General Practitioner attitudes towards prescribing tamoxifen for the primary prevention of breast cancer: results of a vignette study

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Breast cancer statistics

- Most common cancer in the UK
- 1 in 8 women diagnosed in lifetime
- Family history is a major risk factor
- Incidence has increased since 1970s
- Prevention is becoming a priority

New breast cancer cases (2012): 51,103
Breast cancer deaths (2012): 11,716
Survive for 10 or more years (2010): 78%
Preventable breast cancer cases: 27%
Selective Oestrogen Receptor Modulators (SERMs)

- Nine randomised trials\(^1\)
- Median 5 year follow up
- 38% reduction (breast cancer)
- 51% reduction (ER+)
- Thromboembolic events
- Endometrial cancer
- Menopausal side-effects
- Preventive effect lasts 20 years (Tamoxifen)\(^2\)
- No mortality reduction…

Breast cancer: NHS to offer tamoxifen to at-risk women

By Michelle Roberts
Health editor, BBC News online

Thousands of women across Britain with a family history of breast cancer are to be offered drugs on the NHS to help prevent the disease.

The National Institute for Health and Care Excellence says tamoxifen or raloxifene taken daily for five years can cut breast cancer risk by 40%.

Its guidance for England and Wales means 500,000 women now have a choice other than mastectomy.

Angelina Jolie revealed last month that she had undergone a preventative double mastectomy.
NICE 2013 Guidelines

- **Offer** tamoxifen or raloxifene for 5 years to women at high risk of breast cancer
- **Consider** offering either tamoxifen or raloxifene for 5 years to women at moderate risk
Uptake: Meta-analysis

Smith et al., 2016 Ann Oncol
Implementation problems

- Tamoxifen not licensed for prevention

- Familiarity
  - Geneticists not familiar with prescribing
  - Genetic counsellors not medically trained
  - GPs unfamiliar with chemoprevention

- No clear prescribing pathway

- Not in British National Formulary

Smith et al., 2016 Public Health Genomics
Survey aims

- To identify the barriers to prescribing tamoxifen for women at increased risk of breast cancer among a national sample of GPs

Research questions

- How aware are GPs of tamoxifen and its preventive effects?
- How willing are GPs to prescribe tamoxifen? How is this influenced by prescribing pathway?
- How comfortable are GPs discussing harms / benefits of tamoxifen?
- How do GP characteristics influence willingness to prescribe?
Methods

- National survey (n=1007, 928 outside Scotland) in 2016
  - M3 Global Research Panel (n≥30,000)
  - £15 incentive

- Survey developed from:
  - Interviews, collaborator review, commissioners
    - Awareness (tamoxifen and NICE guideline)
    - Willingness to prescribe
    - Comfort discussing harms
    - Comfort managing patient

- Inclusion / Exclusion criteria
  - GPs from England, N. Ireland and Wales
Study design

- Vignette describing hypothetical patient
  - Age, premenopausal status, no contraindications, increased risk
  - Manipulated in a 2 x 2 factorial design
    - Risk level (moderate [17-30%] or high risk [30%+])
    - Initial prescriber (GP or secondary care clinician)
Sarah is a 45-year-old woman with a family history of breast cancer. A family history clinician assessed her as having a high risk of breast cancer. This means she has a lifetime risk of ≥30%. Sarah has discussed the potential harms and benefits of taking tamoxifen. Sarah is premenopausal with no menstrual dysfunction, is not planning pregnancy, has no contraindications, and is taking no other medications. The family history clinician supports her decision to take tamoxifen and has also referred her for additional screening. The family history clinician requested that you write the first prescription and continue to act as the main prescriber.
<table>
<thead>
<tr>
<th>Country</th>
<th>Sample (%)</th>
<th>BMA national data (%)</th>
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<tbody>
<tr>
<td>England</td>
<td>85.6</td>
<td>82.8</td>
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<tr>
<td>Scotland</td>
<td>7.8</td>
<td>9.8</td>
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<tr>
<td>Wales</td>
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<td>4.7</td>
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<tr>
<td>Northern Ireland</td>
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<td>2.7</td>
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<tr>
<td><strong>Occupation</strong></td>
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<tr>
<td>GP Partner</td>
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<td>67.6</td>
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<td>Salaried / locum</td>
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<td>21.2</td>
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<tr>
<td>GP retainers</td>
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<td>0.9</td>
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<td>2.0</td>
<td>10.3</td>
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<tr>
<td><strong>Gender</strong></td>
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<tr>
<td>Male</td>
<td>57.8</td>
<td>50.8</td>
</tr>
<tr>
<td>Female</td>
<td>42.2</td>
<td>49.2</td>
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<tr>
<td><strong>Age</strong></td>
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<tr>
<td>&lt;50</td>
<td>72.3</td>
<td>57.2</td>
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<tr>
<td>50+</td>
<td>27.7</td>
<td>38.0</td>
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Results - Awareness

- 52.0% aware of prevention indication for tamoxifen
- 24.1% aware of NICE guideline (CG164)
- Multiple sources of information…
Source of information (N=243) (multiple responses)

- Training days
- GP magazines
- National guidelines
- Academic journals
- Patient
- Colleagues
- National media
- Local guidelines
- Other
- Practice meetings
- Unsure
Results – Prescribing attitudes

- Majority of GPs:
  - willing to prescribe (77.4%)
  - comfortable managing patient (66.4%)
  - comfortable discussing harms / benefits (58.3%)

- Awareness of NICE guidelines associated with:
  - willingness to prescribe (p<0.05)
  - comfort discussing harms / benefits (p<0.05)

- Attitudes vary significantly by context…
Willingness to prescribe for patient (% willing) (N=928)

Prescriber: $p<0.001$
Risk: N.S
Interaction: N.S.
Comfort discussing harms / benefits (% comfortable) (N=928)

Prescriber: p=0.01
Risk: N.S
Interaction: N.S.
Factors affecting the prescribing decision

- Benefits
- NICE guidelines
- Patient's risk
- Patient's interest
- Own knowledge
- Harms
- Support from FHC
- CCG
- Off-Label
- Colleagues
- Senior colleagues
- Budget
- Costs
Summary

- Limited awareness of prevention indication for tamoxifen and associated NICE guidance
  - Awareness linked with prescribing attitudes

- Training days, GP magazines and national guidelines most common source of information

- Willingness to prescribe and comfort discussing tamoxifen is inadequate
  - Prescribing attitudes vary by context
Recommendations

• GP education
  – Less GP bashing
  – Charities, researchers, NHS England and NICE

• ‘Shared care’ agreements for prescribing
  – CCGs, Medicines Management Groups

• List prevention as indication for tamoxifen in BNF
  – Possibly happening, watch this space

Mail Online
The 6p breast cancer pill GPs deny to thousands: Four in ten say they are not comfortable prescribing the drug despite it reducing the risk of the disease by 40%
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