



**CHAPTER 2**  
**Physicians' and nurses' experiences with  
continuous palliative sedation in the Netherlands**

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## ABSTRACT

*Background* Continuous sedation until death is an intensively debated type of palliative sedation. For this far-reaching treatment, a multidisciplinary approach, including at least the physician and nursing disciplines, is considered important. We investigated how physicians and nurses experienced this practice, focusing on the clinical characteristics, the decision-making process and the effect of continuous sedation.

*Methods* A structured questionnaire regarding their last patient receiving continuous sedation until death was sent to 1580 physicians and 576 nurses working in homecare, nursing homes, hospices or hospitals.

*Results* 606 Physicians (38%) and 278 nurses (48%) filled out the questionnaire. Of the described patients, 75%-80% had cancer. The most frequently mentioned (>50%) severe symptoms were fatigue, pain and longing for death. Dyspnoea and pain were the most frequently mentioned decisive indications for starting continuous sedation. Patients and relatives were more often involved in the decision-making in nurses' cases (76% and 90%, respectively) than in physicians' cases (66% and 81%, respectively). Physicians more often reported that they had felt pressure to start continuous sedation than nurses (14% and 3%, respectively;  $P<0.01$ ); they reported less often a (co)-intention to hasten the patient's death (15% and 24%, respectively;  $P<0.01$ ).

*Conclusions* Although the decisive indications for the use of sedation are in most cases severe physical symptoms, non-physical symptoms also contribute to the clinical picture. Physicians' cases differ from nurses' cases with respect to decision-making. End-of-life care can benefit from timely and adequate communication between physicians and nurses about all relevant aspects of the patients' situation.

## 2.1 Introduction

In the Dutch national guideline palliative sedation is defined as ‘the intentional lowering of consciousness of a patient in the last phase of life’.<sup>1,2</sup> This refers to all subtypes of sedation; intermittent and continuous as well as deep and superficial. Continuous sedation until death is the most far-reaching subtype of palliative sedation. The estimated frequency of the use of palliative sedation varies considerably in scientific literature, partly due to differences in definition and research setting. Comparable nationwide studies show frequencies of continuous deep sedation in Europe of 2.5% up to 16% of all deaths.<sup>3,4</sup>

The benefits and drawbacks of continuous sedation until death are frequently debated.<sup>5,6</sup> It is regarded as an indispensable treatment to alleviate intolerable refractory symptoms, but it diminishes the patient’s ability to communicate in the last days of life.<sup>1,5,7</sup> Furthermore, it is argued that continuous sedation does not shorten life when its use is restricted to the patient’s last days of life,<sup>8,9</sup> but physicians sometimes indicate to use it with the intention of hastening death.<sup>10-12</sup>

These issues illustrate that the clinical decision-making about continuous sedation until death is very precarious. As a treatment of last resort within a palliative care context<sup>10</sup> such decision-making should, according to the WHO, involve a team approach.<sup>13</sup> A team approach, including at least the physician and nursing disciplines, is needed for careful assessments of the patients’ and families’ needs, along with careful communication between patients, relatives and other professional caregivers. This applies both to the start and the course of continuous sedation.<sup>14</sup>

Although in the end physicians are legally responsible for making medical decisions, it has been shown that nurses contribute to the decision-making and prefer to be involved.<sup>15,16</sup> Nurses can have an important role in the use of continuous sedation: they interact more continuously with patients and relatives than physicians, and are often involved in assessing the patients’ symptoms and administering the sedating medication. However, nurses sometimes find it difficult to be involved in continuous sedation, e.g. when they have worries about the use of continuous sedation for non-physical suffering and about its potential use for accelerating death.<sup>17</sup> They also sometimes find it difficult to determine whether a patient is suffering during the sedation.<sup>18</sup>

Because the expertise of both physicians and nurses is important for adequate use of continuous sedation until death, we aim to give a comprehensive description of this practice including both perspectives. We focus on the clinical characteristics of the patient for whom they used continuous sedation, their contribution to the decision-making, and their perception of the course and the effects of continuous sedation until death.

## 2.2 Methods

### 2.2.1 Study design and data collection

A structured anonymous questionnaire-study was performed amongst physicians and nurses from February - September 2008.

