

Original Article

Relatives and Healthcare Providers' Psychological Adjustment at Continuous Deep Sedation Initiation



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Abstract

Introduction. Deep and continuous sedation addresses the refractory suffering of patients expected to die in the short term. This practice creates a distinctive experience for both healthcare professionals and relatives. The objective of this study was to describe their psychological adjustment after caring for cancer patients for whom deep sedation was implemented.

Methods. APSY-SED is a multicenter, prospective, longitudinal study using mixed methods. This report focuses on quantitative data collected during the initial (T1) phase, at the onset of sedation. Relatives completed questionnaires assessing attachment style (RSQ), anxiety and depression (STAI-S, BDI-II), and satisfaction with end-of-life care (CANHELP). Healthcare professionals completed a job satisfaction questionnaire (Karasek questionnaire).

Results. The sample included 52 relatives and 46 healthcare professionals from five French hospitals. Satisfaction with needs negatively predicted depression ($\beta = -2.68$, $P = 0.007$). Anxiety was predicted by total CanHelp ($\beta = 4.13$, $P = 0.004$), but reduced by satisfaction with involvement ($\beta = -1.84$, $P = 0.035$) and relationship with doctors and nurses ($\beta = -1.77$, $P = 0.008$). ANOVA showed higher satisfaction when sedation was patient-initiated ($P = 0.015$). Among professionals, 19.6% reported job strain; job latitude was high ($M = 76.83$, $SD = 7.57$).

Discussion. These findings underscore the need for targeted emotional support for anxious relatives and highlight the protective role of satisfactory end-of-life care in mitigating depressive symptoms. Clear protocols and communication may help preserve high job satisfaction among healthcare professionals. Further longitudinal and qualitative research is necessary to clarify how these factors evolve over time within continuous deep sedation contexts. J Pain Symptom Manage 2026;71:517–525. © 2025 The Author(s). Published by Elsevier Inc. on behalf of American Academy of Hospice and Palliative Medicine. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>)

Key Words

Deep sedation, emotional adjustment, relatives, healthcare providers, palliative care

Introduction

Continuous deep sedation (CDS) is a medical procedure aimed at alleviating relentless suffering by inducing a state of coma until the patient's natural death occurs.¹ CDS differs from other sedative practices in that it is immediately profound, thus bypassing the

usual principle of proportionality typically applied to the adjustment of sedation depth.² The use of CDS is a subject of considerable debate worldwide, particularly regarding its appropriate role in end-of-life care. While CDS is commonly employed, especially for terminally

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Accepted for publication: 21 December 2025.

ill cancer patients, its frequency varies widely, and there is no universally agreed-upon definition of the practice.³ Although numerous guidelines address CDS, France stands out as the only country that has enacted legislation governing its use. Specifically, the Claeys–Leonetti law, introduced in 2016, grants terminally ill patients who decline life-prolonging treatments the right to receive CDS until they pass away.¹ This practice strongly shapes the experiences of both healthcare professionals (HCPs) and relatives.⁴

Indeed, relatives often express concerns about CDS goals, patient well-being, and their own distress.⁵ Existing studies suggest that most relatives see CDS as facilitating a “good death,” reducing suffering, and allowing preparation and involvement.^{6–8} Yet, concerns remain about possible patient suffering under sedation or CDS hastening death.^{5,6,9} Beyond CDS, bereavement in palliative cancer care is highly stressful,⁶ with relatives at risk for anxiety, depression, and even suicidal ideation.⁷ Outcomes depend on factors such as caregiver burden, perception of death, and satisfaction with care.^{6,8}

Moreover, previous work⁹ has shown that the origin of sedation requests and the degree of relatives’ involvement in decision-making may significantly influence their emotional adjustment. When family members perceive themselves as key actors in initiating or supporting the sedation decision, they may experience an intensified sense of moral responsibility, which can heighten distress. Conversely, when the request is mainly initiated by HCPs, relatives often feel less direct accountability but remain emotionally affected. These findings highlight the importance of considering who initiates the request and how closely relatives are involved in the process. Attachment patterns, also shape bereavement adjustment in cancer caregiving, insecure attachment style being associated with more bereavement complications.^{6,8}

