Patients' Perceptions on Sleep Quality and Sleep Disruptive Factors in a mixed adult ICU

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Outline

- Background
- Study Methodology
- Results
- Implications for practice

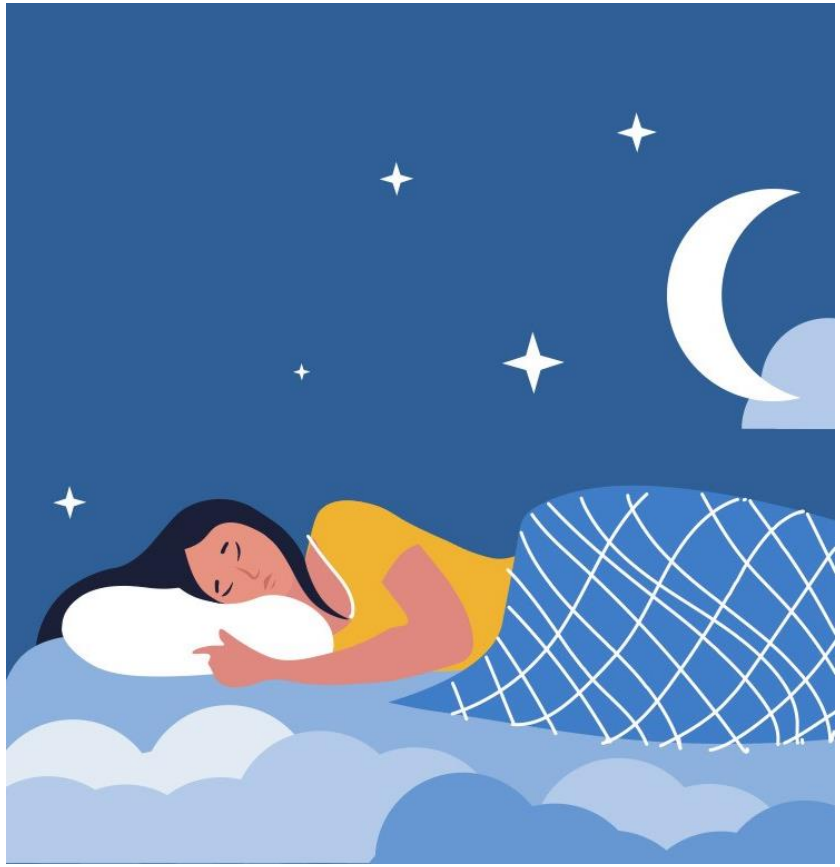
Mater Dei Hospital

20 bedded Intensive Care Unit Layout

Sleep

Sleep is a complex behavioural and physiological process, controlled by the circadian system and a homeostatic system

(Telias & Wilcox, 2019).



The Quality of Sleep in ICU

- For the critically ill patient, achieving an adequate amount of quality sleep is essential for good recovery
- Lack of sleep not only affects functional outcomes but also patient satisfaction and utilisation of health care resources
- The quality of patients' sleep is related to frequency of disruptions as these can cause sleep deprivation (Naik et al., 2018)
- This leads to deleterious effects such as ICU delirium, higher mortality rates, dysregulated immune system and long-term impairment of cognitive function (Knauert et al., 2015)

Background to the Study

- Locally, not enough credence is given to the significance of adequate quality of sleep and its role during patients' recovery for critical illness

The Study

Aim

To assess self-reported sleep quality and quantity among ICU patients, and to explore factors associated with them

