AN OBSERVATIONAL STUDY OF THE PREVALENCE OF VIVID DREAMS, NIGHTMARES AND SLEEP/NIGHT TERRORS IN PATIENTS WITH ADVANCED CANCER AND THEIR ASSOCIATION WITH OPIOID ANALGESICS

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Introduction

- **Nightmares:**
  
  “Frightening dreams that usually awaken the sleeper from REM sleep” [ICSD-2nd edition, 2001]

- Lifetime prevalence: 66.2% [Bjorvatn et al., 2010]

- Point Prevalence: 19.4% [Bjorvatn et al., 2010]
Introduction

Vivid dreams:

“usually clear, long dreams with elaborate scenario[s] and possibly strong emotions that [occur] only when sleeping and [are] acutely remembered” [Cohen et al., 2005]

Sleep/Night terrors:

“a sudden arousal from slow-wave sleep with a piercing scream or cry, accompanied by autonomic and behavioral manifestations of intense fear” [ICSD-2nd edition, 2001]
Objectives

**Primary Objective:**

To determine the prevalence of vivid dreams, nightmares and sleep/night terrors in patients with advanced cancer
Objectives

Secondary objectives:

1. To determine the **clinical features** of nightmares

2. To determine the **relationship** between these phenomena and **patient demographics, cancer diagnosis**, other diagnoses and **ECOG-PS**

3. To determine the **relationship** between these phenomena **and physical, psychological symptoms and other sleep problems**

4. To determine the **relationship** between these phenomena and **use of opioid analgesics** and other medication
Methods

**Inclusion criteria:**

a) age ≥ 18 year
b) diagnosis of locally advanced / metastatic cancer
c) completed primary treatment for cancer
d) known to a specialist palliative care team

**Exclusion criteria:**

a) inability to give informed consent
b) inability to complete the study questionnaire
Methods

- Multicentre, prospective observational study

- Single interviews were conducted with 174 patients

Data collected on:
- Frequency of vivid dreams, nightmares and sleep/night terrors
- Patient’s sleep quality (Pittsburgh Sleep Quality Index – PSQI)
- Physical and psychological symptoms (Memorial Symptom Assessment Scale – MSAS-SF)
Results – Participant Demographics

**Gender**

- Male: 43%
- Female: 57%

**Recruitment Setting**

- **Inpatient**: 128 patients
- **Outpatient**: 46 patients
Results – Participant Demographics

Eastern Cooperative Oncology Group Performance Status (ECOG-PS) of study participants

Number of patients with advanced cancer

<table>
<thead>
<tr>
<th>ECOG-PS</th>
<th>Number of Patients</th>
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<tbody>
<tr>
<td>0</td>
<td>10</td>
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<tr>
<td>1</td>
<td>40</td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
<td>80</td>
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<td>4</td>
<td>10</td>
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Results – Overall Prevalence

Prevalence of vivid dreams, nightmares and sleep/night terrors in advanced cancer patients

- Vivid dreams: 34%
- Nightmares: 18%
- Sleep/night terrors: 8%
Results – Vivid Dreams

Patients with advanced cancer reporting vivid dreams

- Less than once a week: 25 patients
- Once or twice a week: 13 patients
- Three or more times a week: 22 patients

Frequency of vivid dreams
Results – Vivid Dreams

Vivid dreams were associated with:

- Younger age ($p=0.013$)
- Higher number of symptoms on the MSAS-SF ($p=0.001$)
- Higher psychological subscale score on the MSAS-SF ($p=0.028$)
Results – Vivid Dreams

Vivid dreams were associated with:

- Poor sleep quality (p=0.001)

- **On the PSQI components:**
  - Sleep disturbance (p<0.001)
  - Sleep latency (p=0.016)
  - Day dysfunction due to sleepiness (p=0.004)
  - Needs medication to sleep (p=0.008)
Results – Nightmares

Patients with advanced cancer reporting nightmares

Number of patients with advanced cancer

Frequency of nightmares

- Less than once a week: 21
- Once or twice a week: 4
- Three or more times a week: 6
Results – Nightmares

Nightmares were associated with:

- Younger age ($p=0.005$)

- **On the MSAS-SF:**
  - Higher number of symptoms ($p<0.001$)
  - Higher physical subscale score ($p=0.023$)
  - Higher psychological subscale score ($p=0.010$)
  - Higher global distress index score ($p=0.006$)
Results – Nightmares

Nightmares were associated with:

- Poor sleep quality ($p=0.044$)

- **On the PSQI components:**
  - Sleep disturbance ($p=0.007$)
  - Sleep latency ($p=0.039$)
  - Day dysfunction due to sleepiness ($p<0.001$)
  - Needs medications to sleep ($p=0.043$)
Results – Nightmares

- 12 (39%) patients were either ‘quite a bit’ or ‘very much’ distressed by nightmares

- 26 (84%) patients rated their overall sleep quality as ‘fairly bad’ or ‘very bad’
Results – Nightmares

Patients experiencing nightmares more than once a week (n=9):

- Six patients reported recurring nightmares

**Common themes:**
  - Events related to their past (n=5)
  - Death & Dying (n=5)
  - Their current illness (n=4)
Results – Sleep Terrors

Patients with advanced cancer reporting sleep terrors

<table>
<thead>
<tr>
<th>Frequency of sleep terrors</th>
<th>Number of patients with advanced cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than once a week</td>
<td>9</td>
</tr>
<tr>
<td>Once or twice a week</td>
<td>2</td>
</tr>
<tr>
<td>Three or more times a week</td>
<td>3</td>
</tr>
</tbody>
</table>
Results – Sleep Terrors

Sleep terrors were associated with:

- Higher number of symptoms on the MSAS-SF (p=0.004)

- On the PSQI components:
  - Sleep disturbance (p=0.048)
  - Day dysfunction (0.032)
Results – Patients on an opioid analgesia regimen

- 82% on opioid analgesia
- 18% not on opioid analgesia
Results – Association with opioid analgesia

Use of opioids were not significantly associated with:

- Vivid dreams (p=1.000)
- Nightmares (p=0.295)
- Sleep terrors (p=1.000)
Conclusion

- Vivid dreams are relatively common in patients with advanced cancer
- Vivid dreams are primarily associated with increased psychological problems
- Nightmares and sleep/night terrors occur less frequently in patients with advanced cancer
- Occurrence of nightmares are associated with increased physical & psychological burden
- Opioids are not associated with these phenomena