Factors associated with the prescription of antidepressive medication to breast cancer patients

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Background

Increasing number of breast cancer survivors

High prevalence of depression among breast cancer patients

Lack of knowledge on use of antidepressants in this group

Department of Psychosocial Cancer Research, Institute of Cancer Epidemiology, Danish Cancer Society
Aim

Factors associated with use of antidepressants subsequent to a diagnosis of breast cancer

Effect of participation in a cancer rehabilitation program on use of antidepressants

Department of Psychosocial Cancer Research, Institute of Cancer Epidemiology, Danish Cancer Society
Study population and design

January 1, 1998 - December 31, 2006

Comparison group
n=3040

Rehab. attendees
n=1276

4316 women

Missing information

n=166

4150 women

Rehab. attendees
n=1247

Comparison group
n=2903
Antidepressant medication

The National Drug Prescription Database

1995 Diagnosis of BC Min. 2 years 1 year 2008

AD AD

User
Register linkages

- **Sociodemographic factors – Statistics Denmark**
  Education, income, affiliation to the labour market, cohabitation status, and number of children living at home

- **Comorbidity – The National Patient Registry**

- **Clinical variables – DBCG**
  Tumor size, tumor-positive axillary lymph nodes, menopausal status, estrogen receptor status, grade of malignancy, type of surgery, adjuvant treatment, recurrences, and new primary cancers

Department of Psychosocial Cancer Research,
Institute of Cancer Epidemiology,
Danish Cancer Society
Use of antidepressants

Before diagnosis of breast cancer:
- 15% (624) were users

After diagnosis of breast cancer:
- 25% (1020) were users
- Among non-prior users
  - 27% (279) of rehabilitation attendees
  - 13% (322) of comparison group
## Factors associated with use of AD

<table>
<thead>
<tr>
<th>Factor</th>
<th>Hazard ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>New primary cancer after diagnosis of BC</td>
<td>3.34</td>
<td>1.50–7.76</td>
</tr>
<tr>
<td>Recurrence of breast cancer</td>
<td>2.56</td>
<td>1.86–3.52</td>
</tr>
<tr>
<td>Positive lymph nodes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>per 1 extra positive</td>
<td>1.01</td>
<td>1.00–1.03</td>
</tr>
<tr>
<td>Labour market affiliation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>1.56</td>
<td>1.16–2.10</td>
</tr>
<tr>
<td>Number of children living at home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥ 1</td>
<td>0.79</td>
<td>0.62–1.00</td>
</tr>
<tr>
<td>Income (DKK)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>per 25 000 increase</td>
<td>0.98</td>
<td>0.96–1.00</td>
</tr>
</tbody>
</table>

Adjusted hazard ratios for use of antidepressant medication after treatment for breast cancer, in women who did not use antidepressants before the diagnosis, mutually adjusted on all covariates. Rehabilitation attendees and comparison group, n = 3513
Table 3. Adjusted hazard ratios for use of antidepressant medication in 1034 breast cancer patients who did not use antidepressant medication before diagnosis and who attended the rehabilitation program after breast cancer.

<table>
<thead>
<tr>
<th>Time between breast cancer diagnosis and rehabilitation program</th>
<th>Hazard ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 year</td>
<td>1.02</td>
<td>0.46-2.29</td>
</tr>
<tr>
<td>1-2 years</td>
<td>0.44</td>
<td>0.18-1.07</td>
</tr>
<tr>
<td>&gt; 2 years</td>
<td>0.69</td>
<td>0.33-1.44</td>
</tr>
</tbody>
</table>
Strengths and limitations

+ Large study population
+ Extensive information on sociodemographics and clinical variables
+ Prescription-based exposure information
+ Distinguish between prior users and first time users

- AD do not entirely reflect the rate of depression
- AD are used in the treatment of hot flushes
Discussion

● Larger proportion of users of antidepressants among rehabilitation attendees

● Evaluation of the effect of the rehabilitation program on use of antidepressants
Conclusion

● Factors associated with use of AD:
  - New primary cancer and recurrence of breast cancer
  - Sociodemographics rather than disease or treatment

● Increased use among rehabilitation attendees