Objectives

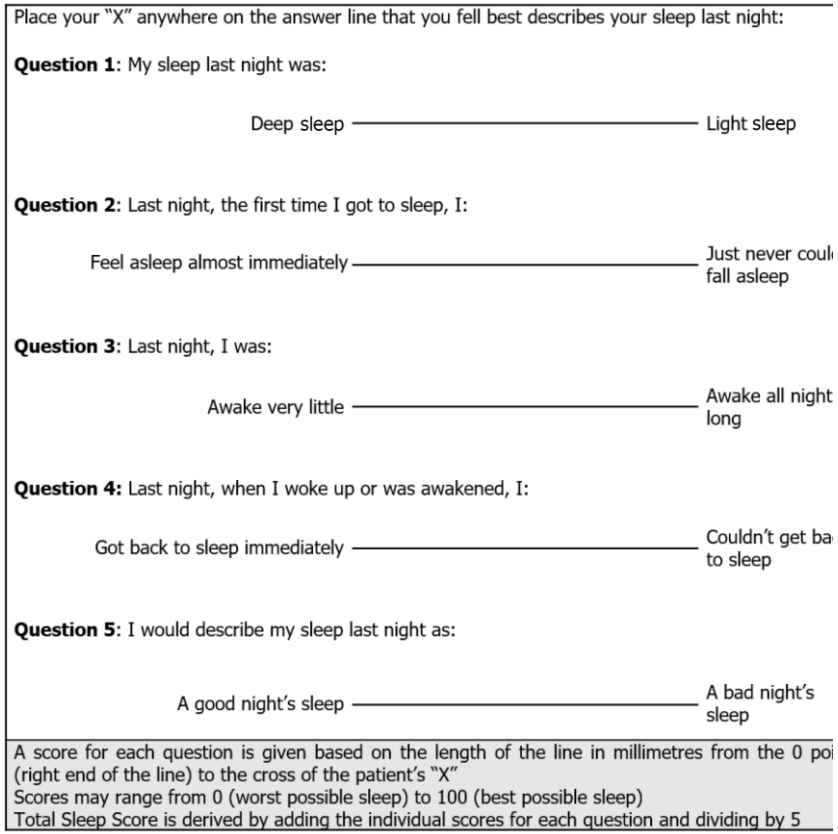
- To assess the feasibility of ICU patients completing self-reports on sleep quality and quantity during their stay in ICU
- To explore patients' perceptions on sleep quality and sleep disruptive factors

Methodology

- A Pilot Study was conducted, prior to the actual study
- This Observational Study was done at the 20 bedded mixed ICU in the public/ university hospital in Malta and the actual study data collection occurred between March to June 2022
- Data was by collected randomly by one of the researchers between 6.30am and 7.30am according to the researcher's duty
- The English Version of the Richards-Campbell Sleep Questionnaire (RCSQ) (Richards, O'Sullivan & Philips, 2000) or the validated Maltese translation of the (RCSQ) and open-ended questions were utilised as the data collection tools to assess patients' perceptions of sleep quality, and sleep disrupting or enhancing factors.
- All the necessary organisational, ethical and data protection approvals and permissions were obtained.

The Modified RCSQ

- A Maltese translation of the modified RCSQ has been compiled by a certified Maltese translator
- In addition, it was independently validated by 2 nursing and 2 medical experts in the field and was piloted in a sample of 20 patients by administering first the Maltese version of the questionnaire and then immediately afterwards the English version
- Validity and reliability was sought through statistical tests
- Scores may range from 100 (indicating the best sleep) to 0 (indicating worst possible sleep)



Place your "X" anywhere on the answer line that you fell best describes your sleep last night:

Question 1: My sleep last night was:

Deep sleep ——— Light sleep

Question 2: Last night, the first time I got to sleep, I:

Feel asleep almost immediately ——— Just never coul fall asleep

Question 3: Last night, I was:

Awake very little ——— Awake all night long

Question 4: Last night, when I woke up or was awakened, I:

Got back to sleep immediately ——— Couldn't get ba to sleep

Question 5: I would describe my sleep last night as:

A good night's sleep ——— A bad night's sleep

A score for each question is given based on the length of the line in millimetres from the 0 poi (right end of the line) to the cross of the patient's "X"
Scores may range from 0 (worst possible sleep) to 100 (best possible sleep)
Total Sleep Score is derived by adding the individual scores for each question and dividing by 5

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Open Ended Questions

11. Have you ever had trouble / issues with sleep prior to your admission to ITU?

Yes ☐ No ☐

If yes (specify): _____

12. In your opinion what were the disruptive factors that you think hindered your sleep during your ITU stay?

_____

_____

13. In your opinion what were the factors that you think enhanced your sleep during your ITU stay?

_____

_____

Exclusion Criteria

- The 4AT score was utilised to exclude patients with potential delirium and/or cognitive impairment
- Delirious patients who scored 4 or above on the 4AT score
- Patients under 18 years
- Mechanically ventilated patients
- Haemodynamically unstable patients
- COVID 19 positive patients
- In total 107 patients were excluded

Inclusion Criteria

- Consenting patients over 18years of age were self-ventilating

- Patients who were:
  - self-ventilating and haemodynamically stable
  - have spent at least one night in ICU
  - have been screened with the 4AT Score and successfully scored 0
  - not on sedative infusions
  - able to read, speak and hear conversational Maltese or English

Population

- 90 patients were included, with 35.6% (n=32) female and 64.4% (n=58) males
- Most respondents being aged between 58 and 77 years of age (48.9%, n=44)
- Most patients admitted to the ICU during that time frame were emergency admissions (80%, n=72) including Post CPR, Sepsis & Acute Respiratory Failure
- The main aetiology of the overall admissions was post-operative care (38.9%, n=35)

Sleep quality

- Sleep issues prior to ITU Admission
  - Sleep problems (n=19) 21.2%
  - No Sleep problems (n=71) 78.9%

