Sleep disorders. What can we do?

Ilaria Cossu
Post surgical ICU Nurse, Catholic University of Rome, Agostino Gemelli Hospital.
Sleep Indispensable physiological need, often underestimated and disregarded (Mistraletti ed All, 2008)

...Sleep is important in the critically ill for healing and survival and yet there is consistence reporting that patients in ICU still do not have enough sleep.... (Tembo, Parker, 2009 - Richardson et al., 2007 - Pandharipande et all 2006 - Feeley et all, 2006 - Honkus, 2003).

For the patients in ICU, the sleep disorders are experienced as the main cause of stress, with sequels post discharge.

As many as 56% of patients are sleep deprived by the end of their first day in the hospital. (Dines-Kalinowski 2002)

>73% bothered by the problem (Weinhause et all 2006)

40 to 50% of the total sleep time in an ICU occurs during the day time. (Cooper et All 2000; Gabor et All 2003,Friese et All 2007; kimberly et all 2009)

All 22 patients of the study demonstrated sleep-wake cycle abnormalities. (Freedman et All 2001)
The sleep disorders are considered inevitable consequences of the ICU experience, and are not recognized as secondary complications to the treatment of critical diseases.

- The need to address acute illnesses is a priority in the ICU; therefore, sleep often becomes an afterthought.
- The sleep disorders are considered inevitable consequences of the ICU experience, and are not recognized as secondary complications to the treatment of critical diseases.
- Nurses lack of knowledge about the nature of sleep, sleep physiology, the psychological and physical benefits of sleep (Honkus, 2003).

Only 9 uninterrupted periods of 2 to 3 hours were available for sleep (6% of 147 nights studied) (Tamburri, 2004).

During 147 nights, only 1 instance of a sleep intervention was documented.
Aim of the study.

Describe:
• factors that impact on sleep in ICU.
• consequences of sleep disruption.
• possible recommendations for nursing practice.

With the aim of improving knowledge of nurses on the phenomenon, to enhance sleep in the critically ill patient and improve the quality of their long of stay and outcomes.

Materials and methods:

Formal and informal Review of the literature (pubmed, nursing websites and books. Keywords: sleep disorder, critical care/ICU, nurse. Limits: old ten years, adults)
constant noise and light, makes it difficult for patients to distinguish between night and day, producing changes in the circadian rhythm (Olson et al., 2001).

Night nurse/patient interaction:
• 51 Celik S. et all 2005 J Clin Nurs 14, 102-1061
• 42,6-43 Tamburri et all 2002-2004

Vicious cycles

surgical procedures and Drugs used in critical care such as benzodiazepines, opioids, continuous infusions of inotropes catecholamines), antihypertensives, antipsychotics, antidepressants including anticonvulsants were among the drugs that caused sleep disruption in ICU patients (Drouot et al., 2008; Parthasarathy and Tobin, 2004; edeker, 2000).
drowsiness, a sense of fatigue, tiredness, worsening irritability, aggressivity, difficulty in concentration, perceptual disorders, difficulty orienting, anxiety, and stress, delirium, post traumatic disorders, hallucinations, reduction in pain tolerance, alteration of hormonal secretions and catecholamines, emotional stress, decrease glucose tolerance, increase insulin resistance and immune dysfunctions with reduction of the immune defenses, fatigue and muscle deficit, Dysfunction of upper airway musculature, apnea spells, deficit of tissue repair, alterations in electrolytes and cardiovascular system, increase in energy consumption, decrease thermoregulation, increase gastric acid secretion, alteration physiologic parameters
Strategies to promote sleep/rest in the ICU

Create an environment that promotes sleep and rest:

- Educational
- Environmental
- Behavioral
- Non-conventional treatment and medication

Educational and human environment

- Clinical and non-clinical communication and psychological support;
- Orientation space-time: clocks, pictures, calendars, colors,
- Presence of relatives,
- When possible, position the patient near the window to help maintain day/night
- Assist the patient to complete a familiar nighttime routine and to find a comfortable position for sleeping
Sunlight environment (Natural light in the day)
Reduce light during the night: close blinds, door, spotlights night vision
Speaking softly,
adjust limits and volumes of monitor’s alarms, reduce false alarms
reduce staff conversation in room perimeter
mute telephones close to patient rooms
refrain from using intercom except in urgent situations

