What's in a name? Belgian "life-ending acts without explicit request" revisited

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ABSTRACT

Background

"Life-ending acts without explicit patient request" (LAWER) as identified in robust international studies are central in current debates on physician-assisted dying. Despite their contentiousness, little attention has been paid to their actual characteristics and to what extent they actually represent non-voluntary termination of life.

Methods

We analyzed the 66 cases of LAWER identified in a large-scale survey of physicians certifying a representative sample of deaths (n=6927) in Flanders, Belgium in 2007. Characteristics studied included physicians' labeling of the act, treatment course and doses used, and patient involvement in the decision.

Results

In the vast majority of cases the physicians (88%) did not label their acts in terms of life ending, but in terms of symptom treatment. Comparison of drug combinations and opioid doses revealed LAWER to be similar to intensified pain and symptom treatment and significantly distinct from euthanasia. In 68% of cases the patient had previously stated a wish for life ending and/or the administered drug doses had not been higher than necessary to relieve suffering.

Interpretation

We conclude that most of the studied cases do not fit the label of "life-ending acts without explicit patient request" or "non-voluntary life ending" in one or more of three respects: 1) a focus on symptom control; 2) a hastened death was highly unlikely; and 3) in accordance with previously expressed patient wishes. Empirical

reality requires us to take these insights to heart in the debate on physician-assisted dying.

INTRODUCTION

Few issues in medical academia are as ethically pertinent and emotionally charged as assisted dying and its legal regulation. Observers worldwide are closely scrutinizing developments in Belgium and the Netherlands, where euthanasia (in legal and scientific terminology defined as lethal drug administration *at the explicit request of the patient*) and assisted suicide have been regulated since 2002, and where, among other research, repeated population-based surveys monitor developments and inform the ongoing debate [1-7]. These surveys report prevalence and characteristics of end-of-life practices, not only euthanasia but a wider array of practices, including so-termed "life-ending acts without explicit patient request" (LAWER). Researchers have so classified cases in which physicians report the administration of drugs with an explicit intention to hasten death, in the absence of a legally valid explicit patient request. By its name, the practice is often understood as physician-initiated non-voluntary or involuntary termination of life, and its mere existence in euthanasia-permissive jurisdictions is seen by some as proving the ineffectiveness of safeguards and control for legal euthanasia [8,9]. If the prevalence of LAWER increased, this would constitute evidence for an empirical "slippery slope", the notion that permitting assistance in dying will inevitably lead to undesirable practices [8-14]. Though LAWER occurs also in non-permissive countries [2,15] and rates in Belgium and the Netherlands have markedly decreased rather than increased since euthanasia regulation [6,7], LAWER remains a contentious issue in the assisted-dying debate.

Remarkably, little attention has been paid to the actual characteristics of LAWER cases. A previous publication in CMAJ comparing euthanasia and LAWER cases in Belgium identified important differences in decision making and drugs used, and raised questions about the nature of LAWER warranting more thorough examination [5]. With several countries including Canada, Australia and the UK now bringing the assisted dying debate to legislative and judicial levels, clarification of LAWER practices is of immediate importance. Our aim is to revisit in detail the 66 cases of LAWER identified in a 2007 representative mail survey of physicians certifying 6927 deaths in Belgium [16], in order to determine to what extent these cases in fact represent non-voluntary termination of life. For this purpose we examined the terms physicians used to denote their acts, the characteristics of drugs and doses used, and the patients' involvement in decision making.

METHOD

Study design

In 2007 we conducted a large-scale death-certificate survey in Flanders, the Dutch-speaking part of Belgium of approximately 6 million inhabitants and 55.000 deaths per year. A stratified sample of all death certificates of June-November 2007 of Belgian residents (aged one year or older) was drawn by the Flemish Agency for Care and Health. Deaths were assigned to one of four strata according to cause of death and the corresponding estimated likelihood of an end-of-life practice. Sampling fractions for strata increased proportionally with this likelihood. The resulting sample comprised 6927 cases, 25% of all deaths in the studied period and

approximately 12% of all deaths in Flanders in 2007. Details of the survey methodology have been described elsewhere [16].

A five-page questionnaire was sent to the physician of each sampled death, along with a letter explaining the study. Response was regarded as implicit consent to participate. If the physician had not responded after three reminders, a one-page questionnaire was sent inquiring about the reasons for non-response. Total anonymity for participating physicians and deceased patients was guaranteed through a rigorous mailing procedure involving a lawyer as intermediary between physicians and researchers. Information from the death certificates on sex, age, place of death and cause of death was encoded by the Agency for Care and Health to preclude any identification of patient or physician. The anonymity procedure was approved by the Ethical Review Boards of the University Hospitals of the Vrije Universiteit Brussel and Ghent University, and we obtained recommendations from the Belgian Medical Disciplinary Board and the Belgian Federal Privacy Commission.

