Insomnia in hospitalised patients with advanced disease: prevalence and related factors

Insomni en pacients hospitalitzats amb malaltia avançada: prevalença i factors relacionats

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Abstract

Aim: To evaluate the prevalence, characteristics and factors associated with insomnia in patients admitted to a palliative care unit.

Method: Patients consecutively admitted during eight months were surveyed, excluding those who presented severe cognitive problems or a too low performance status. The survey included the assessment of insomnia using a single question, the assessment of moderate to severe insomnia using the Sleep Disturbance Scale (SDS), the evaluation of other sleep aspects, the evaluation of physical, psychological and environmental factors potentially associated with insomnia, and further clinical and epidemiological data. Associations between insomnia and the assessed factors were analysed.

Main results: Sixty-one patients were included, mean age was 71.5±11 years; 95% were oncological patients. Sixty-two percent presented insomnia according to the single question and 47% moderate to severe insomnia according to the SDS. Seventy percent were moderately worried about insomnia. The most prevalent potentially associated factors were pain, clinical psychological distress, nocturnal rumination, and environmental factors such as noise or light. Patients claimed physical symptoms to be the ones most causing insomnia. In a multivariate analysis, presenting nocturnal rumination was associated with more moderate to severe insomnia (OR 5.6 [1.1-29.1] p=0.04), and presenting daytime somnolence with less moderate to severe insomnia (OR 0.25 [0.07-0.9] p=0.04).

Conclusions: 1. Insomnia is a prevalent and complex symptom that worries the patients. 2. Factors associated with moderate to severe insomnia were nocturnal rumination and daytime somnolence (inverse relationship). 2. Detection and management of rumination may improve insomnia.

Introduction

Insomnia is a prevalent symptom among patients with cancer (Passik et al. 2003; Beck et al. 2004), especially in patients with advanced cancer (Mystakidou et al. 2007) and patients with advanced oncological disease hospitalised in palliative care units (Mercadante et al. 2004).

Data on prevalence of insomnia in patients with advanced cancer in Palliative Care Units (PCU) range between 45% and 95%. Instruments used for the evaluation of insomnia include the Pittsburg Sleep Quality Index (PSQI) (Mystakidou et al. 2007), constructed insomnia questionnaires (Sela et al. 2005), a single item of the Structured Clinical Interview for DSM-IIIR (SCID) (Akechi et al. 2007), among others.

Several clinical, demographical and biological factors have shown to be associated with the presence of insomnia. Emotional disturbances seem to be associated with insomnia in persons with advanced oncological disease, (Anderson et al. 2003; Davidson JR et al. 2002), as well as physical symptoms like pain (Davidson JR et al. 2002; Mystakidou et al. 2007), age (inverse relationship), and certain pharmacological treatments (Davidson JR et al. 2002). Empirical evidence suggests that biological factors such as citoquines can contribute to the disruption of the sleep cicle (Kvale et al. 2006). In PCUs, environmental factors such as light or noise could also influence the sleep quality of the patients admitted.

Insomnia brings patients discomfort and suffering, and has physical and psychological consequences such as increase of pain intolerance, irritability and depressive mood (Beck et al. 2004).

Insomnia is often underreported by patients (Engstrom CA et al. 1999). Its routine clinical assessment is often suboptimal. The use of a standard instrument to evaluate insomnia could facilitate its detection (Kvale et al. 2006).

Patients are normally admitted in PCUs for relatively short time periods, often not more than two weeks. Disturbing symptoms presented by the patients are daily evaluated by professionals in PCU, as their intensity and characteristics can change from one day to the next. Some of the existing instruments for the evaluation of sleep disturbances refer to the preciding 15 days or four weeks, and are relatively long to respond, making their day-to-day use unfeasible.

The main purpose of the present study is to study the prevalence of insomnia among the patients admitted to a PCU using a single question and the questionnaire Sleep Disturbance Scale, and to analyse the factors associated with the presence of insomnia. Secondary objectives are to describe the characteristics of insomnia in these patients and the prevalence of other factors potentially associated with insomnia, including emotional disturbances, physical symptoms and environmental factors.

Methods

Study population

Participants were patients consecutively admitted to the PCU at the *Hospital de l'Esperança* in Barcelona during an eight months period. Data inclusion finished in October 2009. Inclusion criteria were: appropriate performance status enabling participation (Karnofsky Index ≥30), cognitive status enabling understanding of the questionnaire administered (Pfeiffer Index ≤4 errors), and hospital stay for ≥3 days. The first two nights of admission were excluded, in order to avoid an overestimation of insomnia due to change of place and patients' emotional overwhelm.

Procedures

A Case Report Form (CRF) was developed after a literature review. Approval of the study protocol and the CRF was obtained by the Ethical Comittee for Clinical Research of the *Hospital Parc de Salut Mar* in Barcelona. CRFs were administered by three trained nursing staff employed at the PCU. The training consisted of one session imparted by a researcher (AR) or one experienced nurse, and aimed to teach how to administer the CRF in a standarized way. Patients' oral informed consent was obtained. Demographic data were extracted from patients' records.

Measures **(see Annex 2)**

Assessment of insomnia

Insomnia was evaluated using two instruments:

1. *Insomnia single question.* Patients were asked "Have you been suffering from insomnia since you have been admitted?". Possible answers were "yes", "no" or "sometimes". Patients were classified into: "insomnia according to the single question" (answer yes) or "no insomnia according to the single question" (answer no or sometimes). Although this is a non-validated question, it was considered of interest for being a common question in the day-to-day practice.

2. *Sleep questionnaire.* The Sleep Disturbance Scale (SDS), developed in the context of the study by Anderson et al. (2003), was chosen because it is short and refers to the previous 24 hours. The SDS assesses three main sleep items: difficulty in falling asleep, waking up during the night and waking up too early in the morning. Patients are asked to score each item at a Likert scale from 0 to 10. An overall sleep disturbance score is calculated as the average of the rated scores of the three sleep items. Patients are classified into those with moderate to severe insomnia (overall sleep disturbance score ≥5) and those without moderate to severe insomnia (overall sleep disturbance score <5). In the study by Anderson et al. (2003), the SDS demonstrated adequate internal reliability, with a coefficient alpha of 0.71. Construct validity was supported by factor analysis and a single underlying construct was identified. The scale includes a last independent item asking patients to judge the total number of hours they sleep per night. Patients are classified in those who report sleeping <5 hours and those who report sleeping ≥5 hours per night. For the present study, the scale was translated to Catalan by one of the researchers (AR) and the time reference was widened to "since you have been admitted".

Other questions in relation to insomnia

Patients were asked to rate how worried about insomnia they were, using a Likert scale from 0 to 5. A score of ≥3 was considered as moderate. Patients where further asked if they suffered from daytime somnolence, feeling of non-restorative sleep, and when insomnia had started (before diagnosis of the current disease, after diagnosis or after admission to the PCU).

Assessment of Physical Factors

Physical symptoms potentially associated with insomnia were assessed asking patients whether the following symptoms interferred with their sleep quality: dyspnea, functional incontinence, fever, sweating, nausea or vomiting, itch, pain, drug or tobacco abstinence, nycturia, cough, restless-legs.