- Prescribed Sleeping agents during ITU stay
  - Benzodiazepines 3.3%
  - No medications 96.7%

- The Mean RCSQ total score of 38.9 (SD 28.36, 95%CI 32.98 - 44.86) indicated poor sleep

- Better sleep was achieved in the single rooms (RCSQ score > 50 =good sleep)

Factors Perceived as Disrupting Sleep

Content analysis identified 7 Themes of Factors:

1. Clinical Environment
2. Environmental Factors
3. Patient Physical Factors
4. Patient Psychological Factors
5. In-Room Clinical Care Activities
6. Nursing Care Activities
7. Health Care Personnel Behaviour

Factors Disrupting Sleep

1. **The Clinical Environment**
   - *Hectic environment too many people around*
   - *Other patients' demands*
   - *Too much workload*
   - *Too many things attached to me*
   - *Air mattress on all the time, very uncomfortable*

2. **Environmental Factors**
   - *Cold & large environment*
   - *High volume noise from equipment alarms*
   - *Telephone ringing*
   - *Too much light*

Factors Disrupting Sleep

3. Patient Physical Factors

- *I was overtired couldn't sleep*
- *I was in pain*
- *Dry mouth*
- *Having difficulty to breath, NIV mask*
- *Not given my usual sleeping tablets*
- *Couldn't open my bowels*

4. Patient Psychological Factors

- *I didn't feel safe*
- *I felt very anxious, worried and nervous*
- *Had too many thoughts in my head*
- *Afraid that something will occur to me*

Factors Disrupting Sleep

5. In Room Clinical Care Activities

- *Nurses doing their work at my bedside*
- *Changing of the bins, emptying of urine bags*
- *Other confused patients*

6. Nursing Care Activities

- *Nurses treating my illness i.e. administering medications, mobilisation, blood letting, changing of linen etc.*

7. Health Care Personal Behaviour

- *Health care personnel talking loudly near the bedside*
- *Pushing squeaky trolleys*

Factors Perceived as Facilitating Sleep

Content analysis identified 2 Main Themes of Factors:

1. Optimising the Clinical Environment

    1.1 Controlling Noise Levels
    1.2 Controlling Light Levels
    1.3 Other Environmental Stimuli

2. Facilitating Rest and Sleep

    2.1 Non-pharmacological Strategies
    2.2 Pharmacotherapy

1. Optimising the Clinical Environment

1.1 Controlling Noise Levels

- *Equipment alarms' settings*
- *Discussions between health care personnel kept at low volume*
- *Minimal noise to move items*
- *Single rooms are quieter*
- *Offering us (patients) ear plugs*

1. Optimising the Clinical Environment

1.2 Controlling Light Exposure

- *Corridor light can be switched off or dimmed*
- *Light near bedside can be dimmed*
- *Offer us Eye masks like on plane*

1. Optimising the Clinical Environment

1.3 Controlling Other Environmental Stimuli

- *The unit's temperature control adjusted its too cold here*
- *More Blankets provided*
- *Air mattress switched off or mattress changed*

2. Facilitating Rest and Sleep

2.1 Non-pharmacological Strategies

- *Minimal disruptive care delivery by HCP*
- *Regular updates on my condition*
- *Reassurance for my peace of mind*
- *Attending to my needs to make me comfortable in bed*
- *Nurse/carer always visible had made me feel safe*

2. Facilitating Rest and Sleep

2.2 Pharmacotherapy

- *Administering regular analgesia*
- *Being given medications used to enhance sleep*
- *Being given my usual tables I used to take before for sleeping*

Study Limitations

- Researcher works in the same area
- Patients were being taken care of at the ICU after data collection
- Duty nurse present during the data collection
- Data collection timing coincided with the change of shift time
- Data collection was done at the ICU in front of other HCP who happened to be present at the time

