Diagnoses, symptoms and outcomes in aged care residents referred to a community palliative care service

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Advanced Trainee in Geriatric & Palliative Medicine
Background

- Ageing population: absolute & proportion
  ABS 2013
- Ageing associated with
  - Comorbidity
  - Functional impairment & institutionalisation
- Residential Aged Care Facilities
  - Growing population
  - Ageing population
  AIHW 2012
Background

• 2005: 26% of all deaths in Australia (32% of those aged 65+) occur in residential care
  Broad et al 2013

• 2012-13: 7.9% of all new admissions to Australian ACF ‘requiring palliative care’ (5.6% of all residents
n • Higher with increasing age
  AIHW 2014
Background

• Access to services
  – Guidelines & advisory service
  – Identify
    • Palliative goals
    • Need for specialist palliative care (SPC) involvement
  – Accept

• Significant variability between SPC services
  – Consultation/advice only model
  – Auto-accept & review all ACF referrals
Background

- Figures on proportion of specialist palliative care patients residing in ACF not readily available

- July-December 2013: of all referrals to ambulatory/community palliative care, 9.2% nationally (16.2% in Victoria) received directly from ACFs

PCOC Report 16, 2014
- Mercy Community Palliative Care
- Inner & outer west of Melbourne
Study aims

• Establish proportion of referrals to CPCS of ACF residents
• Clarify referral patterns & determine whether standard referral details can be used to predict symptom care needs & episode outcomes
• Review prevalence of key diagnoses and evaluate for any relationship with symptom prevalence and episode outcomes
Study method

- Low-risk HREC approval for retrospective cohort design
- Identify referrals of ACF residents
- Data collection
  - Patterns: source, reason, urgency
  - Outcomes: admit/non-admit, reason for ending episode, episode duration
  - Primary diagnoses & comorbidities
  - Admission: palliative care phase, symptoms & performance status
Results
Population

• 6 months’ referrals reviewed
  – 01 July – 31 December 2013
  – 955 total referrals received (uncorrected)
  – 268 unique referrals of permanent ACF residents*
    *includes new permanent admission to ACF from hospital
• 162 (60.4%) female
• Mean age 84.4 years (range 43.2 - 99.4 years)
Referrals

- **Source**
  - ACF 213 (79.5%), public hospital 47 (17.5%)

- **Urgency**
  - Urgent 131 (48.9%), routine 81 (30.2%)

- **Reason**
  - SM 54 (20.1%), EOLC 27 (10.1%), non-specific “palliative care” 185 (69.0%)
## Referral outcomes

### Admitted = 214
- **Deceased = 163**
  - At ACF = 157
  - Acute hospital = 4
  - PCU/hospice = 2
- **Discharged = 49**
- **Other = 2**

### Not admitted = 54
- **Deceased prior = 45**
- **Declined = 9**
  - Patient/family = 3
  - CPCS = 3
  - ACF = 2
  - GP = 1

### Mean admitted episode duration 47.4 days
(95%CI 38.0-56.8, range 0-506)
Diagnosis: primary

- 35.8% Dementia
- 24.3% Cancer
- 16.4% Organ failure
- 7.5% Neurological
- 16.0% Others

N=

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Dementia</td>
<td>35.8%</td>
</tr>
<tr>
<td>Cancer</td>
<td>24.3%</td>
</tr>
<tr>
<td>Organ failure</td>
<td>16.4%</td>
</tr>
<tr>
<td>Neurological</td>
<td>7.5%</td>
</tr>
<tr>
<td>Others</td>
<td>16.0%</td>
</tr>
</tbody>
</table>
Overall prevalence

- 59.0% Dementia
- 56.0% Chronic organ disease/failure
- 27.2% Cancer
- 31.3% Neurology/stroke
Symptoms
Symptom prevalence

• Variable estimates of pain prevalence in nursing homes
  
  Australia
  – 27.8% point prevalence in NH residents (n=917)  
    McClean & Higginbotham, 2002
  – 69% of ‘palliative’ residents (non-malignant) over 10 weeks (n=69)  
    Parker et al., 2005

• International
  – UK: 37% chronic non-cancer pain, 2% cancer pain  
    Allcock et al., 2002
  – US: 14.7% had pain at both of 2 assessments 60-180 days apart  
    Teno et al., 2001
**Pain prevalence**

- Prevalence of pain on admission assessment: **53.5% (106/198)**

<table>
<thead>
<tr>
<th>Dementia (n=71)</th>
<th>Cancer (53)</th>
<th>Organ failure (29)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>50.7%</td>
<td>50.9%</td>
<td>72.4%</td>
</tr>
</tbody>
</table>

- No difference by referral source (43-54%, p0.85) or urgency of referral (49-57%, p0.62)
Other symptoms in palliative care

- **Dyspnoea (severe)**  
  • 32% Stage III-IV NSCLC, 56% COPD  
  Claessens et al., 2000 (SUPPORT)

- Estimated 44-75% of deceased ACF residents experienced dyspnoea in final months of life  
  Gonzales et al., 2011

- **Nausea – systematic review**  
  • 6-68% cancer, 17-48% cardiac, 30-43% renal  
  • No info COPD, dementia  
  Solano et al., 2006

- 17% in ACF residents in 48h prior to death  
  Brandt et al 2006
## Symptom prevalence

<table>
<thead>
<tr>
<th>Symptom</th>
<th>OVERALL (n=198)</th>
<th>Dementia (71)</th>
<th>Cancer (53)</th>
<th>Organ failure (29)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyspnoea</td>
<td>26.3%</td>
<td>15.5%</td>
<td>22.6%</td>
<td>55.2%</td>
<td>0.01</td>
</tr>
<tr>
<td>Nausea</td>
<td>9.1%</td>
<td>2.8%</td>
<td>15.1%</td>
<td>20.7%</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

