Exploring the role of preoperative telephone support on symptoms of anxiety, depression, pain and QOL post total knee replacement (TKR)

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Background

- Ageing population
- Arthritis and osteoarthritis
- Treatment – total joint replacement (TJR)
- Anxiety and Depression and Pain
- Telephone support
Does pre-operative telephone support reduce post-operative symptoms of anxiety, depression and pain, and improve QOL post total knee replacement (TKR)?
Research Method

Pre and post test

PROMS - questionnaires
- EQ5D
- K10
- NRS-Pain

Telephone support – semi structured script
- Open and closed questions
Research Method

Ethics approval obtained

- Recruitment Pre-Admission Clinic (PAC)
- Questionnaires – Baseline
  6 weeks post TKR
- Telephone support – 1 week after PAC
  within 1 week of surgery
Methods of Analysis

Quantitative

- SPSS V.23 –
  Descriptive/Inferential analysis
- Mean and SD
- Median when results not normally distributed

Qualitative

Content analysis
Results – Participant demographics

No. participants n=16
Age M = 64.3 years (SD±10.97)
Gender Female n=11 (69%)
   Male   n=5  (31%)
Results – Participant demographics

- Living alone n=3 (19%)
- Most participants n=13 (81%)
  - Living with partner or
  - partner & children or
  - children
# Results - Comorbidities

<table>
<thead>
<tr>
<th>Condition</th>
<th>Participants (n=16)</th>
<th>%</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular</td>
<td>7</td>
<td>44</td>
<td>10</td>
</tr>
<tr>
<td>Respiratory</td>
<td>5</td>
<td>31</td>
<td>6</td>
</tr>
<tr>
<td>Endocrine</td>
<td>3</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>16</td>
<td>100</td>
<td>19</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>8</td>
<td>50</td>
<td>9</td>
</tr>
<tr>
<td>Cancer</td>
<td>2</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>CNC/Neurological</td>
<td>2</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Anxiety and/or Depression</td>
<td>5</td>
<td>31</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>62</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Anxiety and Depression - EQ5D

<table>
<thead>
<tr>
<th>Level of anxiety / depression</th>
<th>Baseline n (%)</th>
<th>Six weeks post TKR n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not anxious or depressed</td>
<td>9(56)</td>
<td>12(75)</td>
</tr>
<tr>
<td>Slightly anxious or depressed</td>
<td>3(19)</td>
<td>3(19)</td>
</tr>
<tr>
<td>Moderately anxious or depressed</td>
<td>3(19)</td>
<td>1(6)</td>
</tr>
<tr>
<td>Severely anxious or depressed</td>
<td>1(6)</td>
<td>0(0)</td>
</tr>
<tr>
<td>Extremely anxious or depressed</td>
<td>0(0)</td>
<td>0(0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16(100)</strong></td>
<td><strong>16(100)</strong></td>
</tr>
</tbody>
</table>
## EQ5D index scores

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Six weeks post TKR</th>
<th>Mean difference</th>
<th>p</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EQ5D</strong></td>
<td>0.54</td>
<td>0.70</td>
<td>0.16</td>
<td>0.008</td>
<td>0.37</td>
</tr>
<tr>
<td><strong>EQVAS (0 – 100)</strong></td>
<td>68.88</td>
<td>75.94</td>
<td>7.06</td>
<td>0.198</td>
<td>0.199</td>
</tr>
</tbody>
</table>
## Anxiety and Depression – K10

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Six weeks post TKR</th>
<th>Mean difference</th>
<th>p</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>K10 (10 – 50)</td>
<td>18.47</td>
<td>18.00</td>
<td>-0.47</td>
<td>0.75</td>
<td>0.036</td>
</tr>
</tbody>
</table>
## Pain - EQ5D

### Level of pain / discomfort

<table>
<thead>
<tr>
<th>Level of Pain</th>
<th>Baseline n (%)</th>
<th>Six weeks post TKR n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No pain</td>
<td>0(0)</td>
<td>1(6)</td>
</tr>
<tr>
<td>Slight pain</td>
<td>6(38)</td>
<td>10(63)</td>
</tr>
<tr>
<td>Moderate pain</td>
<td>5(31)</td>
<td>5(31)</td>
</tr>
<tr>
<td>Severe pain</td>
<td>4(25)</td>
<td>0(0)</td>
</tr>
<tr>
<td>Extreme pain</td>
<td>1(6)</td>
<td>0(0)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16(100)</strong></td>
<td><strong>16(100)</strong></td>
</tr>
<tr>
<td></td>
<td>Baseline</td>
<td>Six weeks post TKR</td>
</tr>
<tr>
<td>----------------</td>
<td>----------</td>
<td>--------------------</td>
</tr>
<tr>
<td>NRS–Pain (0 – 10)</td>
<td>4.91</td>
<td>2.25</td>
</tr>
</tbody>
</table>
Results - Quantitative

Rehabilitation (IPR) vs Home

- EQ5D index  
  Home M = 0.77  
  IPR M = 0.63
- NRS-Pain  
  Home M = 1.31  
  IPR M = 3.31
- K10  
  Home M = 16.78  
  IPR M = 19.38

Result shows better outcome scores for Home vs IPR

Length of stay (LOS)

- not normally distributed.
- Median LOS 4 days (IQR = 3-5.5)
Results - Qualitative

Content Analysis - Themes

Admission preparation

Anxiety about surgery

Post surgery concerns
Discussion

Benefits of telephone support;

- Simple cost effective tool
- Questions were answered and concerns discussed
- Education provided
- Link to the hospital, so participants felt connected
- Participants valued telephone support.
Discussion

- Significant improvement in QOL and pain post TKR
- Small improvement in anxiety and depression
- Compared to reference values in the literature, further improvement in QOL and pain was seen.
Limitations

- Follow up 6 weeks
- Reduced recruitment
- Single centre
Randomised Controlled Trial

- Comparing pre-operative telephone
- Identify those groups more at risk
- Compare HRQOL, pain, anxiety and depression
Conclusion

- Telephone support calls filled the gaps
- Participants valued telephone support
- Significant improvement in pain and EQ5D index scores (QOL)
- Anxiety and depression also reduced
- Comparing reference values in the literature there was an improvement in mean scores for NRS-Pain and EQ5D index scores.
- Suggesting telephone support calls had a positive effect on outcomes following TKR.