Assessment of Psychological Factors

Emotional distress was measured by the Hospital Anxiety and Depression Scale (HADS), a validated 14-items scale which has been used in patients with advanced

oncological disease (Zigmond and Snaith, 1983; Spanish validation by Herrero et al. 2003). Clinically significant emotional distress was considered at a HADS score of ≥19. This scale includes two subscales, separately evaluating clinical anxiety and depression. A score of ≥11 for each subscale indicates anxiety or depressed mood, respectively. The cut off scores have also been used in other studies on emotional distress among cancer patients (Grassi et al. 2004). Other psychological aspects evaluated were presence of nightmares, feeling of fear or loneliness and presence of nocturnal rumination, defined as nighttime preoccupation with thoughts about past or present occurrences. The degree of information about the diagnosis and prognosis of the present disease was rated by the interviewer according to his/her impression after the interview.

Assessment of Environmental Factors

Patients were asked if light or noise coming from the own shared room or from the ward, as well as nurse interruptions were interfering with the quality of their sleep. Information whether the patient slept in an individual room and whether the family accompanied him/her during the night was collected. Patients were asked if they had sleep habits at home that could not be accomplished at the PCU.

Judged main factor interfering with sleep quality

Patients were asked at the end of the interview which of the following factors were interfering the most with the quality of their sleep: physical, psychological or environmental factors.

Other variables

Sociodemografic data, place of procedence (home or acute care), death during PCU stay, clinical information on the diagnosis and stage of the disease, comorbidity and medication were collected from the patients' records.

Statistical Analysis

A sample size of 60 patients was calculated, assuming that the prevalence of insomnia and emotional distress would be comparable to the prevalence in similar samples of patients, and considering a potential association between insomnia and emotional distress.

All statistical analysis were performed using SPSS 15.0 package (SPSS Inc., Chicago, IL). Means, standard deviations and ranges were calculated for the measured scale variables. Basic descriptive statistics were computed for the sociosociodemographic variables, insomnia additional items and factors potentially associated with insomnia.

An univariate analysis was performed in order to investigate associations between insomnia and the potentially associated factors. Mann-Whitney Test, Chi-square and Fischer's Exact Test were used, depending on the type of the scale and the distribution of the categories. A multivariate regression analysis was performed in order to investigate associations between the factors and presence of moderate to severe insomnia. Secondary analysis were performed in order to better understand associations between the different data analysed.

Results (see Tables in Annex 1)

One hundred seventy-seven patients were consecutively admitted to the PCU during the eight-month period. Sixty-one patients (34%) fulfilled the inclusion criteria. Ninety-one patients (51%) did not fulfill the inclusion criteria, either because they were cognitively too impaired, had a Karnofsky Index <30, or spent less than three days at the PCU. Twenty-three admitted patients (13%) were not assessed for inclusion due to because of organizational reasons and two did not give their informed consent.

Descriptive data

Characteristics of the sample

Thirty-four men and 27 women were included, mean age was 71.5 ± 11 years. The majority of included patients suffered from cancer (95.1%), with a high prevalence of metastasic cancer (68.9%). Sixty percent were sent to the PCU from an acute care unit and 40% from home care. Table 1 (Annex 1) displays the socio-demographic and clinical characteristics of the included patients.

Prevalence and characteristics of insomnia

Thirty-eight patients (62.3%) presented insomnia according to the single question. Twenty-nine patients (47.5%) presented moderate to severe insomnia according to the SDS. The sleep item of the SDS that scored the highest was “waking up during the night”. Sixty-two percent of the patients rated this item with ≥5. The sleep item “difficulty in falling asleep” was the second higher scored, followed by “waking up too early in the morning”. Twenty-one patients (34.4%) reported <5 hours sleep per night. Table 2 (Annex 1) shows the results on insomnia prevalence.

Insomnia often started together with the current disease, and less frequently since admission to the PCU. Seventy percent of the patients were moderately worried about insomnia. Feeling of nonrestorative sleep and daytime somnolence were frequent. Table 3 (Annex 1) shows descriptive data on this aspects.

Prevalence of potentially associated factors

Table 4 (Annex 1) shows the prevalence of the studied factors potentially associated with insomnia.

Physical factors. Pain was the most frequently claimed symptom interfering with sleep quality (68.9%), followed by dyspnea and cough.

Psychological factors. The prevalence of clinically significant emotional distress was high (63.9%). Nocturnal rumination, nightmares and feelings of fear or loneliness were prevalent. Thirty-nine patients were judged by the interviewers as being aware of the present diagnosis, while twelve were judged as being aware of the prognosis.

Environmental factors. Forty-seven patients (77%) reported at least one environmental factor interfering with the quality of their sleep.

Judged main factor interfering with sleep quality

When asked which group of factors was most interfering with sleep quality, most patients (68.9%) mentioned the physical group, being environmental and psychological factors less mentioned (Figure 1, Annex 1).

Univariate and multivariate regression analysis

Factors associated with insomnia according to the single question

Table 5. (Annex 1) displays the results of the univariate analysis. Insomnia according to the single question was significantly associated with having a feeling of non-restorative sleep, reporting <5 hours sleep per night, presenting moderate to severe insomnia according to the SDS, being moderately worried about insomnia, mentioning dispnea as a symptom interfering with sleep quality, suffering from nocturnal rumination, having a higher score in HADS, and suffering from clinical anxiety. Patients with insomnia were more often judged as being clearly aware of the current diagnosis, and had a higher Karnofky Index.

A marginally significant association between lung cancer and insomnia according to the single question was found, in comparison to the group "other cancer sites".

Factors associated with insomnia according to the SDS

Table 6. (Annex 1) displays the results of the univariate analysis. Moderate to severe insomnia was significantly associated with the variables insomnia according to the single question, being moderately worried about insomnia, the Karnofsky Index, nocturnal rumination, daytime somnolence and presence of environmental disturbances. Neither any of the physical factors nor the presence of clinically significant emotional distress were found to be associated with the presence of moderate to sever insomnia.

The multivariate regression analysis showed that presenting nocturnal rumination was associated with more moderate to severe insomnia (OR 5.6 (1.1-29.1); p=0.041), and presenting daytime somnolence with less moderate to severe insomnia (OR 0.25 (0.07-0.9); p=0.043).

Secondary analysis

A secondary analysis investigating the relationship between clinically significant emotional distress and other sleep aspects revealed that emotional distress was associated with being more worried about insomnia (Table 7, Annex 1).

Possible association between rumination and psychological distress was analysed. Patients with nocturnal rumination presented significantly more clinical anxiety according to the HADS subscale anxiety (Table 8, Annex 1).

Possible association between nocturnal rumination and each of the sleep items was analysed. Rumination was significantly associated with difficulties in sleep maintainance and early waking up, while not associated with difficulties in falling asleep (Table 9, Annex 1).

Factors potentially associated with daytime somnolence were studied. Daytime somnolence was associated with receiving psychotropic medication (neuroleptics and benzodiazepines excluded), and marginally associated with receiving benzodiazepines (Table 10, Annex 1).

Discussion

The present study aimed to study two aspects related to insomnia in PCUs: prevalence and the factors associated.

Sixty-two percent of the patients answered “yes” to the single question “Have you been suffering from insomnia since your admission?”, and 47% presented moderate to severe insomnia according to the Sleep Disturbance Scale (SDS). The most affected sleep item was sleep maintainance, followed by difficulties in falling asleep and early waking. Thirty-four percent of the patients reported <5 hours sleep per night. The study showed that patients worry about insomnia, suggesting that insomnia is not only prevalent but also a troublesome symptom.