#### Physicians

A paper version of the questionnaire was sent to a random sample of 1128 physicians working in three settings in the northwest and southwest of the Netherlands: general practice n=466, nursing home n=195 and hospital n=467. The sample of medical specialists (internal medicine, cardiology, pulmonology, neurology and geriatrics) was stratified into clinicians working in university hospitals and non-university hospitals. Furthermore, the questionnaire was sent to all general practitioners (n=452) working in the northeast of the Netherlands. Non-responding physicians received a paper reminder after two months and an email reminder after four months. Finally 20% of the non-responding general practitioners and nursing home physicians and all non-responding medical specialists were asked for reasons for non-response by telephone or email.

#### Nurses

It was not possible to draw a random sample of nurses because of the lack of a comprehensive database with contact information of nurses. We therefore approached contact persons in 6 professional home care organisations, 10 nursing homes/hospices and 7 hospitals in the northwest and southwest of the Netherlands. We asked the contact persons to distribute the questionnaire amongst all nurses who were likely to have been involved in the practice of continuous sedation. In total, 576 nurses received a questionnaire (home care n=111, units for palliative care in nursing homes or in hospices n=121 and hospitals n=344). In case of non-response, alerts were sent to the contact persons after two months. Contact persons of wards with a response < 50% were asked for reasons for non-response by telephone.

### 2.2.2 Questionnaire

Physicians and nurses were asked to fill out a structured questionnaire. Physicians were asked to report about the last patient in whom they were responsible for providing continuous sedation until death. Nurses were asked to report about the last continuously sedated patient whom they had cared for from the start of the sedation. A draft version of the questionnaire was tested in a pilot study amongst general practitioners and nurses.<sup>19</sup> Physicians' and nurses' questionnaires contained similar questions, with a few minor variations in the formulation of the questions. For this study, two sections of the questionnaire were used: a. General information about the respondent and b. the respondent's last patient who had received continuous sedation: diagnosis, symptoms during the decision-making process (on a 5-point Likert scale), refractory symptoms, decisive indication for starting sedation, life expectancy, competence, communication about decision-making, consultation, quality of dying, estimated life shortening of sedation and relatives' satisfaction with continuous sedation.

Physicians' questionnaires were mailed together with a letter of recommendation of the Royal Dutch Medical Association and nurses' questionnaires were accompanied by a letter of recommendation of the Association of Professional Nurses in the Netherlands. According to Dutch regulations, the study did not require review by an ethics committee or written informed consent from the patients' families, because the data collection was anonymous with respect to the deceased patient.

### 2.2.3 Analysis

For this paper we analyzed data concerning cases that occurred after 2005 in order to reflect the practice of palliative sedation after the introduction of the national guideline in December 2005. Descriptive statistics for central tendencies and spread were calculated. Subgroup analyses using either a Chi-square test or Kruskal-Wallis test were performed if possible. A Chi-square test or Mann-Whitney-U was used to identify statistically significant differences between physicians and nurses. For all tests, a p-value lower than 0.05 was considered statistically significant. Logistic or linear regression analysis was performed for dichotomous values to adjust for the possible influence of setting and working experience. Both variables were presumed to be of influence on the practice of sedation and differed significantly between physicians and nurses (**table 1**). The Likert scales for symptoms were recoded into 'severe' (scores 4-5) and 'not-severe' (scores 1-3). Missing answers to questions were less than 10% for all respondents reporting a case (n=555). Missing data varied per question and ranged from 0.6% to 15.1%. Valid percentages are used throughout the text; variables with missing values higher than 5% are indicated in the tables. Data were analyzed using SPSS 15.0 (SPSS Inc, Chicago, Illinois).

## 2.3 Results

### 2.3.1 General Characteristics

#### Respondents

A total of 606 (38%) physicians and 278 (48%) nurses filled out the questionnaire. Of these, 370 (61%) and 185 (67%) respondents respectively, reported about their last case of continuous sedation after 2005 (**table 1**). Response rates varied between different settings. For physicians these were 43% in general practice, 50% in nursing homes/hospices and 24% in hospitals. For nurses these were 52% in home care, 55% in nursing homes/hospices and 45% in hospitals. The most important reasons for non-response amongst physicians were: too busy with patient care, no experience with continuous sedation, practiced continuous sedation too long ago, too many requests for participation in research, and never participating in research. Most important reasons for non-response amongst nurses were: too busy with patient care and not being able to get access to the medical file. On average, physicians had more working experience than nurses (respectively 19 and 17 years; ( $P=0.03$ )).