The psychological well-being of HCPs involved in end-of-life care has also gained attention, though few studies have addressed it directly. Some describe sedation as difficult to perform appropriately, with up to one-third of nurses reporting a wish to leave their job due to sedation-related burden.^{10,11} At the same time, others view dying under CDS as a “good way to die”.¹² Occupational stress models such as Karasek’s Job Demand-Control-Support (JDACS)¹³ highlight how high demands, low control, and limited social support (“iso-strain”) can compromise health, increasing risks of depression and other negative outcomes.^{14–17}

Given the gap in the literature concerning this topic and the possible psychological burden faced by both family caregivers and HCPs involved in CDS, we aim to explore the psychological adjustment of both relatives and HCPs in the context of CDS with a particular focus on the interplay between attachment

styles, satisfaction with care, and occupational stress in shaping psychological adjustment and professional well-being.

Methods

Design and Settings

The current study is part of a larger research project (APSY-SED study), which investigates the psychological adjustment across time of relatives and healthcare professionals caring for cancer patients for whom CDS is considered. The APSY-SED study employs a mixed-methods design, combining semistructured interviews with relatives and professionals, as well as psychological adjustment and satisfaction questionnaires. It follows a longitudinal protocol with data collection at three time points: Time 1 (the patient’s death), Time two (three months postdeath for HCPs and six months postdeath for relatives), and Time 3 (only for relatives, thirteen months postdeath). Conducted across ten centers in mainland France, the present study focuses specifically on the quantitative results collected between 2023 and 2025 at Time one. At this stage, the results of both relatives and HCPs are presented together to offer a global snapshot of their psychological state at the time of the patient’s death (between zero- and three-weeks post death) in a context where little is known about their initial adjustment to CDS. The study protocol, however, provides for further detailed and longitudinal analyses of each population separately. For detailed protocol, see Fasse et al.¹⁸

This research received ethical approval (ID-RCB N°:2021A03042-39). This ID-RCB number is delivered by the French National Agency for Medicines and Health Products Safety for all research carried out on human subjects.

Study Sample

The contact details of relatives and HCPs from five French palliative care team involved in the APSY SED main study, were provided to the researcher by the physician in charge of the recruitment inside the unit. The participants were sent an e-mail with an information letter detailing the three times of the study and the first questionnaires (Time one).

Measures and Data Collection

Patients:

HCPs verbally collected cancer patients’ reasons and meanings regarding their wish for CDS. Additionally, they assessed any potential wish for hasten death. Medical and sociodemographic data were extracted from medical records, including demographic characteristics, cancer diagnosis and localization, presence of advanced directives and a trusted support person and

palliative care interventions (hospital and/or home care). Additionally, the origin of the sedation request (patient, medical team, or both) was recorded. CDS may be initiated by the patient, suggested by the medical team, or brought up by both parties. CDS was defined as the continuous use of sedatives to suspend consciousness until natural death occurs in accordance of Cleays-Leonetti Law. No identifying information was collected.

Relatives:

At T1, sociodemographic information was also collected, including demographic characteristics, relationships with the patient (spouse, child, parent, sibling, etc.), education level, employment status, and mental health history.

Psychological covariates of adjustment were assessed through validated self-report questionnaires: Attachment was assessed using the Relationship Scales Questionnaire (RSQ¹⁹) which includes 30 items rated on a 5-point Likert scale. The results provide a score for each of the three dimensions: security, anxiety, and avoidance. This scale was validated in French and shows good psychometric qualities. Cronbach's alpha coefficients indicate moderate internal consistency ($0.60 < \alpha < 0.69$).