Rong-fang Hu et all. Effects of earplugs and eye masks on nocturnal sleep, melatonin and cortisol in a simulated intensive care unit environment Critical Care 2010, 14:R66

Table 4. Evaluation of earplugs and eye masks (n = 14) {5 column table}

<table>
<thead>
<tr>
<th></th>
<th>Helpful to sleep promotion</th>
<th>Comfortable</th>
<th>Effective for noise /light reduction</th>
<th>Easy to apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earplugs</td>
<td>6</td>
<td>6</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Eye masks</td>
<td>8</td>
<td>10</td>
<td>13</td>
<td>14</td>
</tr>
</tbody>
</table>

the reduction of background distractions is necessary and can be achieved by offering the patient the means to isolate himself from his surroundings (eye masks, ear plugs etc.) (Olson et al., 2001 Xie H. et All. 2009; Pletti 2010)


DaiWai m. Olson et all. (2001) Quiete time: A nursing intervention to promote sleep in Neurocritical Care Units. American Journal of critical care Vol 10 (2), 74-78


- Reorganize the interventions of the staff (Stop the practice in the middle of the night for the convenience)

- at night, promote long blocks of uninterrupted sleep by decreasing the number of unnecessary arousal and interaction

Relaxing massage, music therapy, white sound, therapeutic touch, guided imaginary, Change position, Movement, frictions and back massages before bedtime, increase patient mobility, offer warm drink before bedtime, melatonin therapy

Melatonin use was associated with a 1-hour increased nocturnal sleep

Richard S B et All Crit Care. 2008;12(2)
Richards-Campbell Sleep Questionnaire (RCSQ) (Richards et al. 2000)

Verran and Snyder Halpern Sleep Scale

Nurse observation check list by Edwards and Shuring

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**Sleep monitoring in the intensive care unit: comparison of nurse assessment, actigraphy and polysomnography**

validated by Edwards and Schuring (1993) where nurses were asked to indicate patients sleep following a five-second observation of patients at eight pre-determined periods throughout 24 hours. Difficulties were encountered by nurses

1. A rating on the number of hours slept (banded in hours)
   
   **Assessment tool one**
   
<table>
<thead>
<tr>
<th>Nurse</th>
<th>0-2 hours</th>
<th>2-4 hours</th>
<th>4-6 hours</th>
<th>6-8 hours</th>
<th>More than 8 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. A numerical rating score (1–10)
   
   **Assessment tool three**
   
<table>
<thead>
<tr>
<th>No Sleep</th>
<th>Average Sleep</th>
<th>Slept Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>Patient</td>
<td></td>
</tr>
<tr>
<td>1 Sleep</td>
<td>2 Sleep</td>
<td>3 Sleep</td>
</tr>
<tr>
<td>4 Sleep</td>
<td>5 Sleep</td>
<td>6 Sleep</td>
</tr>
<tr>
<td>7 Sleep</td>
<td>8 Sleep</td>
<td>9 Sleep</td>
</tr>
<tr>
<td>10 Sleep</td>
<td>10 Sleep</td>
<td>10 Sleep</td>
</tr>
</tbody>
</table>

2. A rating based on a comparison with their normal/average sleep
   
   **Assessment tool two**
   
<table>
<thead>
<tr>
<th>Much less than Average</th>
<th>Less than Average</th>
<th>Average</th>
<th>More than Average</th>
<th>Much more than Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>Patient</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Concluding

Therapy should be directed at all potential causes, with particular attention given in terms of creating an environment that is both diurnal and, by minimizing unnecessary interruptions, conducive to sleep.

“Viewpoint: Although clinicians give lip service to the need to allow acutely ill patients to sleep, the reality is that with very ill patients, few nursing personnel, and the demands of time, it is often difficult for the nurse to "cluster" care. Nursing education must do a better job of teaching nurses to care for their patients without disrupting their sleep. ....

...Clearly the problem of sleep disruption is recognized but is anyone really paying attention and doing anything about it?”