#### Cases (sedated patients)

Most patients suffered from cancer (75%-80%). Non-cancer diagnoses were predominantly neurologic diseases, heart failure, COPD and dementia. The mean patient age in physicians' cases (70 yrs) was significantly higher than in nurses' cases (65 yrs) ( $P<0.001$ ).

Table 1. General characteristics of the respondents and their cases of continuous sedation

	Physicians (N=370)	Nurses (N=185)	P-value
	No. (%)	No. (%)	
<b>Characteristics respondents</b>			
Gender (male)	237 (64)	21 (11)	<0.001
Age (years)*	49 (8)	40 (11)	0.001
Work experience (years)*	19 (9)	17 (11)	0.030
Setting			<0.001
- home	250 (68)	50 (27)	
- nursing home/hospice	64 (17)	58 (26)	
- hospital	56 (15)	87 (47)	
No. of deaths in 2007*	15 (14)	14 (17)	0.081
<b>Characteristics patients</b>			
Gender (Male)	189 (52)	92 (51)	0.762
Age (years)*	70 (14)	65 (16)	<0.001
Diagnosis			0.210
- cancer	265 (75)	144 (80)	
- heart failure	18 (5)	9 (5)	
- COPD	8 (2)	4 (2)	
- dementia	15 (4)	2 (1)	
- neurologic	16 (5)	11 (6)	
- other	17 (5)	9 (5)	

\* mean (SD)

### 2.3.2 Clinical assessment before starting continuous sedation

Before starting continuous sedation, patients' symptoms most frequently (>50%) perceived as severe were fatigue, pain and longing for death (**table 2**). Loss of dignity, hopelessness, loss of control, dyspnoea, motor restlessness and anxiety were reported as severe for 30%-50% of the patients. In 7 (2%) physicians' cases and 5 (3%) nurses' cases no severe physical symptoms 194 before starting sedation were reported. Anxiety was reported significantly more frequently by nurses (42%) than by physicians (31%) ( $P=0.03$ ). In 90-93% of the cases patients suffered unbearably. Life expectancy at the start of continuous sedation was estimated to be less than one week in 75-76% and less than two weeks in 89-97%. 231 physicians and 83 nurses reported a single decisive indication for continuous sedation. The most frequently reported indications were dyspnoea (25-31%) and pain (16-34%). Pain was mentioned significantly more often in nurses' cases ( $P=0.015$ ). Physicians also rather frequently reported physical exhaustion (15%) and delirium (11%). The remaining physicians and nurses reported more than one decisive indication (even though the question asked for one single decisive indication). In these cases, dyspnoea, pain and physical exhaustion were also most frequently reported. Further psychological exhaustion (28-34%) and existential suffering (23-24%) were reported more frequently compared to cases with one decisive indication.

### 2.3.3 Decision-making about continuous sedation

In physicians' cases, the option of using continuous sedation was brought up for the first time by the physician in 78%, by the patient in 14%, by the relatives in 5% and by a nurse in 2% (**table 3**). In nurses' cases these percentages were significantly different, respectively 47%, 24%, 8% and 21% ( $P<0.001$ ). Patients and relatives were significantly more often involved in the decision-making in nurses' cases (76% and 90%, respectively) than in physicians' cases (66% and 81%, respectively). Of the competent patients, 80-81% were involved in the decision-making (data not shown in table). Physicians (14%) reported significantly more often that they had felt pressure to start continuous sedation from patients and/or relatives than nurses (3%) ( $P<0.01$ ). Before starting continuous sedation, a palliative care team was consulted in 21-22% of the cases, and during the sedation in 8-10%. Physicians indicated that they had no intention to hasten death in 85% of the patients, a partly intention to hasten death in 14%, and an explicit intention to hasten death in 1%. Nurses more frequently reported that physicians had an intention to hasten death, in 20% they reported a partly intention and in 5% 221 an explicit intention ( $P=0.002$ ). In 82% of the physicians' cases, physicians were present at the start of continuous sedation, compared to 68% in nurses' cases ( $P<0.001$ ).