Anxiety was evaluated using the State Anxiety Inventory (STAI²⁰) that consists of two 20-item subscales measuring state anxiety on a four-point Likert scale. Scores range from 20 to 80, with higher scores indicating greater anxiety. A score higher than 56 is considered a high level of anxiety. The French validation reported a Cronbach's alpha of 0.90, indicating excellent internal consistency.²¹

The French version of Beck Depression Inventory-II (BDI-II²²) was used to assess the intensity of depressive symptoms. This scale comprises 21 items scored from zero to three, assessing depressive symptoms over the past two weeks. A total score of 0–11 indicates minimal/no depression, 12–19 mild depression, 20–27 moderate depression, and 28–63 severe depression. A meta-analysis of the BDI's internal consistency estimates yielded a mean coefficient alpha 0.81 for nonpsychiatric subjects.

Then, Satisfaction with palliative and end-of-life care was evaluated (CANHELP²³). The 40-item validated French version of CANHELP assessed satisfaction with care from the perspective of family caregivers. It provides an overall satisfaction score and five domain-specific scores: communication and decision-making, illness management, doctors and nurses' characteristics, relatives' involvement, and relationships with physicians. This questionnaire is a valid and internally consistent instrument to measure satisfaction with end-of-life care, each subscale had acceptable to excellent internal consistency (Cronbach's alpha ranged from 0.69 to 0.94).²³

Healthcare Professionals

At T1, several demographic and employment-related variables were assessed as potential covariates and predictors of psychological adjustment, including age, sex, years of professional experience, experience within the hospital and in the current position, qualifications in oncology/palliative care.

Professional Stress and Experience were assessed using the French version of the Job Content Questionnaire (JCQ¹³): This 26-item self-report questionnaire evaluates three dimensions of occupational stress: the psychological demand ("job demand"); the decisional latitude ("job control"), which refers to autonomy and opportunities for creativity; and social support, encompassing support from colleagues and supervisors. Items were rated on a four-point Likert scale (one = strongly disagree, four = strongly agree). The French reference thresholds were used to define job strain (demand score >20, control score <71) and isostrain (job strain combined with social support score <24;^{24,25}). In the French version, internal consistency ranged from $\alpha = 0.73$ to $\alpha = 0.81$, indicating satisfactory reliability across scales.

Job Satisfaction was assessed using a single-item measure from Aiken et al.,²⁶ ranging from one (very unsatisfied) to four (very satisfied). This measure has been previously validated in studies on healthcare professionals²⁷ and in French.²⁸

All questionnaires were available in paper format or through a secure online platform, based on participant preference.

Statistical Analysis

All statistical analyses were conducted using JASP software (0.19.1). First, descriptive analyses were performed to characterize the distributions of the variables in both relatives and healthcare professionals. Normality of the data distribution was assessed using the Shapiro-Wilk test before the selection of appropriate statistical tests. Bivariate correlations among psychological adjustment measures (BDI, STAI), attachment dimensions (RSQ), and satisfaction with care (CanHelp) were examined using Spearman's rank correlation. Only variables showing significant correlations were included in subsequent regression analyses. A series of simple linear regressions were conducted to examine the predictive value of attachment characteristics, satisfaction with care, and sociodemographic variables on psychological distress (BDI, STAI). Multicollinearity among predictors was checked and found acceptable. Differences in satisfaction with care were examined based on the origin of the CDS request (Patient, Medical Team, Mixed) using a one-way ANOVA, followed by Tukey's HSD post hoc tests. Post hoc power analyses were conducted using G*Power, yielding a power of 0.84 for the simple linear regression with a slope effect size of 0.35 and a power of 0.80 for the one-way ANOVA with 3 groups and a large effect size ($f = 0.4$), indicating

that the sample size was sufficient to detect the expected effects. To account for the potential nonindependence of observations arising from multiple relatives of the same patient, we conducted a sensitivity analysis using cluster-robust standard errors at the family level. This approach adjusts the standard errors for intrafamily correlation while leaving the estimated regression coefficients unchanged. All main results were consistent with the original analyses, indicating that the dependence among family members did not bias the findings.

