
Exploratory trial
Definitive RCT
Long term implementation

Phase I
Phase II
Phase III
Phase IV

Continuum of increasing evidence

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Types of incontinence

- Stress
- Urge
- Mixed
- Functional
Table 1 Prevalence of Urinary Incontinence in Community-Dwelling Older People

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Country</th>
<th>Mean age</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holroyd-Leduc, JM et al (2004)[1]</td>
<td>Population based cohort study of 6,506 older people</td>
<td>USA</td>
<td>77</td>
<td>14.8%</td>
</tr>
<tr>
<td>Ostbye, T et al (2004)[2]</td>
<td>National, longitudinal, multi-centre cohort study of 8,949 older people</td>
<td>Canada</td>
<td>75.3/77.3 (Male/Female)</td>
<td>19-37%</td>
</tr>
<tr>
<td>Stenzelius, K et al (2004)[3]</td>
<td>Random stratified sample of 8,500 community dwelling older people.</td>
<td>Sweden</td>
<td>84</td>
<td>39%</td>
</tr>
</tbody>
</table>
Impact of Urinary Incontinence on Community-Dwelling Older People
Care Homes in Birmingham

- **Population**
  76% residents experience UI, 70% cognitively impaired, 60% mobility impaired, co morbidity ++++, mean age 87

- **Services**
  Rationing/charging of continence services and other AHP services

- **Environment**
  Poor levels of training e.g. unable to recognise signs of infection

- **Cost**
  Highest single care home cost- £2,000 per person per annum
Complications
- Pressure sores
- Immobility
- Infection
- Social isolation

High priority
Help the Aged, -‘My Home Life’ project
National Service Frameworks- Older People & Long Term Neurological Conditions
What we know

1. Limited research evidence about successful interventions in these settings (Norton 2006)
2. An absence of data on the implications of UI for residents, family or staff (Robinson 2000).
3. Individual assessment and management beneficial but expensive +++ (Schnelle)
4. Little evidence of preventative interventions
A public health approach

**Phase 1 studies**
1. Survey of prevalence of urinary incontinence
2. Survey of service use and current management
3. Qualitative study of user & carer views

**Phase 2**
1. A pilot RCT to provide data to underpin future intervention studies
Phase 1
1. A survey of the continence status of care home residents in the Midlands UK

Postal survey of 1166 residents using Barthel ADL Index

- 73% of residents incontinent of urine
Phase 1
2. A survey of current practice

Design-
Anonymous postal survey of care homes in Birmingham, 66 responders

Findings-
Lack of knowledge of care
Poor access to services (15% physiotherapy, 5% occupational therapy)
Focus on management and not remediation/prevention
Phase 1
3. Semi structured interview study to determine the perceptions of older people, family and staff.

Results- 5 main themes:

– Distressing effects of UI
– Lack of assessment
– Lack of rehabilitation
– Social isolation
– Uncertainty regarding treatment

Overall theme- acceptance and the inevitability of UI in old age.
Summary of Phase 1 findings

- High rates of UI and rising
- High rates dependency and immobility
- Emphasis of management not prevention/ alleviation
- Inequality in access to care
- Residents and staff uncertain
A phase II study of the effects of an educational and exercise intervention on incontinence for residents of nursing homes

Cath Sackley, Fran Badger, Natalie Rodriguez, Chris Wright, Jelske Besemer, Katerina van Reeuwijk, Maayken van den Berg, Leontien van Wely & Jed Rowe
Phase I/II Cluster Randomised Pilot RCT

Setting- 6 South Birmingham Care Homes

Participants- Residents with Barthel Score ≤ 16

Measures- Masked assessments of continence (Urodynamic questionnaire), mobility (Rivermead mobility index) and quality of life (Incontinence quality of life) were taken at 0, 2, 6, mths.

Randomisation and Allocation Concealment- Independent

Intervention- Physiotherapeutic group exercises were delivered for one hour, twice weekly for four weeks. 2 hours staff education from continence team

Analysis- Descriptive plus ITT

RG&E- Inclusive methodology
Measurements

Masked assessments at 0, 2, 6 months
Continence –
Urodynamic questionnaire
Mobility –
Rivermead mobility index
Quality of life –
Incontinence quality of life
Interventions

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6 Homes, 60 residents selected  26 refused to participate

Cluster randomisation

**Intervention 3 homes 18 people**
- Baseline assessment n=16
  - Refused n=1, Ill n=1
- Post intervention 2 month n=13
  - Lost to follow up: deceased n=2
  - Moved n=1
- 6 month follow up n=13
  - Lost to follow up: deceased n=2
  - Moved n=1

**Standard care 3 homes 16 residents**
- Baseline assessment n=16
- 2 month follow up n=14
  - Lost to follow up: deceased n=2
- 6 month follow up n=14
  - Lost to follow up: deceased n=2
## Baseline Characteristics of Participants by Group.

<table>
<thead>
<tr>
<th></th>
<th>Intervention n=18</th>
<th>Control n=16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age mean ± SD</strong></td>
<td>86 ± 8</td>
<td>85 ± 10</td>
</tr>
<tr>
<td><strong>Female n (%)</strong></td>
<td>18 (100)</td>
<td>12 (75%)</td>
</tr>
<tr>
<td><strong>SOMCT &lt;22 (%)</strong></td>
<td>15 (83%)</td>
<td>9 (56%)</td>
</tr>
<tr>
<td><strong>BI mean ± SD</strong></td>
<td>10 ± 5.4</td>
<td>10 ± 4.6</td>
</tr>
<tr>
<td><strong>Ambulation % (n)</strong></td>
<td>14 (78%)</td>
<td>14 (87%)</td>
</tr>
<tr>
<td>Alone or with 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continent of urine</td>
<td>3 (17%)</td>
<td>3 (19%)</td>
</tr>
</tbody>
</table>

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Box plot of urodynamic scores by trial group and assessment occasion

Baseline urodynamics score
Urodynamics score at 6 weeks
Urodynamics scores at 6 months
Rivermead Mobility Index

- **Control**
  - Group:
    - Baseline: 14
    - 2 months: 12
    - 6 months: 10

- **Intervention**
  - Group:
    - Baseline: 8
    - 2 months: 6
    - 6 months: 4

2 months and 6 months data are represented with circles above the box plots.
Discussion and Conclusion

Successfully piloted intervention and identified limitations of measures

Trials of simple public health interventions feasible and appropriate

Designing Phase 111 study (n=686 residents, 78 homes)
Thanks to;
Homes and residents. Jed Rowe, Chris Wright, Pam Versfeld, Sue Kelly and David Punt