Table 2. Clinical assessment before the start of continuous sedation

	Physicians (N=370) No. (%)	Nurses (N=185) No. (%)	P-value	P-value (corrected) <sup>a</sup>
Severe symptoms during decision-making before start of CS*				
- fatigue	258 (73)	119 (69)	0.663	0.458
- pain	212 (58)	115 (67)	0.073	0.068
- longing for death	207 (58)	90 (54)	0.638	0.113
- loss of dignity	172 (48)	63 (37)	0.109	0.071
- hopelessness	170 (48)	72 (43)	0.658	0.511
- loss of control	143 (40)	67 (40)	0.534	0.854
- dyspnoea	138 (38)	82 (47)	0.126	0.840
- motoric discomfort	111 (31)	62 (36)	0.163	0.264
- anxiety	111 (31)	74 (42)	<b>0.001</b>	<b>0.030</b>
- delirium	96 (27)	40 (24)	0.489	0.541
- nausea/vomiting	95 (27)	33 (20)	0.107	0.728
- loss of interest	88 (25)	35 (21)	0.766	0.564
- burden to environment	57 (16)	26 (16)	0.673	0.150
- depression	28 (8)	14 (9)	0.524	0.718
Suffering was unbearable	345 (93)	162 (90)	0.154	0.342
Life expectancy at start continuous sedation			0.379	0.414 <sup>b</sup>
- less than a day	14 (4)	8 (4)		
- between 1-2 days	116 (32)	55 (30)		
- between 3-6 days	139 (38)	75 (41)		
- between 1-2 weeks	84 (23)	26 (14)		
- between 2-4 weeks	9 (3)	8 (4)		
- more than a month	1 (0)	10 (6)		

\* Percentages shown with regard to severe prevalence (4 and 5 on Likert scale)

<sup>a</sup> Values corrected for experience and setting using logistic regression <sup>b</sup> corrected using linear regression



Table 2 - [Continuation]

	Physicians (N=231) No. (%)	Nurses (N=83) No. (%)	P-value	P-value (corrected) <sup>a</sup>
Main indication for continuous sedation*				
- dyspnoea	57 (25)	26 (31)	0.280	0.916
- pain	38 (16)	28 (31)	<b>0.004</b>	<b>0.015</b>
- physical exhaustion	35 (15)	5 (6)	<b>0.029</b>	0.117
- delirium	25 (11)	4 (5)	0.097	0.148
- nausea/vomiting	18 (8)	2 (2)	0.079	0.293
- existential suffering	17 (7)	3 (4)	0.218	0.756
- motoric discomfort	7 (3)	7 (8)	<b>0.045</b>	0.090
- anxiety	7 (3)	4 (5)	0.467	0.805
- psychological exhaustion	6 (3)	2 (2)	0.907	0.313
- bleeding	4 (2)	0 (0)	0.223	0.997
- cachexia	2 (1)	1 (1)	0.798	0.879
- depression	1 (0)	0 (0)	0.544	0.997
- other	14 (6)	1 (2)	0.185	0.027

\* numbers and percentages shown for respondents mentioning only one indication

<sup>a</sup> Values corrected for experience and setting using logistic regression

Table 3. Decision-making about continuous sedation

	Physicians (N=370) No. (%)	Nurses (N=185) No. (%)	P-value	P-value (corrected) <sup>a</sup>
Who brought up the possibility of continuous sedation first?				
- patient	46 (14)	33 (24)	<b>0.010</b>	<b>0.005</b>
- relatives	16 (5)	11 (8)	0.200	0.792
- physicians	249 (78)	63 (47)	<b>&lt;0.001</b>	<b>&lt;0.001</b>
- nurses	7 (2)	28 (21)	<b>&lt;0.001</b>	<b>&lt;0.001</b>
Patient was competent during decision-making			0.193	
- yes	258 (70)	125 (72)		
- partly	58 (16)	33 (19)		
- no	53 (14)	16 (9)		
Decision for continuous sedation discussed with patient			0.050	
- yes, patient was informed	71 (20)	19 (11)		
- yes, patient was involved	242 (66)	127 (76)		
- no	51 (14)	22 (13)		
Decision for continuous sedation discussed with relatives			<b>0.009</b>	
- relatives were informed	68 (19)	17 (10)		
- relatives were involved	296 (81)	160 (90)		
- no	0 (0)	1 (1)		
Respondents experienced pressure during decision-making process				
- from patient	23 (6)	2 (1)	<b>0.004</b>	0.069
- from relatives	30 (8)	4 (2)	<b>0.007</b>	0.072
- from physicians	2 (1)	1 (1)	0.989	0.964
- from nurses	5 (2)	1 (1)	0.393	0.194
- no pressure	317 (86)	177 (97)	<b>&lt;0.001</b>	<b>0.001</b>
<i>Consultation of palliative care team before the start of continuous sedation</i>	81 (22)	38 (21)	0.295	<b>0.001</b>
Intention of the use of continuous sedation			<b>0.002</b>	
- no intention of hastening death	312 (85)	131 (72)		
- partly with intention of hastening death	50 (14)	35 (19)		
- explicit intention of hastening death	4 (1)	9 (5)		
Who was present at the start continuous sedation?				
- one or more physicians	299 (82)	124 (68)	<b>&lt;0.001</b>	<b>&lt;0.001</b>
- one or more nurses	344 (94)	171 (94)	0.988	0.891
- relatives	284 (78)	100 (55)	<b>&lt;0.001</b>	<b>&lt;0.001</b>