Two symptoms were found associated with moderate to severe insomnia in the multivariate regression analysis: the presence of nocturnal rumination and the presence of daytime somnolence (inverse relationship). In a secondary analysis, nocturnal rumination was associated with anxiety, more difficulties in sleep maintainance and more early waking. Daytime somnolence was associated with the intake of psychotropic medication.

Analysis of the prevalence of potentially associated factors and univariate analysis using the two instruments showed interesting results.

Patients reported the group of physical factors as most often interfering with the quality of their sleep. The most prevalent physical factor interfering with sleep quality was pain. However, it was not associated with insomnia neither measured with the single question nor with the SDS. Dyspnea interfering with sleep quality was also relatively prevalent and associated with insomnia according to the single question.

Environmental disturbances such as noise coming from the own room or the ward and nurse interruptions were often mentioned as interfering with the quality of sleep of the patients.

Clinically significant emotional distress and anxiety were prevalent and and associated with insomnia when measured with the single question. Clinically significant emotional distress was associated with being more worried abour insomnia, and with the presence of nocturnal rumination, but not associated with moderate to severe insomnia according to the SDS.

No significant associations between insomnia and other demographical or clinical variables were found, except on a statistical tendency towards younger patients presenting more insomnia according to the single question. A better performance status measured by Karnofsky Index was found to be associated with a major prevalence of moderate to severe insomnia. This result was not confirmed in the multivariate analysis.

The single non-validated question on insomnia "Have you been suffering from insomnia since your admission?" might be a sensitive method for detecting insomnia but could also tend to select the subsample of patients with emotional distress, since patients who complain of poor sleep are generally more anxious (Gibbins et al. 2009).

The SDS might be a specific instrument for the detection of insomnia, since it assesses moderate to severe insomnia. It is easy and quick to administrate, refers to a short previous time period, and gives information on the three sleep items: falling asleep, waking up during the night and early waking. The SDS might be adequate for the assessment of insomnia in PCUs.

Data on prevalence of the present study is similar to prevalence data from other studies. Studies using the Pittsburg Sleep Quality Index (PSQI) found prevalences of 73% or 96% of "poor sleepers" using different cut off scores (Mystakidou et al. 2007; 2009). Prevalence of insomnia measured by a constructed questionnaires was 72% (Sela et al. 200%) and 44.5% measured using one item of the major depressive episode jmodule of the Structured Clinical Interview for DSM-IIIR (SCID) (Akechi et al. 2007). One study found a prevalence of 70% by asking a single question "Do you have trouble sleeping at night?" (Hugel et al. (2004)).

The fact that the most affected sleep item was “waking up during the night” coincides with data from other studies (Davidson et al. 2002, Sela et al. 2005). In PCU, the most affected sleep item might differ from other groups of patients. A detailed assessment of each sleep item might be helpful.

The number of hours slept per night reported by the patients has been used as a method for detecting insomnia and thought to be of interest, as 5 hours are considered the minimal time needed to provide sleep efficiency (Mercandante et al. 2004). Other studies have reported similar results on the percentage of patients sleeping ≤5 hours per night (Mercandante et al. 2004).

Studies on factors associated with insomnia show different results. The most often cited factors associated with insomnia are pain and psychological symptoms.

Uncontrolled pain, pain treatment and "interference of pain with mood" seam to influence insomnia (Mistakidou et al. 2007; Hugel et al. 2004). Pain should be taken into special consideration when assessing and managing insomnia, since patients often attribute insomnia to it (Davidson et al 2002; Mystakidou et al. 2007).

Improvement of environmental factors such as noise, light or night interruptions should also be considered, since most patients state that these factors interfer with their sleep.

Treating emotional distress seams important for the general management of insomnia. Different psychological factors seam to be associated with insomnia: low or variable mood, dreams, concerns, hopelessness, post-traumatic experience, anxiety, depression (Davidson et al. 2002; Mistakidou et al. 2007; Mercandante et al. 2004; Gibbins 2009). More specifically, anxiety has been studied in relation to insomnia and found associated with difficulties in falling asleep, less restoring sleep and nightmares. Depression has been associated with early awaking, nonrestorative sleep, fatigue, nightmares and insomnia according to the PSQI (Mercandante et al. 2004; Mystakidou et al. 2009). In the present study emotional distress was associated with insomnia only when measured

with the single question, with being moderately worried about insomnia, and with nocturnal rumination.

The present study defined rumination as "nighttime preoccupation with thoughts about past or present occurrences". Rumination, "things mulling over in the head", thoughts and concerns seem to be associated with insomnia (Hugel et al. 2004, Davidson et al 2002). Rumination is involved in increased psychological distress in palliative care (Galfin et al. 2011). In the present study, rumination but not clinical anxiety or emotional distress was associated with moderate to severe insomnia. This results suggest that, although many patients in PCUs present psychological distress, only the specific symptom rumination might be associated with moderate to severe insomnia. Detecting nocturnal rumination and addressing it by providing adequate support could improve insomnia. An adequate psychological and social support during admission and also in earlier phases of the disease might be a promising approach.

Daytime somnolence has been considered as a type of sleep disturbance (Davidson et al. 2002). Pharmacological treatment and biological aspects associated with advanced cancer such as cytokines influencing the sleep-wake cycle (Dunlop et al. 2000) could influence the presence of daytime somnolence. Data on the relationship between daytime somnolence and insomnia in patients admitted to PCUs is scarce. Results of the present study suggest that patients with daytime somnolence might not suffer from moderate to severe insomnia, while patients with moderate to severe insomnia might be awake during daytime. This information could be of interest when assessing sleep disturbance in patients admitted to a PCU. Further studies are needed in order to understand the relationship between daytime somnolence and insomnia, and to investigate the presence of other factors involved.

Age has been found inversely related to insomnia prevalence (Davidson et al. 2002). The present study found a non-significant association in the same direction. Fatigue, leg restlessness, the use of sedative/hypnotic drugs, recent cancer surgery (Davidson et al. 2002; Mercandante et al. 2004), quality of life, opioids (Mistakidou et al. 2007) could also influence insomnia. The present study does not confirm this results. Fatigue, recent cancer surgery and quality of life have not been assessed in the present study.

The fact that patients attributed insomnia mostly to physical symptoms has been described in other studies (Hugel et al. 2004). Patients might underrecognise or underreport psychological symptoms such as ruminations, which might partially explain why the answer given by the patients differ from the results of the multivariate analysis.

Clusters of symptoms in palliative care are currently being investigated, as they could share underlying mechanisms and be therefore managed as a whole. Insomnia has been categorised in different cluster groups by different authors. Tsai JS et al. (2010) suggested insomnia to be part of the "autonomic dysfunction" cluster; Jiménez et al. (2011) categorised insomnia as part of the neuropsychological cluster; Cleeland et al. (2002) identified sleep disturbance as relatively independent of other symptoms. Although the aim of the present study was not to investigate to which cluster of symptoms insomnia could belong, results do not clearly support any of the suggested categorisations of the symptom insomnia.

More prospective studies are needed which might help to elucidate the most important aspects to treat and modify in order to improve the sleep quality of patients at PCUs. A comprehensive assessment of the symptom and its potentially associated factors with special attention to rumination and daytime somnolence is required, since insomnia is a disturbing and worrying symptom in patients with advanced disease.

Study limitations

The present study has limitations. The translation of the SDS was performed by a researcher who was not bilingual and recommendations including forward backward translation were not fulfilled. However, the items included in the scale are not complex in terms of language and no important cultural differences after translation are expected. The time reference used by Anderson et al. (2004) for the scale SDS was modifyed for the present study.

