Patient-Centred Care Approaches for the Management of Chronic Disease

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Overview of Presentation

- Burden of Disease in Australia
- Chronic Disease Management Recommendations
- Patient-Centred Care Approaches for Chronic Disease Management
- Case Study: The Happy Life Club
  - Background
  - Methods
  - Results
  - Summary
Burden of Disease - Australia

Figure 3.1.3: Burden of disease, by disease group and age, 2011

Source: Australian Burden of Disease Study 2011; Table S3.1.3.
Chronic Disease Comorbidity

Figure 3.3.2: Comorbidity of selected chronic diseases, by age, 2014–15

<table>
<thead>
<tr>
<th>Age group</th>
<th>0 (no selected chronic diseases)</th>
<th>1 chronic disease (no comorbidity)</th>
<th>2 chronic diseases</th>
<th>3 or more chronic diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–44</td>
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<tr>
<td>45–64</td>
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<tr>
<td>65+</td>
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</tbody>
</table>

Per cent

Note: The selected chronic diseases are: arthritis, asthma, back pain and problems, cancer, cardiovascular disease, chronic obstructive pulmonary disease, diabetes, and mental health conditions.

Sources: ABS 2015 (Table 18.3); Table S3.3.2.
Chronic Disease Management Recommendations

• Improvement of chronic disease risk factors (smoking, physical activity, nutrition, alcohol etc.)
• Provision of self-management education and support
• Improvement in clinical indicators
• Incorporation of psychological care
• Multidisciplinary care team
• Patient-centred care approach
Patient-Centred Care Approach

“Care that consciously adopts the perspectives of individuals, families and communities, and sees them as participants, as well as beneficiaries, of trusted health systems that respond to their needs and preferences in humane and holistic ways. Patient-centred care requires that people have the education and support they need to make decisions and participate in their own care. It is organised around the health needs and expectations of people rather than diseases”

(World Health Organization, 2015)

• Terms often used interchangeably
  - Person-centred care  - Consumer-centred care
  - Personalised care    - Individualised care
Patient-Centred Care Models for Chronic Disease Self-Management

- The Flinders Program
- Motivational Interviewing
- Health Coaching
- 5As Model (Assess, Advise, Agree, Assist, Arrange)
- Disease-specific programs

- Most models are complimentary and incorporate elements of goal setting and problem solving, and a focus on effective communication
Case Study

The Happy Life Club: A type 2 diabetes health coach intervention
Background: Primary Care System in China

- Community Health Centres (CHCs) and affiliated Community Health Stations (CHSs)
- Doctors and nurses (1:1) deliver majority of care
- Majority of patients incur significant out-of-pocket expenses
- Mandated Services:
  - Health education
  - Health management
  - Rehabilitation
  - Primary medical care
  - Disease prevention
  - Family planning
Background: Management Approaches in China

• Historically, doctors have focused on the provision of medications to manage chronic disease
• Management approaches have not been patient-centred and have not targeted behaviour change
• Key barriers perceived by CHS doctors
  – Knowledge/Skill deficiencies
    “We [CHS Doctors] previously had a concept of patient-centred care in our minds, but we now know that our understanding was totally different”
  – Time constraints
    “For example, in a 6.5 hour day in clinic we will see around 70-80 patients. It is enough for us to handle the medical complaints within this time.”
  – Lack of financial incentives
    “We are government level doctors and we have a fixed level salary, no matter how many services we provide to the patient. There is no incentive to provide a service additional to that of the standard medical service.”
Study Design

- Pragmatic cluster randomised controlled trial
- Community Health Stations (n = 41)
- CHSs randomised to one of two groups:
  - Intervention group
    Individuals with T2DM (≥50 years) received 18 months of health coaching based on motivational interviewing principles, in combination with usual care (n = 372)
  - Control group
    Individuals with T2DM (≥50 years) received 18 months of usual care only (n=339)
Diabetes in China

• In 2015:
  – Overall prevalence: 10.6%
  – Deaths attributable: ~1.3 million
  – Costs attributable: $USD25 billion (13% total health care expenditure)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country/territory</th>
<th>Number of people with diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China</td>
<td>109.6 million [99.6-133.4]</td>
</tr>
<tr>
<td>2</td>
<td>India</td>
<td>69.2 million [56.2-84.8]</td>
</tr>
<tr>
<td>3</td>
<td>United States of America</td>
<td>29.3 million [27.6-30.9]</td>
</tr>
<tr>
<td>4</td>
<td>Brazil</td>
<td>14.3 million [12.9-15.8]</td>
</tr>
<tr>
<td>5</td>
<td>Russian Federation</td>
<td>12.1 million [6.2-17.0]</td>
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<tr>
<td>6</td>
<td>Mexico</td>
<td>11.5 million [6.2-13.7]</td>
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<tr>
<td>7</td>
<td>Indonesia</td>
<td>10.0 million [8.7-10.9]</td>
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<tr>
<td>8</td>
<td>Egypt</td>
<td>7.8 million [3.8-9.0]</td>
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<tr>
<td>9</td>
<td>Japan</td>
<td>7.2 million [4.1-9.6]</td>
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<tr>
<td>10</td>
<td>Bangladesh</td>
<td>7.1 million [5.3-12.0]</td>
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<td>1</td>
<td>China</td>
<td>150.7 million [138.0-179.4]</td>
</tr>
<tr>
<td>2</td>
<td>India</td>
<td>123.5 million [99.1-150.3]</td>
</tr>
<tr>
<td>3</td>
<td>United States of America</td>
<td>35.1 million [33.0-37.2]</td>
</tr>
<tr>
<td>4</td>
<td>Brazil</td>
<td>23.3 million [21.0-25.9]</td>
</tr>
<tr>
<td>5</td>
<td>Mexico</td>
<td>20.6 million [11.4-24.7]</td>
</tr>
<tr>
<td>6</td>
<td>Indonesia</td>
<td>16.2 million [14.3-17.7]</td>
</tr>
<tr>
<td>7</td>
<td>Egypt</td>
<td>15.1 million [7.3-17.3]</td>
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<tr>
<td>8</td>
<td>Pakistan</td>
<td>14.4 million [10.6-20.4]</td>
</tr>
<tr>
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<td>Bangladesh</td>
<td>13.6 million [10.7-24.6]</td>
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<td>12.4 million [6.4-17.1]</td>
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</table>