Questionnaire

The questionnaire largely replicated questionnaires extensively validated in previous studies in Belgium and other European countries [1-7]. For the present study it was validated through testing by a panel of physicians. It inquired about end-of-life decisions, defined as medical practices at the end of patients' lives with a possible or certain life-shortening effect. Cases were classified as "life-ending acts without explicit request" (LAWER) if physicians answered affirmatively to the question "Was the death the consequence of the use of drugs prescribed, supplied or administered by you or another physician with the explicit intention of hastening

the end of life or of enabling the patient to end their own life?" and negatively to the question "Was the decision made after an explicit request by the patient?". Additional questions studied in this paper dealt with the drugs and doses used for the practice, characteristics of treatment in the final days, whether the patient had at some point expressed a wish for life to be ended, and the term that best described the act according to the physicians themselves (a list of predetermined options was presented, with an open category 'other'). When evaluating the death-hastening potential of treatments we ascribed a lethal potential to unknown doses of short-acting midazolam, but not of diazepam because of its long and delayed action.

Statistical analysis

Analyses were done with SPSS 22.0 software. The reported numbers and percentages are unweighted. Statistical significance ($p<0.05$) was tested with Chi^2.

RESULTS

Table 1 shows which terms best described the LAWER practice according to reporting physicians. The option "palliative sedation" (68.2%) and "symptom treatment" (19.7%) were selected most often, while "compassionate life ending" was chosen in 6.1% and "euthanasia" never.

Table 2 compares LAWER with euthanasia and intensified alleviation of pain/symptoms (taking into account possible life shortening) with respect to the drugs used and opioid doses administered in the final 24 hours. Significant differences emerge between LAWER and euthanasia: drugs other than opioids were more often used in

euthanasia than in LAWER (60% vs 6.1%, p<0.001), and if opioids had been used in euthanasia, the OME (oral morphine equivalent) dose was generally higher than in LAWER (p=0.043). No significant differences appear between LAWER and intensified alleviation of pain and other symptoms in the combinations of drugs used (p=0.202) or OME doses (p=0.858). In both practices opioids were used in more than 90% of cases.

Table 3 is a summary of a case-by-case analysis of physician-reported medication used for LAWER, as well as patients' involvement in the decision. It shows that 29 of the 66 patients received opioid doses reportedly no higher than necessary to relieve end-of-life symptoms, with or without low-dose benzodiazepines (rows in blue). In another 15 cases, opioids were administered in doses reportedly higher than necessary to relieve symptoms, and 20 of the 66 patients were given strong sedatives. Twenty-three patients had ever explicitly or implicitly stated a wish for life ending (columns in blue). In total, 45 of the 66 patients (68%) had received opioid doses no higher than necessary to control their symptoms and/or had stated a wish for life ending (all blue cells).

INTERPRETATION

Summary of results

A majority of physicians reporting LAWER did not label their acts in terms of life ending, but rather in terms of symptom treatment. Comparison of drug combinations and opioid doses revealed LAWER to be similar to intensified pain and symptom treatment and significantly distinct from euthanasia. Finally, in 68% of cases there had been an implicit or explicit wish from the patient for

life to be ended and/or the administered drug doses had not been higher than necessary to relieve the patient's suffering.

Explanation of the findings

This analysis has identified several characteristics of LAWER that challenge the general perception of the practice. Most cases of LAWER differ from non-voluntary termination of life in three respects.

First, it is clear from the way physicians themselves labeled their acts that their focus was not on life ending or hastening death, but rather on symptom relief and alleviation of terminal suffering. This is corroborated by pharmacology that was similar to conventional pain and symptom treatment that is intensified as death approaches, and quite unlike euthanasia. The starting point and thought process appear fundamentally different from euthanasia. Other studies, including in the Netherlands, have presented similar results and conclusions [17-20].

Second, in a large number of cases actual hastened death is highly improbable, particularly when opioids were used. A growing body of studies report that even high-dose opioids are ineffective at hastening death, especially when doses are proportionate to the severity of the patient's symptoms [21-29], as in this study was stated in many cases by reporting physicians. Even when physicians administered doses that were higher than necessary for symptom control, they still may not have hastened death. Ten of the 21 patients receiving medication in excess of that required for symptom control without a stated wish for hastened death received only opioids. Before euthanasia regulation in Belgium, intended euthanasia was likewise mostly performed with high-dose opioids that

in a case-by-case analysis were found ineffective at ending life [30]. The physicians' estimated degree of life shortening was hours or a few days [5], but in the vast majority of LAWER cases this was likely an overestimation of the effects of the given treatment.