<sup>a</sup> Values corrected for experience and setting using logistic regression

### 2.3.4 Perceptions about the course and the effects of continuous sedation

The median duration of continuous sedation in physicians' cases was 48 hrs and in nurses' cases 50 hrs (**table 4**). Symptoms were perceived to be adequately relieved in 90%-95% and relatives were satisfied about the course of continuous sedation in 86%-93% of the cases. In the majority of the cases, it was estimated that there was no shortening of life (36%-41%). Estimated shortening of life was less than one day in 5%-10% and between one and two days in 14%-15% of the cases. In a minority of the cases, life was estimated to have been shortened by more than one week (3%-7%). The patient's quality of dying under continuous sedation was in the majority of cases perceived to be excellent or good (74%-83%) and in 5%-7% to be (very) poor.

Table 4. Perceptions about the course and the effects of continuous sedation

	Physicians (N=370) No. (%)	Nurses (N=185) No. (%)	P-value	P-value (corrected) <sup>a</sup>
Duration of sedation (hours)*	48 (24-72)	50 (24-96)	<b>0.020</b>	
Symptoms were adequately relieved				
- yes	340 (95)	162 (90)	0.517	0.356
- no	11 (3)	8 (4)		
- don't know	6 (2)	10 (6)	<b>0.012</b>	<b>0.001</b>
Relatives were satisfied about the course of continuous sedation				
- yes	343 (93)	156 (86)	0.436	0.328
- no	20 (5)	13 (7)		
- don't know	4 (1)	12 (7)	<b>&lt;0.001</b>	<b>0.001</b>
Estimated shortening of life <sup>b</sup>				
- no shortening	148 (41)	66 (36)		
- less than a day	38 (10)	9 (5)		
- between 1-2 days	54 (15)	25 (14)	0.184	
- between 3-6 days	31 (9)	10 (6)		
- between 1-2 weeks	23 (6)	5 (3)		
- between 2-4 weeks	5 (1)	0 (0)	0.372	
- don't know	64 (18)	65 (36)	<b>&lt;0.001</b>	
Quality of dying*	2 (1-2)	2 (2-3)	<b>0.033</b>	0.088 <sup>c</sup>
- excellent	95 (26)	36 (21)		
- good	204 (57)	90 (53)		
- average	47 (13)	31 (18)		
- poor	9 (3)	10 (6)		
- very poor	6 (2)	2 (1)		

\* Median (IQR); <sup>a</sup> Values corrected for experience and setting using logistic regression

<sup>b</sup> tested no shorting of life vs. rest; <sup>c</sup> corrected using linear regression

## 2.4 Discussion

In this Dutch study among physicians and nurses, continuous sedation until death was found to be used for severely suffering patients in the dying phase. Although the decisive indications were in most cases severe physical symptoms, non-physical symptoms also contributed to the clinical picture. In the majority of cases, patients and relatives were involved in the decision-making. In most cases respondents indicated that the patients' symptoms were adequately relieved by the use of sedation, that the relatives were satisfied with the course of sedation and that the quality of dying of the patient was good. Physicians' cases were comparable to nurses' cases with respect to most clinical characteristics, but they differed with respect to decision-making characteristics.

### 2.4.1 *Clinical situation of the patient*

Pain, dyspnoea and delirium are commonly reported symptoms and indications for palliative sedation.<sup>20,21</sup> Our study confirmed this and additionally showed that physical exhaustion can also be a decisive indication, which is in line with fatigue being the most frequently mentioned symptom before the start of the sedation. It is known that fatigue has physical, mental and motivational aspects, that it is a highly prevalent symptom in advanced cancer patients and that it has a large impact on patients' quality of life.<sup>22,23</sup> Fatigue is often difficult to manage, apparently to the extent that it can become refractory to treatment and as such an indication for continuous sedation until death. Another finding of our study was that non physical symptoms like psychological exhaustion and existential suffering were quite often mentioned as an indication for continuous sedation, most often when more than one decisive indication was mentioned. Additionally, longing for death, loss of dignity and hopelessness contributed substantially to the patients' condition before starting sedation. So, not seldom the indication for sedation follows from a clinical picture in which physical symptoms together with non-physical symptoms result in a refractory state.