Results

1) Relatives

We recruited 52 participants with a mean age of 50.50 years. Over half of the participants were male and were the adult children of the patient.

The flow of participants inclusion is detailed in Fig. 1

A total of a hundred participants were approached to take part in the study. Of these, the questionnaire was sent to 75 individuals, and 52 participants completed and returned it.

The sample consisted of 52 relatives' participants related to 40 patients. Descriptive statistics were computed for all continuous variables (Table 1). Wish for hastened death was expressed by 71.70% of patients. In all cases, the expression of a desire for hastened death resolved after CDS was proposed. The mean depression score (BDI) was 12.52 (SD = 7.37), indicating minimal depressive symptoms; and the mean anxiety score (STAI) was 52.56 (SD = 2.89), indicating moderate anxiety symptoms. Regarding attachment styles, participants reported mean scores of 3.19 (SD = 0.72) for Avoidant RSQ, 2.77 (SD = 0.81) for Anxious RSQ, and 3.27 (SD = 0.63) for Secure RSQ.

Additionally, satisfaction with care (CanHelp) showed variability across subscales. The total CanHelp score averaged 3.84 (SD = 1.01), with the highest mean scores observed in the "Doctor and Nurse Relationship" domain ($M = 4.12$, $SD = 1.13$) and the lowest in "Needs" ($M = 3.45$, $SD = 1.03$) (table 1)

All variables showed non-normal distribution.

Bivariate Correlations

Spearman's rank correlations were computed to examine relationships between psychological adjustment (BDI, STAI), attachment dimensions, and satisfaction with care Table 2.^{3,4,5,6}

Table 1
Relatives and Patients' Sociodemographic

Relatives (n = 52)	
Relatives' gender	
Male	53.8% (n = 26)
Relatives' age (years), mean (SD)	50.5 (14.7)
Relatives marital status	
In a relationship (married or dating)	65.4 (n = 34)
Not in a relationship (single or divorced)	23.1 (n = 12)
Widowed	11.5 (n = 6)
Relationship with the deceased	
Adult children	51.2% (n = 31)
Spouses	19.2% (n = 11)
Siblings	9.6% (n = 5)
Parent of an adult child	5.8% (n = 3)
Other family member	3.8% (n = 2)
Center of inclusion	
Hospital 1	76.9% (n = 40)
Hospital 2	5.8% (=3)
Hospital 3	13.5% (n = 7)
Hospital 4	1.9% (n = 1)
Hospital 5	1.9% (n = 1)
Patients (n = 40)	
Patient age (mean)	65.6 years
Patients' cancer type	
Lung cancer	22.5% (n = 9)
Digestive cancer	20.0% (n = 8)
Gynecological cancer	20.0% (n = 8)
Head and neck cancer	10.0% (n = 4)
Breast cancer	9.8% (n = 5)
Soft tissue cancer	7.5% (n = 3)
Blood cancer	5.0% (n = 2)
Glioblastoma	2.5% (n = 1)
Kidney cancer	5.0% (n = 2)
Mesothelioma cancer	2.5% (n = 1)
Lengths of sedation in days (mean, SD)	2.0 (2.3)
Patient gender	
Male	54.9% (n = 22)
Origin from sedation request	
Patient	44.2% (n = 18)
Team & patient	14% (n = 6)
Team	41.9% (n = 17)
Wish for hasten death	
No	71.7% (n = 20)
Ceased after CDS was proposed	100% (n = 40)

Table 2
Psychological Adjustment, Attachment Style and Satisfaction Scores

Variable	MEAN (SD)	n
BDI score	12.52 (7.37)	52
STAI score	52.56 (2.89)	52
Avoidance RSQ	3.19 (0.72)	52
Anxiety RSQ	2.77 (0.81)	52
Security RSQ	3.27 (0.63)	52
CanHelp Total	3.84 (1.01)	51
CanHelp communication & decision making	3.94 (1.14)	51
CanHelp illness management	3.92 (1.05)	51
CanHelp doctor & nurse relationship	4.12 (1.13)	51
CanHelp involvement	3.96 (1.08)	51
CanHelp needs	3.45 (1.03)	51
CanHelp relation with doctors	3.71 (1.17)	51

sd = standard deviation.