Assessors administering the CRFs were nursing staff employed at the PCU. Therefore, they were not independent.

Interpretation of the results of certain variables could be limited by the sample size.

Only few of the consecutively admitted patients fulfilled the inclusion criteria. Half of the patients were too confused or had a too bad general status. Other studies have found similar experiences when including patients for the evaluation of insomnia (Aketchi et al. 2007). Excluded patients might have suffered from insomnia but could not be evaluated through the questionnaire. Included patients had a better cognitive status and relatively good performance status. This fact should be taken into account when interpreting and eventually generalizing the results of the present study.

Conclusions

1. Insomnia is a prevalent symptom that worries patients admitted to PCUs.
2. Emotional distress is highly prevalent among patients in PCU, but is not associated with moderate to severe insomnia.
3. The psychological symptom nocturnal rumination was associated with the presence of moderate to severe insomnia.
4. The presence of daytime somnolence was associated with less moderate to severe insomnia, which could be a clinical aspect to consider.

More prospective studies are needed in order to know why and by means of which mechanisms patients admitted to PCUs present insomnia. The homogeneous use of specific tools for the assessment of insomnia in PCUs should be promoted.

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Annex 1

Table legends

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Table 1. Patients' socio-demographic and clinical characteristics (n=61)	
	n (%)
Sex (man)	34 (55.7)
Mean age ± SD, years	71.5 ± 11
Mean Pfeiffer Index ± SD*	1.28 ± 1.082
Mean Karnofsky Index ± SD†	47.7 ± 11
Main diagnosis	
Oncological	58 (95.1)
Non-oncological	3 (4.9)
Cancer site	
Lung	13 (21.3)
Colon	10 (16,4)
Gynaecological (not breast)	7 (11.5)
Urinary tract	6 (9.8)
Breast	4 (6.6)
Liver	3 (4.9)
Stomach	4 (6.6)
Other	9 (14.7)
Unknown	2 (3.3)
Not applicable (non-oncological patient)	3 (4.9)
Stage	
Local or loco-regional disease	16 (26.2)
Metastasic	42 (68.9)
Not applicable (non-oncological patient)	3 (4.9)
Procedence	
Home	24 (39.3)
Acute Care	37 (60.7)
Death during hospitalisation in the PCU	28 (45.9)
Medication intake	
Neuroleptics (also if used for nausea or vomiting)	24 (39.3)
Sympathicomimetica	18 (29.5)
Corticosteroids	34 (55.7)
Diuretics	21 (34.4)
Opioids	44 (72.1)
Psyhotropics (neuroleptics/benzodiazepines excluded)	23 (37.7)
Antihistaminic	1 (1.6)
Benzodiazepines	38 (62.3)

* Pfeiffer Index range: 0-10; † Karnofsky Index range: 0-100

Table 2. Insomnia prevalence (n=61)		
Single question on insomnia		
Have you been suffering from insomnia since your admission?	**Yes n (%)**	**No n (%)**
	38 (62.3)	23 (37.7)
Sleep Disturbance Scale (moderate to severe insomnia)		
During the time you have been hospitalised have you suffered from ...?	**≥5 n (%)**	**<5 n (%)**
Difficulty in falling asleep (Likert 0-10)	33 (54.1)	28 (45.9)
Waking up during the night (Likert 0-10)	38 (62.3)	23 (37.7)
Waking up too early in the morning (Likert 0-10)	31 (50.8)	30 (49.2)
Sleep disturbance score	29 (47.5)	32 (52.5)
Reported hours sleep per night	**<5 n (%)**	**≥5 n (%)**
	21 (34.4)	40 (65.6)

Table 3. Other aspects related to insomnia and sleep quality (n=61)	
	n (%)
Start point of sleep difficulties	
Before the current disease	18 (29.5)
Together with the current disease	27 (44.3)
Since admission to the PCU	7 (11.5)
Non applicable (the patient did not claim to have insomnia)	9 (14.7)
Being moderately worried about insomnia	
Yes (≥3) (Likert 0-5)	43 (70.5)
No (<3) (Likert 0-5)	18 (29.5)
Feeling of non-restorative sleep	32 (52.5)
Daytime somnolence	45 (73.8)

Table 4. Prevalence of factors potentially associated with insomnia (n=61)	
	n (%)
Physical symptoms claimed to be interfering with sleep quality	
Pain	42 (68.9)
Dyspnea	22 (36.1)
Cough	18 (29.5)
Nausea, vomiting	15 (24.6)
Sweating	13 (21.3)
Nycturia	11 (18.0)
Functional incontinence	8 (13.1)
Itch	7 (11.5)
Restless-legs	5 (8.2)
Fever	1(1.6)
Drug or tobacco abstinence	5 (8.2)
Psychological symptoms	
Mean HADS score ± SD *	21.6 ± 7.7
Clinically significant emotional distress (HADS score ≥ 19)	39 (63.9)
Clinical depression (HADD ≥11)	38 (62.3)
Clinical anxiety (HADA ≥11)	33 (54.1)
Nightmares	16 (26.2)
Rumination	48 (78.7)
Fealings of fear or loneliness	30 (49.2)
Clear knowledge on the current disease's diagnosis	39 (63.9)
Clear knowledge on the current disease's prognosis	12 (19.7)
Environmental factors	
Reported environmental factor influencing sleep quality	47 (77)
Individual room	28 (29.5)
Accompanied by a next of kin during night	15 (24.6)
Sleep habits not accomplished at the PCU	19 (31.1)

* Hospital Anxiety and Depression Scale; range 0-42

Table 5. Relationship between the studied variables and insomnia according to the single question in the sample (n=61)			
Variables	**Insomnia according to the single question**		***P*-value**
	n (%) No 23 (37.7)	**n (%) Yes 38 (62.3)**	
Socio-demographic and clinical characteristics			
Mean age ± SD, years	74.3 ± 9.73	69.8 ± 11.49	0.072
Sex			0.33
Women	12 (44.4)	15 (55.6)	
Men	11 (32.4)	23 (67.6)	
Karnofsky index			**0.003**
>50	1 (6.3)	15 (93.8)	
≤50	22 (48.9)	23 (51.1)	
Procedence (home vs acute care)			0.11
Home	12 (50)	12 (50)	
Acute Care	11 (29.7)	26 (70.3)	
Death during hospitalisation in the PCU			0.768
No	13 (39.4)	20 (60.6)	
Yes	10 (35.7)	18 (64.3)	
Cancer site			0.056*
Lung	2 (15.4)	11 (84.6)	
Other	21 (46.6)	24 (53.3)	
Non-applicable (non-oncological patient)	0 (0)	3 (100)	
Stage			0.239*
Local or loco-regional disease	9 (56.3)	8 (43.8)	
Metastasic	14 (33.3)	28 (66.7)	
Non-applicable (non-oncological patient)	0 (0)	3 (100)	
Intake of neuroleptics			0.111
No	11 (29.7)	26 (70.3)	
Yes	12 (50)	12 (50)	
Intake of sympathicomimetica			0.301
No	18 (41.9)	25 (58.1)	
Yes	5 (27.8)	13 (72.2)	
Intake of corticosteroids			0.333
No	12 (44.4)	15 (55.6)	
Yes	11 (32.4)	23 (67.6)	
Intake of diuretics			0.547
No	14 (35)	26 (65)	
Yes	9 (42.9)	12 (57.1)	
Intake of opioids			0.728
No	7 (41.2)	10 (58.8)	
Yes	16 (36.4)	28 (63.6)	
Intake of psyhotropics			0.145
No	17 (44.7)	21 (55.3)	
Yes	6 (26.1)	17 (73.9)	
Intake of benzodiazepines			0.728
No	8 (34.8)	15 (65.2)	
Yes	15 (39.5)	23 (60.5)	