### 2.4.2 *Physicians' and nurses' experiences with decision-making*

Physicians and nurses had different experiences with respect to the decision-making about continuous sedation. Nurses less often than physicians mentioned that physicians brought up the option of using continuous sedation first; they more often reported that patients and relatives were involved in the decision-making; they less often felt pressure from patients or relatives to use continuous sedation; they more often thought that the physicians' intention for using sedation was to hasten the patient's death and they less often mentioned that a physician was present at the start of the sedation.

How should these differences be interpreted, given the fact that nurses and physicians did not report about *the same* cases? We selected physicians and nurses in the same regions of the Netherlands in the same period. Because in virtually all cases both a physician and a nurse participated in the practice of continuous sedation, it seems reasonable to assume that both groups reported about comparable practices. This is supported by the fact that the patients' characteristics did not differ notably (**table 1**). Furthermore, in our analysis we adjusted for differences in respondents' setting and working experience. Differences between physicians' and nurses' experiences may nevertheless in part be explained by the

fact that they do not report about the same cases, but it is likely that other factors also play a role. It could well be that these differences are related to the different roles that physicians and nurses have in the practice of continuous sedation.

First of all, nurses usually have more continuously daily contacts with the patient and the family. This might explain why nurses more frequently report that they or the patient brought up the possibility of the use of continuous sedation first, and more frequently indicated that the patient and the relatives were actively involved in the decision-making. It might also explain why nurses more often mentioned pain as the most important reason for the start of sedation and why they more frequently reported about patients' feelings of anxiety: during daily care and nursing activities, pain and anxiety might be better recognized. Secondly, differences in decision-making characteristics between physicians and nurses might also refer to their responsibilities. This especially holds for feeling pressure and for the intention with which continuous sedation is provided. In the end, physicians have the final responsibility for the medical decision-making of continuous sedation. Because the experience of refractory symptoms can be very distressing for patients and/or relatives they might feel urged to put pressure on the person who is responsible for the decision-making – the physician - to start with the sedation.<sup>14</sup> This is in line with studies about euthanasia, in which physicians have also been reported to feel subjected to pressure to perform euthanasia.<sup>24</sup> Apparently, at the end of life, patients' and/or relatives' preferences are not always in balance with the decision-making of physicians.

Further, previous studies showed that nurses may worry about the potential use of continuous sedation for accelerating death.<sup>17</sup> Our finding that nurses more often than physicians think that sedation was used with the intention to hasten death are in line with those studies, and may reflect that physicians are not always clear about their intentions when using continuous sedation. This may be reinforced in cases where physicians are not present at the start of sedation and underpins that timely and adequate communication between physicians and nurses is necessary.<sup>15</sup>

#### *2.4.3 Strengths and limitations*

To our knowledge this is the first study describing continuous sedation practices from both the experience of physicians and nurses in different settings. Despite great efforts the response rates were moderate. Still, our response rate is comparable with other studies in this area.<sup>25</sup> Recall bias might also be a problem. However, most respondents reported about a patient who had died less than one year before the questionnaire was filled out. Furthermore, an alternative, prospective design would necessitate a longer study.

#### *2.4.4 Suggestions for future research*

The use of continuous sedation as one of the options of last resort in end of life care should be further studied taking into account the perspectives of patients and relatives. Cross national comparisons could add to the understanding of the practice of continuous sedation. Physicians' feelings of pressure to start with sedation in end-of-life decision-making also deserve further attention in future studies.

## 2.5 Conclusion

Our study shows that although the decisive indications for the use of sedation are in most cases severe physical symptoms, non-physical symptoms quite frequently contribute to the clinical picture. Further, physical exhaustion appears to be an important indication for the use of sedation. The effect of continuous sedation was for the large majority of patients positively evaluated in terms of adequate symptom control, satisfied relatives and a good quality of dying. Physicians' cases were comparable with nurses' cases with respect to clinical characteristics, but they differed with respect to several decision-making characteristics. These differences might be explained by differences in physicians' and nurses' roles in continuous sedation practice and by suboptimal communication. Adequate end-of-life care can benefit from timely and clear communication between physicians and nurses about all relevant aspects of the patients' situation.

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