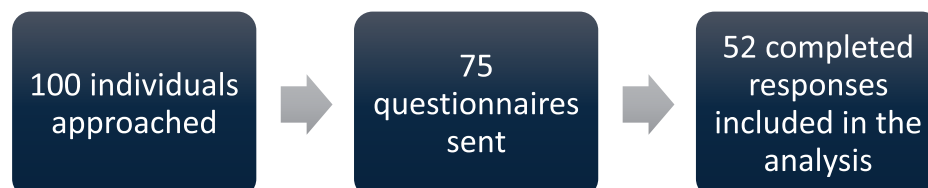


Fig. 1. Participants flow diagram.

Table 3
Simple Regression Predicting BDI Score From CANHELP Need Subscale

Predictor	β	t	P
Canhelp_needs	-2.687	-2.808	.007**

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4
Multiple Regression Predicting State Anxiety (STAI-S) From CANHELP Variables

Predictors	β	t	p
Canhelp score	4.136	3.061	0.004**
Canhelp com and decision making	0.214	0.309	0.759
Canhelp illness management	-1.198	-1.213	0.232
Canhelp doc and nurses	0.074	0.116	0.908
Canhelp involvement	-1.842	-2.175	0.035*
Canhelp needs	0.011	0.021	0.984
Canhelp relation with doc	-1.771	-2.761	0.008**

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5
HCPs Sociodemographics

HCPs	(n = 46)
Age (mean, sd)	35,7 (11,1)
Gender	
Female	71,7%
Professional roles	
Nurses	45,7%
Physicians	28,3%
Nurses' assistant	17,4%
Medical residents	4,3%
Medical students	2,2%
Nursing students	2,2%
Unit of affiliation	
Palliative care unit	89,1%
Head and neck Unit	4,3%
Hematology	2,2%
Medico-surgical exploration unit	2,2%
Nursing float team	2,2%
Experience in end-of-life care in years (mean, sd)	6,2 (6,5)

Table 6
Karasek Questionnaire Scores and Job Satisfaction

	Job Latitude	Job Demand	Job Support	Job Satisfaction
N	46	46	46	46
Mean	76.83	24.35	26.52	3.35
Standard deviation	7.57	4.40	3.53	0.48
Minimum	60.00	15.00	17.00	3.00
Maximum	92.00	36.00	32.00	4.00

We found no association between sociodemographic and psychological adjustment variables.

A significant positive correlation was found between the avoidant dimension of RSQ and the anxious dimension ($r = 0.423$, $P = 0.002$). The RSQ secure score was positively correlated with the "Communication and

Decision-Making" dimension of CanHelp ($r = 0.296$, $P = 0.035$).

The total CanHelp score was strongly associated with its multiple subdimensions, including "Illness Management" ($r = 0.814$, $P < 0.001$), "Doctor and Nurse Relationship" ($r = 0.596$, $P < 0.001$), and "Involvement" ($r = 0.792$, $P < 0.001$). Higher satisfaction with care ("Needs" dimension) was negatively associated with distress levels, as indicated by a negative correlation with BDI ($r = -0.434$, $P = 0.001$) ([Supplemental Material 1](#)).

Linear Regressions

A series of linear regression analyses were conducted to assess the predictive value of attachment characteristics (RSQ), satisfaction with care (CanHelp), and sociodemographic variables on psychological distress (BDI, STAI).

The regression model predicting BDI scores from CANHELP-needs scores was significant, $F(1, 50) = 7.885$, $P = 0.007$, and accounted for 13,90% of the variance in depression scores.

The CanHelp "needs" score was negatively associated with BDI ($\beta = -2.68$, $t(50) = -2.808$, $P = 0.007$), suggesting that higher satisfaction with care was linked to lower depressive symptoms.