* Statistical analysis excluded the 3d group

Table 5 (continued). Relationship between the studied variables and insomnia according to the single question in the sample (n=61)			
Variables	**Insomnia according to the single question**		***P*-value**
	n (%) **No** **23 (37.7)**	**n (%)** **Yes** **38 (62.3)**	
Other sleep factors			
Moderate to severe insomnia according to the SDS			**0.020**
No	18 (56.3)	14 (43.8)	
Yes	5 (17.2)	24 (82.8)	
Being moderately worried about insomnia			**0.003**
No	12 (66.7)	6 (33.3)	
Yes	11 (25.6)	32 (74.4)	
Reported hours sleep per night			**0.029**
<5	4 (19)	17 (81)	
≥5	19 (47.5)	21 (52.5)	
Feeling of non-restorative sleep			**0.007**
No	16 (55.2)	13 (44.8)	
Yes	7 (21.9)	25 (78.1)	
Daytime somnolence			0.237
No	8 (50)	8 (50)	
Yes	15 (33.3)	30 (66.7)	
Physical factors			
Pain			0.633
No	8 (42.1)	11 (57.9)	
Yes	15 (35.7)	27 (64.3)	
Dyspnea			**0.018**
No	19 (48.7)	20 (51.3)	
Yes	4 (18.2)	18 (81.8)	
Cough			0.649
No	17 (39.5)	26 (60.5)	
Yes	6 (33.3)	12 (66.7)	
Nausea, vomiting			0.150
No	15 (32.6)	31 (67.4)	
Yes	8 (53.3)	7 (46.7)	
Sweating			0.530
No	17 (35.4)	31 (64.6)	
Yes	6 (46.2)	7 (53.8)	
Nycturia			1.000
No	19 (38)	31 (62)	
Yes	4 (36)	7 (63.6)	
Functional incontinence			0.461
No	19 (35.8)	34 (64.2)	
Yes	4 (50)	4 (50)	
Itch			1.000
No	20 (37)	34 (63)	
Yes	3 (42.9)	4 (57.1)	
Restless-legs			1.000
No	21 (37.5)	35 (62.5)	
Yes	2 (40)	3 (60)	
Fever			1.000
No	23 (38.3)	37 (61.7)	
Yes	0 (0)	1 (100)	
Drug or tobacco abstinence			1.000
No	22 (37.9)	36 (62.1)	
Yes	1 (33.3)	2 (66.7)	

Table 5 (continued). Relationship between the studied variables and insomnia according to the single question in the sample (n=61)			
Variables	**Insomnia according to the single question**		***P*-value**
	n (%) No 23 (37.7)	**n (%) Yes 38 (62.3)**	
Psychological factors			
HADS score	18.17±7.64	23.66±6.98	**0.012**
Clinically significant emotional distress (HADS≥19)			0.137
No	11 (50)	11 (50)	
Yes	12 (30.8)	27 (69.2)	
Subscala depression (HADD)			0.204
HADD<11	11 (47.8)	12 (52.2)	
HADD≥11	12 (31.6)	26 (68.4)	
Subscala anxiety (HADA)			**0.019**
HADA<11	15 (53.6)	13 (46.4)	
HADA≥11	8 (24.2)	25 (75.7)	
Nightmares			0.535
No	18 (40)	27 (60)	
Yes	5 (31.3)	11 (68.8)	
Rumination			**0.012**
No	9 (69.2)	4 (30.8)	
Yes	14 (29.2)	34 (70.8)	
Fealings of fear or loneliness			0.222
No	14 (45.2)	17 (54.8)	
Yes	9 (30)	21 (70)	
Clear knowledge on the current diagnosis			**0.042**
No	12 (54.5)	10 (45.5)	
Yes	11 (28.2)	28 (71.8)	
Clear knowledge on the current prognosis			0.751
No	18 (36.7)	31 (63.3)	
Yes	5 (41.7)	7 (58.3)	
Environmental factors			
Environmental disturbances (noise, light)			0.650
No	6 (42.9)	8 (57.1)	
Yes	17 (36.2)	30 (63.8)	
Individual room			0.301
No	18 (41.9)	25 (58.1)	
Yes	5 (27.8)	13 (72.2)	
Accompanied by a next of kin during night			0.310
No	19 (41.3)	27 (58.7)	
Yes	4 (26.7)	11 (73.3)	
Sleep habits not accomplished at the PCU			0.217
No	18 (42.9)	24 (57.1)	
Yes	5 (26.3)	14 (73.7)	

Table 6. Relationship between the studied variables and moderate to severe insomnia according to the Sleep Disturbance Scale (n=61)			
Variables	**Moderate to severe insomnia**		***P*-value**
	n (%) No 32 (52.5)	**n (%) Yes 29 (47.5)**	
Sociodemographical and clinical characteristics			
Age	73.19±9.95	69.64±11.96	0.289
Sex			0.102
Women	11 (40.7)	16 (59.3)	
Men	21 (61.8)	13 (38.2)	
Karnofsky index			**0.048**
>50	27 (60)	18 (40)	
≤50	5 (31.3)	11 (68.8)	
Procedence (home vs acute care)			0.060
Home	9 (37.5)	15 (62.5)	
Acute Care	23 (62.2)	14 (37.8)	
Death during hospitalisation in the PCU			0.088
No	18 (64.3)	10 (35.7)	
Yes	14 (42.4)	19 (57.6)	
Cancer site			0.534*
Lung	8 (61.5)	5 (38.5)	
Other	22 (48.9)	23 (51.1)	
Non-applicable (non-oncological patient)	2 (66.7)	1 (33.3)	
Stage			0.888*
Local or loco-regional disease	9 (56.2)	7 (43.5)	
Metastasic	21 (50)	21 (50)	
Non-applicable (non-oncological patient)	2 (66.7)	1 (33.3)	
Intake of neuroleptics			0.404
No	21 (56.8)	16 (43.2)	
Yes	11 (45.8)	13 (54.2)	
Intake of sympathicomimetica			0.151
No	20 (46.5)	23 (53.5)	
Yes	12 (66.7)	6 (33.3)	
Intake of corticosteroids			0.933
No	14 (51.9)	13 (48.1)	
Yes	18 (52.9)	16 (47.1)	
Intake of diuretics			0.107
No	18 (45)	22 (55)	
Yes	14 (66.7)	7 (33.3)	
Intake of opioids			0.963
No	9 (52.9)	8 (47.1)	
Yes	23 (52.3)	21 (47.7)	
Intake of other psyhotropics			0.275
No	22 (57.9)	16 (42.1)	
Yes	10 (43.5)	13 (56.5)	
Intake of benzodiazepines			0.972
No	12 (52.2)	11 (47.8)	
Yes	20 (52.6)	18 (47.4)	

