The impact of pain severity and frequency on HRQoL in the big 5 European union countries

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INTRODUCTION

The prevalence, severity and frequency of pain, in particular chronic pain, has been reported on in a number of pain European studies (hathaway et al., 2006). Only recently, however, has there been an attempt to assess comprehensively the quantitative impact of pain experience and the burden imposed through a comparison of pain and no-pain populations (Langley et al., 2010, 2010b). The burden is substantial in terms of its impact on health-related quality of life (HRQOL), healthcare resource utilization, employment status and work absence and productivity. Further aspect of pain experience, which has not been considered at the national level are the determinants of pain experience within the population. In particular, the impact of the severity and frequency of pain as a risk factors such as type of pain medication, duration of medication use and satisfaction with treatment on HRQOL.

OBJECTIVES

This study assesses, for an estimated EU pain population of 50 million patients, the impact of pain severity and frequency on three dimensions of health-related quality of life (HRQOL), the SF-12 MCS and PCS scores and (ii) the SF-36 absolute utility scores.

METHODS

Data are from the 2008 National Health and Wellness Survey undertaken in the UK, France, Spain, Germany and Italy. This study identified over 11,000 respondents (1 in 5 of the estimated big 5 EU countries) who had experienced pain in the last month. The assessment of the quantitative impact of pain status on HRQOL is estimated using three single equation generalised linear (ordinary least square) models which estimate the impact of pain on PCS, MCS and utility scores. The model includes a range of variables which have been shown in previous population studies to impact HRQOL. These include socio-demographic factors, health risk behaviours, comorbidity status, medication utilisation, duration of medication utilisation and satisfaction with care. The experience of pain is captured by a combination of severity and frequency categorical variables.

RESULTS

Pain has a substantial impact on all three of the dimensions of HRQOL considered here. Compared to the reference category (i.e. pain experience not less than 3 months), the SF-12 PCS scores are 2-3 points lower than the reference category. The SF-12 MCS scores are 3-4 points lower than the reference category. The SF-36 absolute utility scores are substantially lower than the reference category (0.00-0.05).

REGRESSION RESULTS: EXPERIENCE OF PAIN AND HEALTH RELATED QUALITY OF LIFE

Table 3. Regression results: experience of pain and health related quality of life for a European pain population

<table>
<thead>
<tr>
<th>Pain Variable</th>
<th>SF-12 PCS</th>
<th>SF-12 MCS</th>
<th>SF-36 Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference</td>
<td>50.03</td>
<td>50.03</td>
<td>0.75</td>
</tr>
<tr>
<td>Mild pain weekly or less</td>
<td>49.00</td>
<td>49.00</td>
<td>0.74</td>
</tr>
<tr>
<td>Moderate pain weekly or less</td>
<td>48.00</td>
<td>48.00</td>
<td>0.71</td>
</tr>
<tr>
<td>Severe pain weekly or less</td>
<td>47.00</td>
<td>47.00</td>
<td>0.65</td>
</tr>
</tbody>
</table>

DISCUSSION

The duration of pain in terms of all dimensions of HRQOL considered is substantial. The impact of severe and frequent pain on PCS is greater than MCS. The deficit impact on health utilities is substantial and would not only offset those assessed for major chronic disease states but is also clinically significant for the majority of pain categories. The impact of pain, as considered in a disease on its own right, eclipses the deficit impact of the CCI as an index of major chronic disease states. The presence of pain also contributes to the impact of socio-demographic and health risk factors (including high BMI) on HRQOL.

CONCLUSIONS

This analysis, for the estimated pain population, points to the substantial deficit impact of severe and frequent pain on all three widely accepted measures of HRQOL. The impact of pain subtypes deflects impacts normally associated with health risk factors and the presence of comorbidities. The implications of this for the effectiveness of pain management programs need to be explored.