'Implementation of clinical guidelines in clinical practice. Data from the national quality improvement project in specialized palliative care'

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Årsdag i DMCG-PAL 2022

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Background

In 2015 a new Improvement Model was introduced in the Danish Healthcare System and its first project started in specialized palliative care (SPC) as ‘læring og kvalitetsteam-palliation (LKT-palliation)’:

- Aimed at improving the quality of life of patients and their families
- To implement the content of the DMCG-PAL clinical guidelines into routine care by delivering ‘symptompakker = packages’
- Packages consisted of five type of interventions, including pharmacological and non-pharmacological treatments
- Packages delivered to patients with severe levels of pain, dyspnea, constipation and depression (i.e., scored 3-4 in the EORTC QLQ-C15-PAL)
- A patient received a package when the clinician offered relevant treatment included in the guidelines
Aim

To investigate to what extent clinicians implemented systematic use of clinical guidelines in SPC by evaluating:

1. The proportions of patients admitted to SPC who qualified for (i.e., reported severe levels of symptoms) and received each package in all palliative care services
2. The proportions of palliative care services starting to implement each package over time
3. The proportions of patients who qualified for and received each package in palliative care services that started the implementation of packages
4. How often different interventions were given to patients receiving packages
Methods

**Study design:**
Register-based study with data from the Danish Palliative Care Database (DPD)

**Participants:**
Adult cancer patients starting SPC between 7 September 2017 and 30 June 2019, who completed the EORTC QLQ-C15-PAL

**Analysis:**
- Descriptive statistics
- It was defined that a palliative care service started the implementation when the 5th patient received a package
Results: Patient inclusion

Cancer patients admitted to SPC Sep. 2016 – Jun. 2019 (n=18,379)

Completed the EORTC QLQ-C15-PAL (n=11,330)

- Severe pain (n=7,509; 66%)
- Severe dyspnea (n=4,278; 38%)
- Severe constipation (n=3,376; 30%)
- Severe depression (n=2,284; 25%)

Did not complete the EORTC QLQ-C15-PAL (n=7,049)
### Results: Patients receiving packages - overall

<table>
<thead>
<tr>
<th>Symptom</th>
<th>% Patients Receiving Packages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe pain (N=7,509)</td>
<td>60%</td>
</tr>
<tr>
<td>Severe dyspnea (N=4,278)</td>
<td>54%</td>
</tr>
<tr>
<td>Severe constipation (N=3,376)</td>
<td>56%</td>
</tr>
<tr>
<td>Severe depression (N=2,824)</td>
<td>32%</td>
</tr>
</tbody>
</table>
Results: Patients receiving packages in all palliative care services

Proportion of patients receiving each package among those qualifying in all palliative care services by quarter

<table>
<thead>
<tr>
<th>Packages</th>
<th>Number of patients receiving a package divided by those qualifying by quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>Q1 (Sept 17) 280/1000</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>Q1 (Sept 17) 140/568</td>
</tr>
<tr>
<td>Constipation</td>
<td>Q1 (Sept 17) 133/460</td>
</tr>
<tr>
<td>Depression</td>
<td>Q1 (Sept 17) 43/408</td>
</tr>
</tbody>
</table>
Results: Proportion of the 44 palliative care services starting the implementation of each package by month

- Overall, 50% of services implemented pain and dyspnea packages in February 2018, whereas constipation and depression packages in March and June 2018, respectively.

*A service started the implementation when the 5th patient received a package.
Results: Patients receiving packages in palliative services that started implementation of packages

Proportion of patients receiving each package among those qualifying in palliative services that started implementation of packages by quarter

<table>
<thead>
<tr>
<th>Packages</th>
<th>Number of patients receiving a package divided by those qualifying by quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1 (Sept 17)</td>
</tr>
<tr>
<td>Pain</td>
<td>46/76</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>13/19</td>
</tr>
<tr>
<td>Constipation</td>
<td>5/5</td>
</tr>
<tr>
<td>Depression</td>
<td>0/7</td>
</tr>
</tbody>
</table>
Results: Type of interventions

Proportion of patients receiving different types of interventions among those given packages

- Pain (N=4,489)
  - Any intervention: 93%
  - Pharmacological start: 51%
  - Pharmacological adjustment: 48%
  - Non-pharmacological: 40%
  - Patient education: 32%
  - Caregiver training: 44%

- Dyspnea (N=2,309)
  - Any intervention: 90%
  - Pharmacological start: 52%
  - Pharmacological adjustment: 61%
  - Non-pharmacological: 41%
  - Patient education: 31%
  - Caregiver training: 27%

- Constipation (N=1,882)
  - Any intervention: 92%
  - Pharmacological start: 52%
  - Pharmacological adjustment: 66%
  - Non-pharmacological: 47%
  - Patient education: 31%
  - Caregiver training: 27%

- Depression (N=896)
  - Any intervention: 88%
  - Pharmacological start: 27%
  - Pharmacological adjustment: 61%
  - Non-pharmacological: 44%
  - Patient education: 22%
  - Caregiver training: 29%

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Discussion and conclusions

Main findings:

- Across the project, services were more successful implementing guidelines for the treatment of physical symptoms (54-60%) than for depression (32%)
- During the first 6-9 months, there was a steady increase in the proportions of patients receiving the packages in services that started the implementation reaching around 78-86%, except for depression
- Pain and constipation were most often treated pharmacologically, whereas dyspnea and depression were most often treated non-pharmacologically
Discussion and conclusions

Because...

- Services had the opportunity to decide when to start the implementation of packages, leading to differences in the timing between services.
- Reasons why a service started with one package instead the other or never implemented a package is not available.
- Qualitative data was not collected from clinicians to understand why the implementation was not successful as expected.

Which were the main difficulties in implementing the clinical guidelines into routine care during the project?