Validation of SPICT in a geriatric population

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I. Pilot study 2015-2017

• **Aim**

  - Validation of SPICT in a geriatric patient population admitted to the acute geriatric ward

  - Importance of prognostication in the acute hospital setting

  The SPICT™ is used to help identify people whose health is deteriorating. Assess them for unmet supportive and palliative care needs. Plan care.
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• Research questions
  – What is the prognostic value of SPICT regarding one-year mortality in a geriatric population?
  – What are the best cut-off values of SPICT regarding one-year mortality predictions in a geriatric population?
  – Is there an association between TLDs assigned by geriatricians and SPICT? (TLD = treatment limitation decision)
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• **Methods**
  – Retrospective, single-center study at University Hospital, Ghent
  – n=435, admitted to the acute geriatric ward January - June 2014
  – Data collection starting June 2015:
    - SPICT version 2015
    - Demographics
    - TLD at discharge
    - One-year mortality
### Supportive and Palliative Care Indicators Tool (SPICT™)

The SPICT™ is a guide to identifying people at risk of deteriorating health and dying. Assess these people for unmet supportive and palliative care needs.

#### Look for two or more general indicators of deteriorating health.
- Performance status is poor or deteriorating (the person is in bed or a chair for 50% or more of the day); reversibility is limited.
- Dependent on others for most care needs due to physical and/or mental health problems.
- Two or more unplanned hospital admissions in the past 6 months.
- Significant weight loss (5-10%) over the past 3-6 months, and/or a low body mass index.
- Persistent, troublesome symptoms despite optimal treatment of underlying condition(s).
- Patient asks for supportive and palliative care, or treatment withdrawal.

#### Look for any clinical indicators of one or more advanced conditions

**Cancer**
- Functional ability deteriorating due to progressive metastatic cancer.
- Too frail for oncology treatment or treatment is for symptom control.

**Dementia/ frailty**
- Unable to dress, walk or eat without help.
- Eating and drinking less; swallowing difficulties.
- Urinary and faecal incontinence.
- No longer able to communicate using verbal language; little social interaction.
- Fractured femur; multiple falls.
- Recurrent febrile episodes or infections; aspiration pneumonia.

**Neurological disease**
- Progressive deterioration in physical and/or cognitive function despite optimal therapy.
- Speech problems with increasing difficulty communicating and/or progressive swallowing difficulties.
- Recurrent aspiration pneumonia; breathlessness or respiratory failure.

**Heart/ vascular disease**
- NYHA Class III/IV heart failure, or extensive, untreatable coronary artery disease with:
  - breathlessness or chest pain at rest or on minimal exertion.
- Severe, inoperable peripheral vascular disease.

**Respiratory disease**
- Severe chronic lung disease with:
  - breathlessness at rest or on minimal exertion between exacerbations.
- Needs long term oxygen therapy.
- Has needed ventilation for respiratory failure or ventilation is contraindicated.

**Kidney disease**
- Stage 4 or 5 chronic kidney disease (eGFR < 30mL/min) with deteriorating health.
- Kidney failure complicating other life limiting conditions or treatments.
- Stopping dialysis.

**Liver disease**
- Advanced cirrhosis with one or more complications in past year:
  - diuretic resistant ascites
  - hepatic encephalopathy
  - hepatorenal syndrome
  - bacterial peritonitis
  - recurrent variceal bleeds

**Review supportive and palliative care and care planning**
- Review current treatment and medication so the patient receives optimal care.
- Consider referral for specialist assessment if symptoms or needs are complex and difficult to manage.
- Agree current and future care goals, and a care plan with the patient and family.
- Plan ahead if the patient is at risk of loss of capacity.
- Record, communicate and coordinate the care plan.

**Positive screen:**
≥2 general indicators AND
≥1 clinical indicators present

Source: [http://www.spict.org.uk/the-spict/](http://www.spict.org.uk/the-spict/)
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• **Results**
  
  = SPICT seems to be a valuable tool for identifying geriatric patients with poor prognosis, possibly in need of treatment adaptation

  ↓

  1. Significant association with one-year mortality

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Total group n=435</th>
<th>SPICT +ve group n=238</th>
<th>SPICT -ve group n=197</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-year mortality</td>
<td>132 (32.2%)</td>
<td>111 (48.7%)</td>
<td>21 (11.5%)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
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2. April 2015 version: solid and balanced combination of sensitivity and specificity in predicting one-year mortality

<table>
<thead>
<tr>
<th>Cut-off values for SPICT-outcome</th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut-off values 2+1 (=April 2015 version)</td>
<td>0.841</td>
<td>0.579</td>
</tr>
<tr>
<td>Cut-off values 1+1 (=April 2016 version)</td>
<td>0.932</td>
<td>0.245</td>
</tr>
</tbody>
</table>

• Comparable with the sensitivity and specificity of the Multidimensional Prognostic Index (MPI) and the Study of Osteoporotic Fractures (SOF)

• Advantages of SPICT:
  ✓ restricted amount of questions
  ✓ displayed on 1 single page
  ✓ proven feasibility and convenience
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3. Significant association with TLDs assigned by geriatricians

![Graph showing association between TLD at discharge and % of positive SPICT](image)

- No TLD: 28.3%
- TLD ‘full therapy’: 53.1%
- TLD ‘no CPR only’: 59.5%
- TLD ‘withholding therapy’: 82.7%
- TLD ‘comfort care only, no life-sustaining therapies’: 94.1%

$p<0.001$
I. Pilot study 2015-2017

• **Conclusion**
  SPICT seems to be a valuable tool for identifying geriatric patients with poor prognosis, possibly in need of treatment adaptation

• **Limitations**
  – Unicentric
  – Retrospective
  – G-ward only
II. Prospective study 2017-2020

• **Multi-centric**
  – 4 participating hospitals in Belgium, each with:
    - Acute G-ward: n=60
    - Non G-ward (cardiology): n=80
  – Hospitalised patients ≥75 years

• **Prospective**
  – At admission: IC, 1st part of SPICT (blinded)
  – At discharge: 2nd part of SPICT, demographics, TLD
  – After 1 year: QOL, survival
II. Prospective study 2017-2020

- Research questions
  - Is SPICT an accurate tool to identify the older person admitted to the hospital with poor prospects of full recovery?
  - What are the best cut-off values of SPICT in predicting one-year mortality in an older patient population?
  - Can SPICT help improve TLD decision making? Are there any differences between G-wards and non G-wards?
II. Prospective study 2017-2020

• Time frame
  – January 2018 - October 2018: data collection
  – January 2019 - October 2019: one-year outcome
  – Beginning of 2020: first results

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• Pilot study