So, if physicians were explicitly intending to cause death, why would they choose minimally effective medications such as opioids? Several explanations are possible for this dissonance between aims and means. First, it may reflect a lack of expertise in the pharmacodynamics of opioids. Second, we must consider physicians' subjective semantic interpretation of "explicit intention". They may have meant "hope"- hope that the patient would pass on quickly and comfortably; an important difference. A similar explanation relates to the survey's retrospective nature: having stated an "intention" to hasten death, physicians may have applied circular logic when post hoc attributing death-hastening consequences to their treatment. Finally, it is possible that some physicians chose to use opioids in order to avoid the scrutiny attached to the use of barbiturates and muscle relaxants.

In any case, when hastened death using opioids was intended, the contradiction between act and intention evokes an ethical divide. From a consequentialist point of view the chosen treatment course entailed no 'ill' effects: comfort was in all likelihood achieved without hastening death, which is standard end-of-life practice and preferable to forgoing effective opioid treatment and patients dying in discomfort. However, from a virtue ethics perspective, in the absence of the patient's request, an explicit intent to hasten death is objectionable. Education of physicians on standards of decision making as well as on evidence-based effects of high-dose opioids, in

terms of life shortening potential, will contribute crucially to achieving both ethically coherent and clinically effective end-of-life practice.

A third and final difference with the common perception of LAWER is that one third of patients had previously, implicitly or explicitly, expressed a wish for life ending to the physician. While this does not equate to a legally valid euthanasia request (which must be written and witnessed), it does suggest that for many LAWER cases the decision was made in accordance with the patient's previous wishes, and was not paternalistic. Such a wish was stated in half of cases where strong sedatives had been used and where therefore hastened death was more likely than in cases treated with opioids. As for the other cases, one may also wish to consider them with due regard to current debates on paternalism [31].

LAWER incidence in Belgium is higher than in other countries [2,15], but it has halved since the legalization of euthanasia. Neither its existence nor its incidence can thus be blamed on decriminalization of euthanasia. The present study suggests the more plausible explanation that Belgian physicians are less reluctant than their international colleagues to state or acknowledge an intention to hasten death, even if their actions are indistinguishable from intensive symptom management. If palliative care involves a physician who intends to relieve symptoms but may unintentionally hasten death (the classic "Double Effect"), while euthanasia involves a physician who unambiguously intends to hasten death, the majority of the here described LAWER cases belong to an intermediate category involving a physician who primarily intends to relieve symptoms while simultaneously hoping or expecting to hasten death.

Previous studies have supported the idea that some physicians acknowledge such a hope or intention [32,33] and this inclination may be culturally determined. This hypothesis needs further scientific evaluation. Another possibility is that misperceptions about opioid pharmacodynamics are more prevalent in Belgium. At any rate, Belgian doctors appear more prone than physicians in other parts of the world to acknowledge accepting hastened death for the sake of serving the patient's comfort and ease of passing.

Strengths and limitations

A strength of this study is the robustness of the data it analyses, obtained with a rigorous methodology that produced a high response rate despite the medico-legal sensitivity of the subject [6,16]. A limitation is that surveys are inevitably reductionist, and cannot fully capture the complexity and diversity of clinical cases and doctor-patient interactions at the end of life. Also, we cannot exclude the possibility of poor recall in physicians' reporting, particularly of drugs and doses. Desirability bias in the source data is possible but unlikely in view of the rigorous anonymity of responses. The data in this study are probably the best that current methodology allows.

Conclusions and recommendations for research, practice and policy

We conclude that, when considering semantic hermeneutics and characteristics such as administered drugs and doses, relying on (post hoc) reported intention has its pitfalls, and important qualifications of so-termed LAWER are necessary. The majority of LAWER cases do not fit the label of "life-ending acts without explicit patient request", "non-voluntary life ending" or

"involuntary life ending" in one or more of three respects: 1) the focus was on symptom control; 2) hastened death was highly unlikely; and 3) the decision was in accordance with the patient's wishes. It has not been our aim here to condone or justify LAWER practices or to diminish their ethical significance, but rather to show that "life-ending acts without explicit patient request" and "non-voluntary life ending" as reported in epidemiological studies can be misleading and overly alarming terms which do not reflect the actual characteristics of the recorded cases. The empirical reality requires us to refine our understanding and to take these insights into account in the highly contentious and volatile debate on physician-assisted dying. Given the prominent weight assigned to LAWER, oversimplification is tempting but detrimental to the quality of the debate.