Motivational Interviewing

“a collaborative, goal-oriented style of communication with particular attention to the language of change. It is designed to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person’s own reasons for change within an atmosphere of acceptance and compassion”

(Miller & Rollnick, 2012)
Study Setting

- Fengtai District
  - Population 2.3 million
  - Life expectancy 80.4 years (men); 83.9 years (women)
  - Socioeconomic diversity

Map of Beijing

Fengtai District
Intervention Framework

• Intervention Group
  – 18 months of MI health coaching (face-to-face and telephone) in addition to usual care (Chinese T2DM guidelines + increased health checks)
  – Health coaching delivered by trained community doctors and nurses

• Control group
  – 18 months of usual care only
    (Chinese T2DM guidelines + increased health checks)
Outcome Measures

Physical measures

- Fasting blood samples
  - HbA1c
  - Plasma glucose
  - Cholesterol (total, LDL, HDL)
  - Triglycerides

- Anthropometric
  - Weight
  - Height
  - Waist & hip circumference
  - Blood pressure (systolic & diastolic)

Questionnaire

- Demographics
- Smoking status
- Alcohol intake (AUDIT)
- Psychological distress (K10)
- Quality of life (WHOQoL)
- Diabetes self-care activities (SDSCA)
- Diabetes management self efficacy (C-DMSES)
- Self-rated health (SF-1)
## Baseline Characteristics of Sample

<table>
<thead>
<tr>
<th>Baseline Characteristics</th>
<th>Intervention Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Community Health Stations, n (%):</strong></td>
<td>21 (53.8%)</td>
<td>18 (46.2%)</td>
</tr>
<tr>
<td>Population of CHS zone, mean ± SD</td>
<td>19,025 ± 10,553</td>
<td>23,884 ± 28,994</td>
</tr>
<tr>
<td>Number of annual CHS visits, mean ± SD</td>
<td>18,198 ± 16,572</td>
<td>30,862 ± 42,075</td>
</tr>
<tr>
<td>Number of CHS doctors, mean ± SD</td>
<td>2.9 ± 2.0</td>
<td>3.2 ± 2.3</td>
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<tr>
<td>Number of CHS nurses, mean ± SD</td>
<td>3.1 ± 1.8</td>
<td>2.9 ± 1.2</td>
</tr>
<tr>
<td>Years since CHS establishment, mean ± SD</td>
<td>13.5 ± 6.0</td>
<td>11.4 ± 4.9</td>
</tr>
<tr>
<td><strong>Participants, n (%):</strong></td>
<td>372 (52.3%)</td>
<td>339 (47.7%)</td>
</tr>
<tr>
<td>Age in years, mean ± SD</td>
<td>63.7 ± 7.6</td>
<td>64.0 ± 9.0</td>
</tr>
<tr>
<td>Female, n (%)</td>
<td>191/372 (51.3%)</td>
<td>184/339 (54.3%)</td>
</tr>
<tr>
<td>Married (including de facto), n (%)</td>
<td>338/371 (91.1%)</td>
<td>299/338 (88.5%)</td>
</tr>
<tr>
<td>Retired, n (%)</td>
<td>343/370 (92.7%)</td>
<td>309/338 (91.4%)</td>
</tr>
<tr>
<td>Secondary/high school education, n (%)</td>
<td>266/372 (71.5%)</td>
<td>222/338 (65.7%)</td>
</tr>
<tr>
<td>Duration of T2DM in years, mean ±SD</td>
<td>10.0 ± 6.5</td>
<td>9.6 ± 6.6</td>
</tr>
<tr>
<td>Currently prescribed insulin, n (%)</td>
<td>124/371 (33.4%)</td>
<td>99/337 (29.4%)</td>
</tr>
<tr>
<td>Comorbid conditions present, n (%)</td>
<td>316/372 (84.9%)</td>
<td>268/339 (79.1%)</td>
</tr>
<tr>
<td>Current Smoker, n (%)</td>
<td>68/367 (18.5%)</td>
<td>65/321 (20.2%)</td>
</tr>
</tbody>
</table>
Summary of Results

Between baseline and 18 months:

- Statistically significant within-group changes were observed among both intervention and control groups for:
  * HbA1c* (mean change – Intervention: -3.65%; Control: -3.38%)
  * Fasting plasma glucose
  * Total cholesterol, Triglycerides*, LDL and HDL* cholesterol
  * SDSCA-Blood glucose monitoring

- No between-group differences were observed

- Both groups displayed improvements in treatment target attainment for HbA1c, and the majority of secondary outcomes
  * Women had significantly lower odds of achieving treatment targets
Summary Interpretation of Findings

• Lack of differential treatment effects meant that the hypothesis was not supported
• HbA1c was the only statistically significant within-group change to reach clinical relevance
• Possible explanations to the comparable within-group improvement in HbA1c
  – Alteration to the usual care condition (increased health monitoring provided at no cost)
  – Potential contamination between clusters
  – Hawthorne effect