* Statistical analysis excluded the 3d group

Table 6 (continued). Relationship between the studied variables and moderate to severe insomnia according to the Sleep Disturbance Scale (n=61)			
Variables	**Moderate to severe insomnia**		***P*-value**
	n (%) No 32 (52.5)	**n (%) Yes 29 (47.5)**	
Other sleep factors			
Insomnia according to the single question			**0.002**
No	18 (78.3)	5 (21.7)	
Yes	14 (36.8)	24 (63.2)	
Being moderately worried about insomnia			**0.010**
No	14 (77.8)	4 (22.2)	
Yes	18 (41.9)	25 (58.1)	
Reported hours sleep per night			0.277
<5	9 (42.9)	12 (57.1)	
≥5	23 (57.5)	17 (42.5)	
Feeling of non-restorative sleep			0.913
No	15 (51.7)	14 (48.3)	
Yes	17 (53.1)	15 (46.9)	
Daytime somnolence			**0.010***
No	4 (25)	12 (75)	
Yes	28 (62.2)	17 (37.8)	
Physical factors			
Pain			0.986
No	10 (52.6)	9 (47.4)	
Yes	22 (52.4)	20 (47.6)	
Dyspnea			0.436
No	19 (58.7)	20 (51.3)	
Yes	13 (59.1)	9 (40.9)	
Cough			0.381
No	21 (48.8)	22 (51.2)	
Yes	11 (61.1)	7 (38.9)	
Nausea, vomiting			0.501
No	23 (50)	23 (50)	
Yes	9 (60)	6 (40)	
Sweating			0.910
No	25 (52.1)	23 (47.9)	
Yes	7 (53.8)	6 (46.2)	
Nycturia			0.412
No	25 (50)	25 (50)	
Yes	7 (63.6)	4 (36.4)	
Functional incontinence			0.881
No	28 (52.8)	25 (47.2)	
Yes	4 (50)	4 (50)	
Itch			0.285
No	27 (50)	27 (50)	
Yes	5 (71.4)	2 (28.6)	
Restless-legs			0.662
No	30 (53.6)	26 (46.4)	
Yes	2 (40)	3 (60)	
Fever			0.475
No	32 (53.3)	28 (46.7)	
Yes	0 (0)	1 (100)	
Drug or tobacco abstinence			1.000
No	30 (51.7)	28 (48.3)	
Yes	2 (66.7)	1 (33.3)	

* Statistical significance persisted after multivariate analysis

Table 6 (continued). Relationship between the studied variables and moderate to severe insomnia according to the Sleep Disturbance Scale (n=61)			
Variables	**Moderate to severe insomnia**		***P*-value**
	n (%) No 32 (52.5)	**n (%) Yes 29 (47.5)**	
Psychological factors			
HADS score	20.25±7.79	23.07±7.44	0.158
Clinically significant emotional distress (HAD≥19)			0.806
No	12 (54.5)	10 (45.5)	
Yes	20 (51.3)	19 (48.7)	
Subscala depression (HADD)			0.306
HADD<11	14 (60.9)	9 (39.1)	
HADD≥11	18 (47.4)	20 (52.6)	
Subscala anxiety (HADA)			0,234
HADA<11	17 (60.7)	11 (39.3)	
HADA≥11	15 (45.4)	18 (54.5)	
Nightmares			0.163
No	26 (57.8)	19 (42.2)	
Yes	6 (37.5)	10 (62.5)	
Rumination			**0.009***
No	11 (86.4)	2 (15.4)	
Yes	21 (43.8)	27 (56.3)	
Fealings of fear or loneliness			0.055
No	20 (64.5)	11 (35.5)	
Yes	12 (40)	18 (60)	
Clear knowledge on the current diagnosis			0.065
No	17 (43.6)	22 (56.4)	
Yes	15 (68.2)	7 (31.8)	
Clear knowledge on the current prognosis			0.404
No	5 (41.7)	7 (58.3)	
Yes	27 (55.1)	22 (44.9)	
Environmental factors (noise, light)			
Environmental disturbances			**0.026**
No	11 (78.6)	3 (21.4)	
Yes	21 (44.7)	26 (55.3)	
Individual room			0.754
No	22 (51.2)	21 (48.8)	
Yes	10 (55.6)	8 (44.4)	
Accompanied by a next of kin during night			0.204
No	22 (47.8)	24 (52.2)	
Yes	10 (66.7)	5 (33.3)	
Sleep habits not accomplished at the PCU			0.276
No	24 (57.1)	18 (42.9)	
Yes	8 (42.1)	11 (57.9)	

* Statistical significance persisted after multivariate analysis

Table 7. Relationship between clinically significant emotional distress and other sleep aspects (n=61)			
Sleep aspects	**Clinically significant emotional distress**		***P*-value**
	n (%) No 22 (36.1)	**n (%) Yes 39 (63.9)**	
Being moderately worried about insomnia			**0.040**
Yes (≥3)	12 (27.9)	31 (72.1)	
No (<3)	10 (55.6)	8 (44.4)	
Feeling of non-restorative sleep			0.175
Yes	9 (28.1)	23 (71.9)	
No	13 (44.8)	16 (55.2)	
Daytime somnolence			0.889
Yes	16 (35.6)	29 (64.4)	
No	6 (37.5)	10 (62.5)	

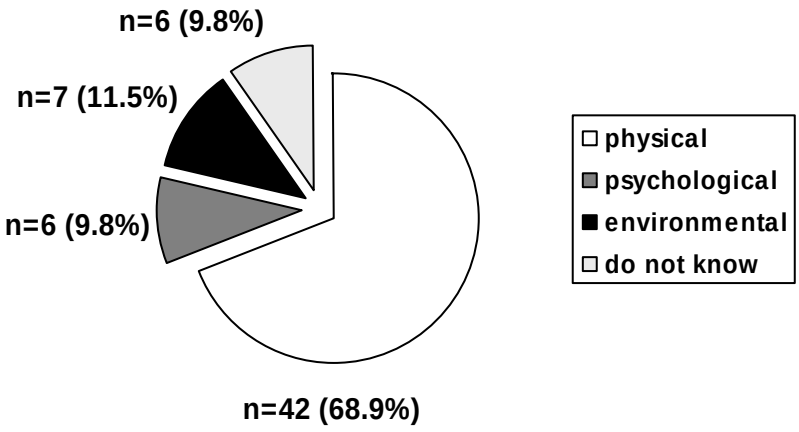
Table 8. Relationship between rumination and other psychological factors (n=61)			
Psychological factors	**Nocturnal rumination**		***P*-value**
	n (%) No 13 (21.3)	**n (%) Yes 48 (78.7)**	
Clinically significant emotional distress (HADS≥19)			0.132
No	7 (31.8)	15 (68.2)	
Yes	6 (15.4)	33 (5.6)	
Subscala depression (HADD)			0.059
HADD<11	5 (13.5)	33 (86.8)	
HADD≥11	8 (34.8)	15 (65.2)	
Subscala anxiety (HADA)			**0.010**
HADA<11	10 (35.7)	18 (64.3)	
HADA≥11	3 (9.1)	30 (90.9)	
Nightmares			0.771
No	10 (22.2)	35 (77.8)	
Yes	3 (18.8)	13 (81.3)	
Fealings of fear or loneliness			0.134
No	9 (29)	22 (71)	
Yes	4 (13.3)	26 (86.7)	
Clear knowledge on the current diagnosis			0.050
No	8 (36.4)	14 (63.6)	
Yes	5 (12.8)	34 (87.2)	
Clear knowledge on the current prognosis			0.221
No	12 (24.5)	37 (75.5)	
Yes	1 (8.3)	11 (91.7)	