To better understand the wishes of patients regarding assisted death and the responses of physicians to these wishes, we propose complementary research, eg as part of prospective studies on advance care planning. To explore the considerations and motivations of all parties, and to better distinguish LAWER from uncontroversial practices, in-depth interviews with physicians, nurses, patients and relatives are worthwhile [17]. Cross-national vignette studies on end-of-life practices should help establish whether clinical situations and end-of-life treatments are interpreted or labeled differently across countries and medical cultures.

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Table 1 – Term used for LAWER cases by physicians (n=66)

	% (n)
symptom treatment	19.7 (13)
palliative sedation	68.2 (45)
compassionate life ending	6.1 (4)
euthanasia	0.0 (0)
other	6.1 (4)

Table 2 – Comparison of drugs and doses used

	Intensified alleviation of pain and other symptoms n=1249	LAWER n=66	Euthanasia/ assisted suicide n=142
Drugs used	(n=1199)	(n=65)	(n=139)
Opioids	94.9	93.9	40.0
as only drug	*58.6*	*44.6*	*15.7*
with only benzodiazepines	*23.7*	*26.2*	*14.3*
with only other drugs	*6.5*	*12.3*	*2.1*
with benzodiazepines and other drugs	*6.2*	*10.8*	*7.9*
No opioids	5.1	6.1	60.0
Chi² p-value	.202		**<.001**
Reported OME opioid doses used in last 24h	(n=821)	(n=37)	(n=44)
1-119 mg	37.8	37.8	13.6
120-239 mg	32.5	27.0	22.7
240-479 mg	21.8	27.0	47.7
480+ mg	8.3	8.1	15.9
Chi² p-value	.858		**.043**

* OME=Oral Morphine Equivalent. Conversion rates were obtained from handbooks and review publications with equianalgesic tables: Knotkova H, Fine PG, Portenoy RK. Opioid rotation: the science and the limitations of the equianalgesic dose table. J Pain Symptom Manage 2009, 38(3):426-439; de Graeff A, Hesselman GM, Krol RJA, et al, eds. [Palliative care. Guidelines for practice]. Utrecht: VIKC, 2006 [in Dutch]. Pereira J, Lawlor P, Vigano A, Dorgan M, Bruera E. Equianalgesic dose ratios for opioids: a critical review and proposals for long-term dosing. J Pain Symptom Manage 2001, 22(2):672-687. Hanks GWC, Cherny NI. Opioid analgesic therapy. In: Doyle D, Hanks GWC, MacDonald N, eds. The Oxford textbook of palliative medicine. Oxford: Oxford University Press, 1998 (2nd edition); 331-355.
Missing OME doses: Euthanasia 12/56 (21.4%); LAWER 24/61 (39.3%); Intensified alleviation of pain and other symptoms 318/1139 (27.9%).

Table 3 – Classification of LAWER cases according to drugs and doses and stated wish for life ending*

		Stated wish to end life		No stated wish to end life		
		explicit	implicit	patient incapable	patient capable	
Opioid dose no higher than necessary for Sx control +/- low-dose benzodiazepines	stable opioid dose over final 3 days	1	1	7	2	**11**
	gradual increase in opioids over final 3 days	1	2	8	2	**13**
	strong increase in opioids on final day	2		3		**5**
Opioid doses or sedatives not normally used as part of mainstream palliative care	opioid doses exceeding symptom requirements but either stable or gradually increasing +/- low-dose benzodiazepines			3	1	**4**
	opioid doses exceeding symptom requirements and strongly rising on last day +/- low-dose benzodiazepines	3	2	6		**11**
	strong sedatives (barbiturates, propofol, high-dose benzodiazepines)	3	7	9	1	**20**
Unspecified doses of opioid and/or benzodiazepines			1	1		**2**
		10	**13**	**37**	**6**	66

* Reported by the physicians themselves: drugs, doses, opioid course in final 3 days, and whether opioid doses were higher than necessary to relieve symptoms.
Judgments of low-dose vs high-dose benzodiazepines were made by the authors:
Low-dose benzodiazepines: Lorazepam <= 2.5mg; Diazepam <=20mg or no dose indicated; Midazolam <=2mg
High-dose benzodiazepines: Lorazepam >2.5mg; Midazolam >2mg or no dose indicated.