A multiple regression analysis was conducted to predict state anxiety from CANHELP scores. The overall model was significant, $F(6, 47) = 2.305$, $P = 0.043$, and accounted for 27.30% of the variance in anxiety scores ($R^2 = 0.273$).

The total CanHelp score was positively associated with STAI ($\beta = 4.13$, $t(50) = 3.06$, $P = 0.004$), suggesting that higher satisfaction with end-of-life care was linked to higher reported anxiety levels. The "Involvement" subscale was negatively associated with STAI ($\beta = -1.84$, $t(50) = -2.175$, $P = 0.035$), meaning that higher satisfaction with involvement in end-of-life care was associated to lower anxiety levels. The "relationship with doctors and nurses" subscale was also negatively associated with STAI ($\beta = -1.77$, $t(50) = -2.76$, $P = 0.008$).

Group Comparisons (ANOVA)

A one-way ANOVA was conducted to examine differences in satisfaction with care based on the origin of the sedation request (Patient, Medical Team, Mixed). There was a significant effect of request origin on the total CanHelp score ($F(2, 48) = 4.21$, $P = 0.020$, $\eta^2 = 0.15$). Post hoc comparisons using Tukey's HSD revealed that satisfaction scores were higher in the "Patient" group compared to the "Medical Team" group ($P = 0.015$), but no significant differences were observed between the "Mixed" and other groups.

1) HCPs

All 46 professionals contacted agreed to participate, with an average age of 35.67 years ($SD = 11.14$), ranging from 19 to 61 years. The sex distribution consisted of 33 females and 13 males. The professional roles represented in the sample included nurses ($n = 21$), physicians

($n = 13$), nursing assistants ($n = 8$), medical residents ($n = 2$), medical students ($n = 1$), and nursing students ($n = 1$).

Participants were affiliated with various hospital units, including the palliative care unit ($n = 41$), hematology ($n = 1$), nursing float team ($n = 1$), head and neck unit ($n = 2$), and the medicosurgical exploration unit ($n = 1$).

Concerning experience in end-of-life care, the mean number of years of experience was 6.24 years ($SD = 6.52$), ranging from 0 to 30 years.

The results indicate that job latitude had a mean score of 76.83 ($SD = 7.57$). The minimum observed score was 60, while the maximum was 92. Job demand showed a mean of 24.35 ($SD = 4.40$), with scores ranging from 15 to 36. Similarly, job support had a mean score of 26.52 ($SD = 3.53$), with values spanning from 17 to 32. Finally, job satisfaction demonstrated a mean score of 3.35 with a standard deviation of 0.48, with observed scores varying between 3 and 4.

Additionally, job strain was analyzed as a categorical variable. Among the participants, nine individuals reported job strain (19.56%).

Discussion

Summary of Main Findings

This study explored the psychological adjustment of relatives and HCPs in the context of cancer patients receiving CDS in palliative care setting. Relatives reported minimal depression but high anxiety. They expressed overall satisfaction with care, especially regarding relationships with physicians and nurses, but were less satisfied with how their own needs were addressed. Higher satisfaction with needs was linked to lower depressive symptoms, while higher satisfaction with care and physician support was paradoxically associated with greater anxiety. Relatives also reported higher satisfaction when CDS was initiated by patients. Among HCPs, most reported high job satisfaction and low job strain.

Interpretation of Findings: Relatives

Our findings align with existing literature on end-of-life experiences. As previously documented, the loss of a loved one in the context of palliative cancer care is a profoundly stressful event, with heightened risks of anxiety and depression among bereaved caregivers.^{7,29} However, our findings suggest an absence or low level of depressive affects, which could be explained by some specificities of the situation. Indeed, in the cancer and sedation context, most relatives are considered as “carers”. And yet, the literature identifies various facilitators of the end-of-life experience for adult caregivers, such as having prepared for death, perceiving sufficient quality support during the end-of-life period

and after death, and having had access to palliative care during the loved one’s end-of-life.^{30–32} Moreover, the death of the ill loved one can also represent the end of the sense of burden associated with caregiving.