Table 9. Relationship between rumination and insomnia items (n=61)			
Insomnia items	**Nocturnal rumination**		***P*-value**
	n (%) No 13 (21.3)	**n (%) Yes 48 (78.7)**	
Difficulty in falling asleep (Likert 0-10)			0.517
No (<5)	7 (53.8)	6 (46.2)	
Yes (≥5)	21 (43.8)	27 (56.3)	
Waking up during the night (Likert 0-10)			**0.011**
No (<5)	9 (69.2)	4 (30.8)	
Yes (≥5)	14 (29.2)	34 (70.8)	
Waking up too early in the morning (Likert 0-10)			**0.004**
No (<5)	11 (84.6)	2 (15.4)	
Yes (≥5)	19 (39.6)	29 (60.4)	
Reported hours sleep per night			0.332
<5	3 (14.3)	18 (85.7)	
≥5	10 (25)	30 (75)	
Being moderately worried about insomnia (Likert 0-5)			**0.043**
No (<3)	7 (38.9)	11 (61.1)	
Yes (≥3)	6 (14)	37 (86)	

Table 10. Relationship between the sociodemographical and clinical characteristics and daytime somnolence (n=61)			
Variables	**Daytime somnolence**		***P*-value**
	n (%) No 16 ()	**n (%) Yes 45 ()**	
Sociodemographical and clinical characteristics			
Age	72.8 ± 10.78	70.87 ± 11.10	0.546
Sex			0.962
Women	7 (25.9)	20 (74.1)	
Men	9 (26.5)	25 (73.5)	
Karnofsky index			0.097
>50	7 (43.8)	9 (56.3)	
≤50	9 (20)	36 (80)	
Procedence (home vs acute care)			0.310
Home	8 (33.3)	16 (66.7)	
Acute Care	8 (21.6)	29 (78.4)	
Death during hospitalisation in the PCU			0.171
No	11 (33.3)	22 (66.7)	
Yes	5 (17.9)	23 (82.1)	
Cancer site			0.743*
Lung	3 (23.1)	10 (76.9)	
Other	13 (28.9)	32 (71.1)	
Non-applicable (non-oncological patient)	0	3 (100)	
Stage			1.000*
Local or loco-regional disease	4 (25)	12 (75)	
Metastasic	12 (28.6)	30 (71.4)	
Non-applicable (non-oncological patient)	0	3 (100)	
Intake of neuroleptics			0.310
No	8 (21.6)	29 (78.4)	
Yes	8 (33.3)	16 (66.7)	
Intake of sympathicomimetica			0.757
No	12 (27.9)	31 (72.1)	
Yes	4 (22.2)	14 (77.8)	
Intake of corticosteroids			0.962
No	7 (25.9)	20 (74.1)	
Yes	9 (26.5)	25 (73.5)	
Intake of diuretics			0.124
No	13 (32.5)	27 (67.5)	
Yes	3 (14.3)	18 (85.7)	
Intake of opioids			0.116
No	7 (41.2)	10 (58.8)	
Yes	9 (20.5)	35 (79.5)	
Other psychotropic (antidepressant, anticonvulsivant)			**0.015**
No	14 (36.8)	24 (63.3)	
Yes	2 (8.7)	21 (91.3)	
Intake of benzodiazepines			0.075
No	9 (39.1)	14 (60.9)	
Yes	7 (18.4)	31 (81.6)	

* Statistical analysis excluded the 3d group

Figure 1. Judged main factor interfering with sleep quality



Annex 2

Annex 2 is written in the language that was used in the study (Catalan for the Case Report Form and Spanish for some of the instruments used).

Annex 2 includes:

- **The Case Report Form**
- **The evaluation instruments**

CASE REPORT FORM

FIRST PART

Data collected by means of an interview with the patient (the blank box contains a number assigned to each patient)

INSOMNI EN PACIENTS HOSPITALITZATS AMB MALALTIA AVANÇADA: PREVALENÇA I FACTORS RELACIONATS.

- Dia de l'exploració:

- NHC *(eliminat posteriorment)*

- Í. Karnofsky ingrés:

- Í. Pfeiffer:

- Mobilitat:
  1- Enllitat 100%
  2- Sedestació/cadira de rodes
  3- Deambulació: autònoma/supervisada/ajuda

- Té problemes per dormir a la nit des que ha ingressat a la Unitat?
  1- Sí
  0- No
  2- A vegades

- Ha tingut dificultats per a dormir...
  1- abans del diagnòstic de la malaltia actual? 1- Sí / 0- No
  2- des del diagnòstic de la malaltia actual? 1- Sí / 0- No
  3- des de l'ingrés a UCP? 1- Sí / 0- No

- Li preocupa el fet de dormir malament? (0-5)

- S'adorm durant el dia? (somnolència diürna)
  1- Sí
  0- No
- Té la sensació de no haver descansat al matí quan es desperta? (sensació de son no reparador)
  1- Sí
  0- No

QÜESTIONARI DE L'INSOMNI:
Sleep disturbance scale
Durant els dies que porta ingressat...
(i tenint en compte que "0" significa gens i "10" molt)

a. Ha tingut dificultat per adormir-se? (0-10)
b. S'ha despertat durant la nit? (0-10)
c. S'ha despertat massa d'hora al matí? (0-10)
Hores totals de son/nit:
1- <5
2- =o>5
OVERALL SLEEP DISTURBANCE SCORE (a+b+c/3):

FACTORS FÍSICS QUE INTERFEREIXEN AMB EL SON (poden ser més d'un)
- Sudoració 1- Sí / 0- No
- Dispnea 1- Sí / 0- No
- Dolor 1- Sí / 0- No
- Nictúria 1- Sí / 0- No
- Incontinència funcional 1- Sí / 0- No
- Pruïja 1- Sí / 0- No
- Tos 1- Sí / 0- No
- Nàusees, vòmits 1- Sí / 0- No
- Febre 1- Sí / 0- No
- Sdme cames inquietes 1- Sí / 0- No
- Abstinència tabac/drogues 1- Sí / 0- No
- Altres: 1- Sí / 0- No

FACTORS AMBIENTALS:
- Li molesta alguna cosa de l'ambient per dormir?
  1- Excés de llum/soroll pel company d'habitació 1- Sí / 0- No
  2- Excés de llum/sorolls a la planta en general 1- Sí / 0- No
  3- Interrupcions 1- Sí / 0- No
  4- Altres (discomfort tèrmic...) 1- Sí / 0- No

- Dorm acompanyat de familiars? 1- Sí / 0- No
- Està en una habitació individual? 1- Sí / 0- No
- Hàbits previs abans d'anar a dormir que no pot realitzar a la UCP:
  1- Sí. Quins (televisió, llet, lectura, ràdio, diferent horari...)?:
  0- No

FACTORS PSICOLÒGICS:
- HAD:
- Malsons: 1- Sí / 0- No
- Rumiacions durant la nit:
  1-Sí / 0- No
  - Pensaments de mort
  - Preocupacions familiars-laborals
  - Altres (records,...)
- Sentiment de por o soletat? 1- Sí / 0- No

- A partir de l'interrogatori fet fins ara, l'entrevistador dedueix el grau d'informació que té el pacient sobre la seva malaltia:
    - Diagnòstic:
        1- Clarament el coneix
        2- No queda clar
        3- Clarament no el coneix
    - Pronòstic:
        1- Clarament el coneix
        2- No queda clar
        3- Clarament no el coneix

De tot el que hem dit fins ara, què és el que creu que més li interfereix amb el son?