Study Strengths

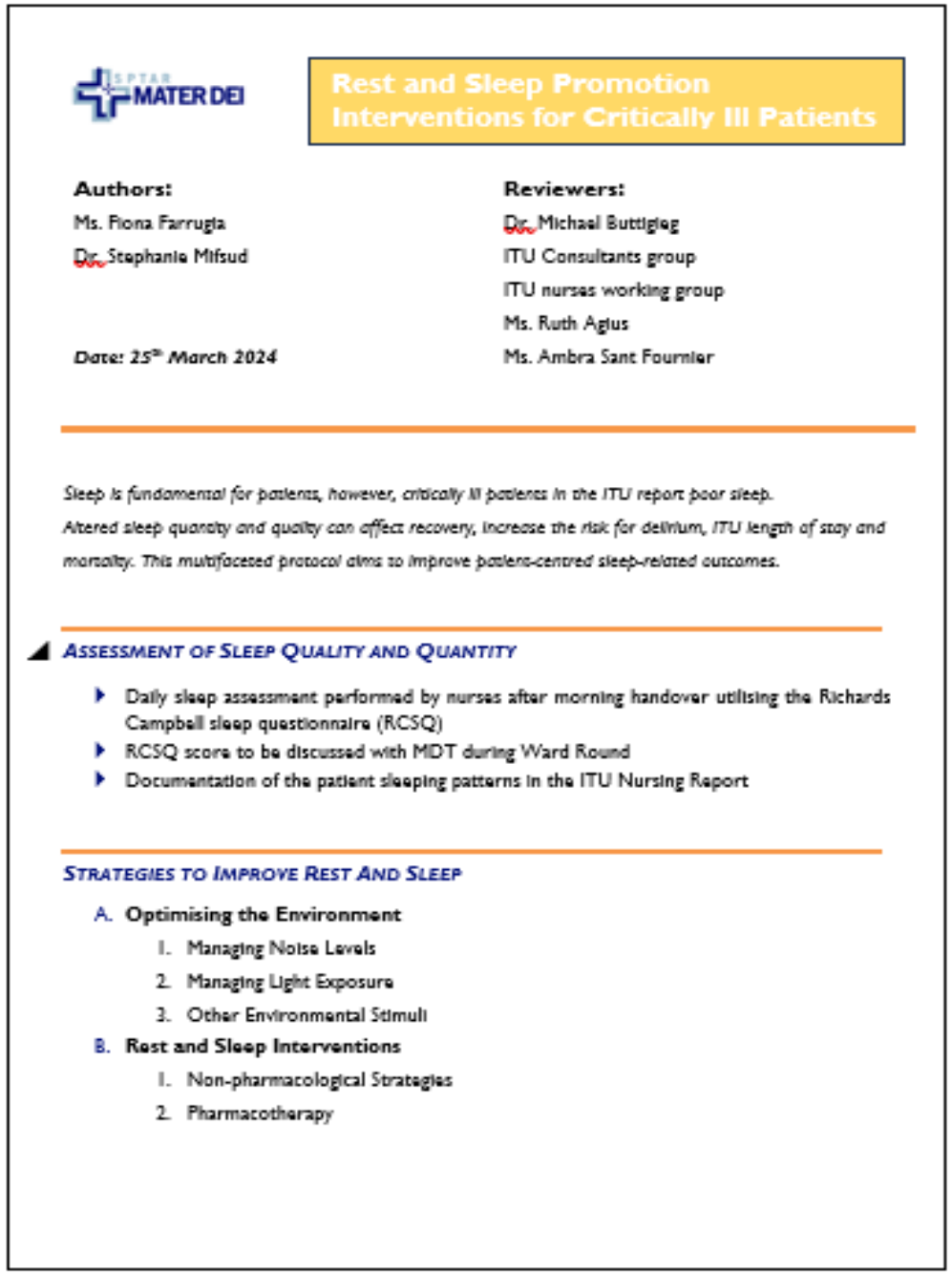
- The Study tool was tested for reliability and validity by the authors
- Inter-rater reliability was ensured by having one researcher collecting the data
- This was the first study of its kind in the local ICU
- Allowed for a rest and sleep promotion interventions guideline to be formulated

Implications for Practice

- This study identified areas for improvement

- A multidisciplinary working group was established aiming to develop a guideline to improve sleep quality for critically ill patients

- Strategies involve optimising the clinical environment by managing:
  - Noise and light exposure
  - Implementing non-pharmacological interventions
  - Implementing pharmacological interventions



Rest and Sleep Promotion Interventions for Critically Ill Patients

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Sleep is fundamental for patients, however, critically ill patients in the ITU report poor sleep. Altered sleep quantity and quality can affect recovery, increase the risk for delirium, ITU length of stay and mortality. This multifaceted protocol aims to improve patient-centred sleep-related outcomes.

Assessment of Sleep Quality and Quantity

- Daily sleep assessment performed by nurses after morning handover utilising the Richards Campbell sleep questionnaire (RCSQ)
- RCSQ score to be discussed with MDT during Ward Round
- Documentation of the patient sleeping patterns in the ITU Nursing Report

Strategies to Improve Rest And Sleep

A. **Optimising the Environment**
   1. Managing Noise Levels
   2. Managing Light Exposure
   3. Other Environmental Stimuli

B. **Rest and Sleep Interventions**
   1. Non-pharmacological Strategies
   2. Pharmacotherapy

The Rest and Sleep Promotion Interventions for Critically ill Patients

Thank You

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