Sedation allows relatives to be present at the time of death, which was associated with positives feelings, indeed, although this experience is extremely difficult, former caregivers can express that they valued being present at the moment of death.³¹ Hence, in this context, grief can trigger an opposite and multifaceted response of relief.³¹

Our results also suggest that satisfaction with end-of-life care plays a significant role in shaping bereavement outcomes. Higher satisfaction with how patient needs were addressed was associated with lower depressive symptoms, reinforcing prior research indicating that perceptions of care quality influence emotional adjustment.³³ Indeed, qualitative studies show that in this context relatives are expressing satisfaction with end of life care as CDS adequate symptom relief which is a key to the experience of a “good” death.³⁴ Many relatives evaluated the provision of palliative sedation positively because the patient’s suffering is finally alleviated.³⁴

However, our results suggest that higher satisfaction with care and physician support may be associated with increased anxiety among bereaved family caregivers. One possible explanation is that those who were more involved in the patient’s care and decision-making process experienced greater psychological distress. Prior research has shown that in a large French study, half of the family members preferred not to participate in shared decision-making, and those who did were more likely to develop post-traumatic stress, anxiety, and depression than their less-involved counterparts. It is possible that caregivers who were more engaged in decision-making felt a stronger connection with the medical team, leading to higher satisfaction with physician support.³⁵ However, their increased involvement may have also exposed them to heightened emotional strain, uncertainty, and difficult medical decisions, contributing to greater anxiety. Another possible explanation for the observed association between satisfaction with physician support and higher anxiety among bereaved caregivers would be that individuals with high anxiety levels tend to experience an increased need for reassurance in interpersonal relationships.³⁶ It is plausible that caregivers with higher anxiety sought more frequent support and reassurance from HCPs, leading to greater satisfaction with the medical team.

Additionally, our results highlight that when the sedation request originated from the patient, relatives reported higher satisfaction with end-of-life care. This aligns with previous research emphasizing the importance of caregiver burden and perception of the patient’s death in bereavement adjustment.³³ Indeed, being closely involved in such a decision can have a

profound emotional impact, as it engages their sense of moral responsibility.⁹ It suggests that when patients take an active role in decision-making, it may alleviate some of the uncertainty and emotional strain experienced by their relatives.

Interpretation of Findings: Healthcare Professionals

The present study suggests that healthcare professionals report high job satisfaction and experience little job strain. One possible explanation is that continuous sedation is perceived as a means of providing high-quality care, allowing HCPs to effectively alleviate patient suffering, which may in turn reduce their emotional burden.³⁷ While previous research has highlighted that sedation can sometimes be experienced as a heavy burden for HCPs,³⁸ our findings may differ because our assessment of job satisfaction encompasses overall professional experience rather than focusing solely on sedation practices. Furthermore, CDS represents only one aspect of palliative care, and these professionals engage in a variety of other tasks that contribute to their overall job satisfaction. Additionally, findings from a qualitative study³⁹ indicate that strong team dynamics and effective collaboration play a key role in helping professionals manage the complexities of CDS, further mitigating potential job strain.

Limitations and Perspectives

Despite its contributions, this study has several limitations. Findings rely on self-reported data from relatives and HCPs, making them vulnerable to social desirability and recall bias. HCPs may also have underreported job strain due to professional norms. Moreover, the measures used did not specifically isolate experiences related to CDS, so reported satisfaction may reflect broader aspects of end-of-life care rather than sedation itself. Participants may also represent particularly engaged professionals or relatives more willing to share positive experiences, potentially biasing results toward a favorable view of care. Lastly, participants from hospital A constitute the majority of the sample, which creates a center effect. The APSY-SED study, which encompasses the present research, is a large longitudinal mixed-methods project designed to address several of this study's limitations. By following healthcare professionals and bereaved families over time, it will clarify the evolution of job satisfaction, job strain, and bereavement outcomes. Its qualitative component will provide deeper insights, helping to clarify various aspects of healthcare professionals' experiences, family perceptions, and the complexities of continuous sedation.

