A Cross-Sectional Examination of Extrapyramidal Side-Effects (EPSE) in a Specialist Palliative Medicine Inpatient Unit

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**Background:**
- EPSE are serious side effects caused by anti-psychotics and other medications
- A core principle of palliative care involves optimising quality of life
- If side-effects of medications are burdensome it is imperative that we address this issue
- There are a number of ways in which EPSE present or manifest, namely, dystonia, pseudo-parkinsonism, akathesia and tardive dyskinesia
- EPSE are not routinely screened for in hospice settings
- Barnes Akathesia Rating Scale (BARS) is a rating scale for drug-induced akathesia

**Aim:**
- The aim of the study was to determine and describe the burden of extrapyramidal side-effects (EPSE) in a specialist inpatient unit

**Results:**
- The Modified Simpson-Angus Scale (MSAS) is used in rating pseudo-parkinsonism and allows for a “not rateable scale” if one is unable to assess an element of the scale
- There were 8 male (50%) and 8 female (50%) participants with a mean age of 72 years
- Median length of admission was 32 days
- With reference to Martindale’s Complete Drug Reference there were 9 regular medications associated with EPSE - amitriptyline, haloperidol, olanzapine, levomepromazine, metoclopramide, fluoxetine, escitalopram, diazepam and bromazepam

**Strengths & Limitations:**
- To our knowledge this is the first study to examine EPSE in a palliative medicine inpatient population
- The data was examined using bivariate and multivariate analysis; however, due to small numbers it was not possible to run inferential statistics

**Conclusion:**
- 50% screened positive for EPSE
- The complete BARS was unsuitable for most participants (87.5%)
- The MSAS while allowing a not-rateable score may underestimate EPSE
- The frailty of an inpatient unit population impacts on applicability of screening tools and may therefore underestimate the burden of the problem in this population
- Development of a population-specific screening tool warrants further investigation

**Methods:**
- Ethical approval was obtained. Ref: ECM 4 (r) 08/11/16
- Inclusion criteria: all consenting patients admitted on the ward on the chosen day & all patients well enough to participate
- Participants assessed for EPSE with two validated screening tests; the MSAS and BARS
- Additional demographic data was collected by means of a self-developed data collection tool
- The data was anonymised and input into both Microsoft Excel and SPSS IBM Statistics software

**Table 1. MSAS scores and number of medications associated with EPSE**

<table>
<thead>
<tr>
<th>Number of EPSE causing medications (n)</th>
<th>MSAS</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal (&lt;3)</td>
<td>Minimal degree of movement disorder (3-5)</td>
<td>Clinically significant degree of movement disorder (6-11)</td>
</tr>
<tr>
<td>0</td>
<td>n=2 (40%)</td>
<td>n=3 (60%)</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>n=5 (71%)</td>
<td>n=2 (29%)</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>n=2 (100%)</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>n=1 (50%)</td>
<td>0</td>
<td>n=1 (50%)</td>
</tr>
<tr>
<td>Total (n)</td>
<td>n=8 (50%)</td>
<td>n=7 (44%)</td>
<td>n=1 (6%)</td>
</tr>
</tbody>
</table>

**Figure 1. No. of patients taking regular medications with potential to cause EPSE**

**Figure 2. Duration of treatment**

**Figure 3. Barnes Akathesia Rating Scale Scores**
- One patient scored 1/5 in BARS
- It was appropriate to examine 2 (12.5%) patients both seated and standing
- Risk factors - 6 patients had one, three had 2 and one patient had 3 risk factors
- 3 patients with 1 risk factor and 2 patients with 2 risk factors scored 3-5 with MSAS
- The remaining 4 patients scored <3
- The patient with 3 risk factors scored 6-11 on the MSAS

**References:**