- No association of dyspnoea with referral source (26-29%, p=0.98) or urgency (24-27%, p=0.92)
- No association of nausea with referral source (8-14%, p=0.49) or urgency (8-14%, p=0.42)
<table>
<thead>
<tr>
<th></th>
<th>OVERALL (n=200)</th>
<th>Dementia (71)</th>
<th>Cancer (53)</th>
<th>Organ failure (30)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>No physical symptoms</td>
<td>7.5%</td>
<td>8.5%</td>
<td>7.5%</td>
<td>3.3%</td>
<td>0.65</td>
</tr>
<tr>
<td>PSS Pain 2+</td>
<td>14.5%</td>
<td>9.9%</td>
<td>15.1%</td>
<td>26.7%</td>
<td>0.10</td>
</tr>
<tr>
<td>PSS OS 2+</td>
<td>33.5%</td>
<td>25.4%</td>
<td>32.1%</td>
<td>56.7%</td>
<td>0.09</td>
</tr>
<tr>
<td>Psychological distress PSS 2+</td>
<td>7.5%</td>
<td>4.2%</td>
<td>3.8%</td>
<td>23.3%</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

Overall, 42.0% of patients (n=84) admitted scored 2 or higher on at least 1 physical symptom.
Outcomes
## Episode outcomes

<table>
<thead>
<tr>
<th>DIAGNOSIS</th>
<th>REASON</th>
<th>SM (46)</th>
<th>EOLC (20)</th>
<th>NOS (144)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deceased</td>
<td>76.2%</td>
<td>63.0%</td>
<td>85.0%</td>
<td>80.6%</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Admitted patients who died (n=163) had mean episode duration 29.7 days vs 104.6 days for discharged patients (n=49) (p<0.001)

<table>
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<th>EOLC (20)</th>
<th>NOS (144)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean duration</td>
<td>47.4 days</td>
<td>70.0</td>
<td>43.5</td>
<td>39.8</td>
<td>0.04</td>
</tr>
</tbody>
</table>
Death prior to admission

• n=45 (16.8%)

• More likely for non-malignant (e.g. dementia, organ failure) patients (20.8% and 22.7% respectively) than cancer patients (6.2%) (p<0.02)

• Less likely for routine referrals (9.9%) than unspecified (16.8%) and for urgent (22.1%) (p<0.06)
Significance of admission assessment

- **Australia-modified Karnofsky Performance Status**
  Abernethy et al., 2005

<table>
<thead>
<tr>
<th>AKPS</th>
<th>OVERALL (202)</th>
<th>Dementia (72)</th>
<th>Cancer (53)</th>
<th>Organ (30)</th>
<th>Deceased</th>
<th>Mean episode</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-70</td>
<td>33 (16.3%)</td>
<td>6 (8.3%)</td>
<td>16 (30.2%)</td>
<td>5 (16.7%)</td>
<td>18 (54.5%)</td>
<td>77.6 days</td>
</tr>
<tr>
<td>10-40</td>
<td>169 (83.7%)</td>
<td>66 (91.7%)</td>
<td>37 (69.8%)</td>
<td>25 (83.3%)</td>
<td>140 (82.8%)</td>
<td>33.9 days</td>
</tr>
</tbody>
</table>

\[p_{0.06} \quad p_{0.01} \quad p_{<0.001}\]
Significance of admission assessment

- Palliative care phase

**PHASE** | N (209) | Deceased (76.2%) | Mean episode duration (47.4)
---|---|---|---
1 – stable | 53 (25.4%) | 32 (60.4%) | 78.9 days
2 – unstable | 21 (10.0%) | 15 (71.4%) | 47.5
3 – deteriorating | 106 (50.7%) | 86 (81.1%) | 39.0
4 – terminal | 29 (13.9%) | 28 (96.6%) | 6.3

35.6% of cancer patients in P1 vs. 21.9% organ failure & 18.9% dementia (p<0.08)

1.7% of cancer patients in P4 vs 15.6% organ failure & 21.6% dementia (p<0.003)
Summary

- Aged care facilities’ role in provision of palliative care
- ACF residents & SPC
  - comprise over 1/4 of all referrals to MCPC
  - have different diagnoses cf. general SPC population
  - most have at least 1 other serious comorbidity
- Patients with primary diagnosis of cancer referred earlier -
  longer episodes, higher performance status, more stable (P1) & less likely to die between referral and admission
- Nearly half of referrals are urgent. Associated with shorter episodes and higher chance of dying prior to admission.
Summary

- No difference in mortality between diagnostic groups
- Similar prevalence of pain across dementia, cancer & organ failure groups
- Severe symptoms possibly less frequent in dementia group
  - Potential communication barrier
- Moderate-severe psychological distress more frequent in organ failure group
- 42% of patients are experiencing physical symptoms graded at least moderately severe on admission
Areas for improvement

• Referral timeliness & recognise need for SPC
  – Especially for non-malignant groups
  – Identification of referral request
• Responsiveness for urgent referrals
  – Flexibility for anticipatory referrals: model of care
• Background education and support for organ failure patients
• Differentiate palliative approach from SPC eg. patients with no symptoms
References

- **AIHW** Palliative care services in Australia 2014. Cat. no. HWI 128. Canberra: AIHW.
- **Smith M** (1996) Palliative care casemix - stage 2 development: a national classification for any site of care. 8th National Casemix Conference, Commonwealth Department of Human Services and Health