1- Símptoma físic:
2- Factor ambiental:
3- Símptoma psicològic:
4- Altres:
5- No ho sé.

CASE REPORT FORM

SECOND PART

Data collected by reading the patients' medical reports

- Num. recollida:
- Data d'ingrés:
- Sexe:
    1- Home
    2- Dona
- Edat:
- Procedència:
    1- Domicili
        - PADES
        - No PADES
    2- Hospital d'aguts
    3- Altres
- Malaltia oncològica:
    1- Sí
    0- No
- Tumor primari:
    1- Pulmó
    2- Mama
    3- Colon
    4- Fetge
    5- Pàncrees
    6- Estómac
    7- Cerebral
    8- Pròstata
    9- Hematològic
    10- Ginecològic
    11- Altres:
    12- Desconegut

- Extensió tumoral:
    1- Local
    2- Regional
    3- Disseminat
    4- Desconegut

- Afectació SNC (metàstasi, primari o paraneoplàsic):
    1- Sí
    2- No
    3- No se sap

- Altres diagnòstics:

Altres diagnòstics	Sí	No
Demència coneguda		
Trastorn psicòtic		
Depressió		
Ansietat		
Trastorn de personalitat		
Malaltia cerebrovascular		
Cardiopatia		
Hepatopatia crònica		
Pneumopatia crònica		
Insuficiència renal crònica		
Trastorn hidroelectrolític		

- Fàrmacs i altres substàncies de base (no inclou intervencions específiques per a l'insomni durant l'ingrés):

Fàrmac	Sí	No
Quimioteràpia		
Estimulants SNC (cafè, anfetamines)		
Neurolèptics per nàusees i vòmits (metoclopramida, haloperidol, ondansetron)		
Simpaticomimètics		
Corticoides		
Diürètics		
Opioides		
Antihistamínics		
Benzodiazepines		
Altres psicotròpics (antidepressius, anticonvulsivants)		
Altres		
Abstinència enol/tabac		

- Supressió de psicòtrops recent (opioides, sedants antihistamínics, benzodiazepines, antidepressius tricíclics, inhibidors de la monoaminooxidasa)
  1- Sí
  0- No
- Abstinència enol/tabac:
  1- Sí
  0- No
- Nombre de fàrmacs:
- Destí a l'alta: defunció / domicili / unitat de llarga estada / altres

EVALUATION INSTRUMENTS

ESCALA DE ANSIEDAD Y DEPRESIÓN HOSPITALARIA (HADS)

(Zigmond and Snaith, 1983)

A.1. Me siento tenso/a o nervioso/a:
3. Casi todo el día
2. Gran parte del día
1. De vez en cuando
0. Nunca

D.1. Sigo disfrutando de las cosas como siempre:
0. Ciertamente, igual que antes
1. No tanto como antes
2. Solamente un poco
3. Ya no disfruto con nada

A.2. Siento una especie de temor como si algo malo fuera a suceder:
3. Sí, y muy intenso
2. Sí, pero no muy intenso
1. Sí, pero no me preocupa
0. No siento nada de eso

D.2. Soy capaz de reírme y ver el lado gracioso de las cosas:
0. Igual que siempre
1. Actualmente, algo menos
2. Actualmente, mucho menos
3. Actualmente, en absoluto

A.3. Tengo la cabeza llena de preocupaciones:
3. Casi todo el día
2. Gran parte del día
1. De vez en cuando
0. Nunca

D.3. Me siento alegre:
3. Nunca
2. Muy pocas veces
1. En algunas ocasiones
0. Gran parte del día

A.4. Soy capaz de permanecer sentado/a tranquilo/a y relajado/a:
0. Siempre
1. A menudo
2. Raras veces
3. Nunca

D.4. Me siento lento/a y torpe:
3. Gran parte del día
2. A menudo
1. A veces
0. Nunca

A.5. Experimento una desagradable sensación de «nervios y hormigueos» en el estómago:
0. Nunca
1. Sólo en algunas ocasiones
2. A menudo
3. Muy a menudo

D.5. He perdido el interés por mi aspecto personal:
3. Completamente
2. No me cuido como debería hacerlo
1. Es posible que no me cuide como debiera
0. Me cuido como siempre lo he hecho

A.6. Me siento inquieto/a como si no pudiera parar de moverme:
3. Realmente mucho
2. Bastante
1. No mucho
0. En absoluto

D.6. Espero las cosas con ilusión:
0. Como siempre
1. Algo menos que antes
2. Mucho menos que antes
3. En absoluto

A.7. Experimento de repente sensaciones de gran angustia o temor:
3. Muy a menudo
2. Con cierta frecuencia
1. Raramente
0. Nunca

D.7. Soy capaz de disfrutar con un buen libro o con un buen programa de radio o televisión:
0. A menudo
1. Algunas veces
2. Pocas veces
3. Casi nunca

QÜESTIONARI D'INSOMNI (*Sleep disturbance scale)*
Anderson et al. 2003

Qüestionari d'Insomni *(Sleep Disturbance Scale)*

Anderson et al 2003

Durant els dies que porta ingressat
(i tenint en compte que "0" significa gens i "10" molt):

a. Ha tingut dificultat per adormir-se? (0-10)
b. S'ha despertat durant la nit? (0-10)
c. S'ha despertat massa d'hora al matí? (0-10)

Hores totals de son/nit:
<5
=o>5

***OVERALL SLEEP DISTURBANCE SCORE* (a+b+c/3):**

CUESTIONARIO CORTO DEL ESTADO MENTAL DE PFEIFFER
Short Portable Mental Status Questionnaire (SPMSQ) (Pfeiffer, 1975)

	Acierto	Error
1. ¿Cuál es la fecha de hoy? (mes, día y año)	□	□
2. ¿Qué día de la semana es hoy?	□	□
3. ¿Cuál es el nombre de este lugar?	□	□
4. ¿Cuál es su número de teléfono?	□	□
¿Cuál es su dirección? (si no tiene teléfono)	□	□
5. ¿Qué edad tiene usted?	□	□
6. ¿Cuál es la fecha de su nacimiento?	□	□
7. ¿Quién es ahora el presidente del gobierno?	□	□
8. ¿Quién fue el anterior presidente del gobierno?	□	□
9. ¿Cuáles son los dos apellidos de su madre?	□	□
10. Vaya restando de 3 en 3 a partir de 20 hasta llegar a 0	□	□

Número total de errores: _____

0-2 errores: normal.
3-4 errores: deterioro mental leve
5-7 errores: deterioro mental moderado.
8-10 errores: deterioro mental severo
Con baja escolarización se permite un error más.
Con estudios superiores se contabiliza con un error menos.

ÍNDICE DE KARNOFSKY (Karnofsky et al, 1949)

100	Actividad normal. Sin síntomas. Sin evidencia subjetiva de enfermedad
90	Capaz de desarrollar su actividad normal. Síntomas mínimos de enfermedad
80	Actividad normal con esfuerzo. Algunos síntomas subjetivos de enfermedad
70	Puede cuidar de sí mismo. Incapaz de desarrollar su actividad normal o de hacer su trabajo
60	Requiere asistencia ocasional, pero capaz de cuidar de sí mismo
50	Requiere asistencia considerable y frecuente atención médica
40	Requiere asistencia médica especial
30	Gravemente inhábil. Necesita hospitalización, si bien no se prevé una muerte inminente
20	Muy enfermo. Hospitalización necesaria. Es preciso un tratamiento de soporte activo
10	Moribundo
0	Muerto