Conclusion

Overall, the present study suggests that CDS, as defined by the Claeys–Leonetti law, does not appear to

generate significant psychological distress for relatives or HCPs. Relatives reported minimal depression but elevated anxiety, influenced by satisfaction with care and by whether the sedation request came from the patient. For HCPs, job satisfaction was high and job strain low, indicating that CDS can be integrated into practice without undue burden.

These findings highlight the importance of clear communication, monitoring relatives' evolving concerns to mitigate adverse outcomes,^{5,40} and supporting both families and professionals throughout the CDS process. Clinical guidelines should emphasize regular check-ins with relatives, clarification of expectations, and proactive staff support to ensure compassionate and effective care.^{41,42}

Ethics Approval and Consent to Participate

This protocol received the ethical approval of the ethical board of Gustave Roussy Hospital (CSET 2021/3334) and received ID-RCB N°:2021-A03042-39 on 14/12/2021 [<https://www.health-data-hub.fr/projets/apsy-sed-etudedelajustement-psychologique-dans-le-contexte-de-la-sedation-profonde-et>]. Written informed consent will be collected from all participants.

Consent for Publication

Consent for publication will be obtained from all participants.

Disclosures and Acknowledgments

The authors declare no conflicts of interest. This study is funded by the French National Cancer Institute (INCa SHS 2020) and has undergone peer-review by this funding body. It is also supported by The Faculty "Sociétés et Humanités" of the University Paris Cité.

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Annexes

Supplemental Material 1
Correlations Matrix (Annexe)

Variable	RSQ Anxiety	RSQ Avoidance	RSQ Security	STAI	BDI	Canhelp Total	Canhelp Com & Decision Making	Canhelp Illness Management	Canhelp Doc & Nurses	Canhelp Involvement	Canhelp Needs	Canhelp Relation With Docs
RSQ Anxiety	–											
RSQ Avoidance	0.423 0.002	–										
RSQ Security	0.099 0.483	0.251 0.073	–									
STAI	0.067	–0.025	–0.084	–								
	0.637	0.858	0.552									
BDI	0.059	0.131	–0.098	–0.211	–							
	0.679	0.353	0.491	0.133								
Canhelp Total	0.054	0.013	0.103	0.119	–0.252	–						
	0.705	0.928	0.471	0.896	0.074							
Canhelp Com & Decision Making	0.123	0.097	0.296*	–0.037	–0.171	0.711***						
	0.391	0.496	0.035	0.797	0.229	< 0.001						
Canhelp Illness Management	0.046	0.079	0.043	–0.069	–0.106	0.814***	0.526***	–				
	0.749	0.580	0.762	0.629	0.461	< 0.001	< 0.001					
Canhelp Doc & Nurses	0.101	0.131	0.148	–0.047	–0.212	0.596***	0.477***	0.702***	–			
	0.481	0.361	0.299	0.745	0.134	< 0.001	< 0.001	< 0.001				
Canhelp Involvement	0.189	0.042	0.184	–0.135	–0.173	0.792***	0.683	0.661***	0.578***	–		
	0.184	0.770	0.196	0.344	0.225	< 0.001	< 0.001	< 0.001	< 0.001			
Canhelp Needs	–0.110	–0.180	0.015	–0.128	–0.434**	0.389**	0.302*	0.318*	0.211	0.327*	–	
	0.443	0.206	0.914	0.370	0.001	0.005	0.031	0.023	0.137	0.019		
Canhelp Relation With Docs	0.067	0.094	0.131	–0.195	–0.157	0.728***	0.649***	0.626***	0.566***	0.611***	0.372**	–
	0.642	0.513	0.360	0.170	0.270	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.007	

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.