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Knowledge, attitudes, and perceptions of euthanasia among physicians in Ecuador: a concurrent mixed-methods study

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Abstract

Background

Ecuador decriminalized euthanasia in 2024 and subsequently established a regulatory framework for its practice. This study assessed physicians' knowledge and attitudes toward euthanasia and explored how they understand and evaluate the practice within this new regulatory context.

Methods

We conducted a concurrent mixed-methods study comprising an online cross-sectional survey of 126 physicians and semi-structured interviews with 11 purposively selected participants. Knowledge was assessed using 10 questions based on Regulation 59/2024, and attitudes using the Euthanasia Attitude Scale (EAS). Qualitative data were analyzed using a hybrid deductive–inductive thematic approach, and findings were integrated during interpretation.

Results

Median knowledge was 5/10 (IQR 3–6), with 24.6% meeting the criterion for adequate knowledge. Previous training was associated with higher knowledge scores ($p < 0.001$). The mean EAS score was 71.33 ± 14.67; 55.6% of physicians had neutral, 24.6% unfavorable, and 19.8% favorable attitudes. EAS scores were higher among male and non-Catholic physicians in bivariate analyses. Qualitative findings showed that physicians' positions were context-dependent rather than simply favorable or unfavorable. Their evaluations were shaped by suffering and irreversibility, autonomy and family relationships, personal and professional values, conscientious objection, access to palliative and comprehensive end-of-life care, and healthcare-system conditions.

Conclusions

Physicians included in this study showed limited knowledge of Ecuador's recently established euthanasia framework, while their attitudes reflected substantial ethical and contextual complexity. The findings highlight the need for informed professional and societal deliberation, legal, ethical, and clinical preparation, and access to comprehensive end-of-life care to support informed and meaningful decision-making.

Clinical trial number

not applicable.

Background

The debate on euthanasia in Ecuador gained national prominence through the case of Paola Roldán, a woman with amyotrophic lateral sclerosis who challenged the constitutionality of Article 144 of the Ecuadorian Criminal Code [1]. In February 2024, the Constitutional Court ruled that physicians should not be held criminally liable for performing euthanasia under specific circumstances involving severe and incurable disease or serious and irreversible bodily injury associated with intense suffering, provided that the decision results from a free and informed request [2]. The ruling decriminalized euthanasia under these circumstances rather than establishing it through legislation, making Ecuador the second Latin American country, after Colombia, to decriminalize the practice [3].

Following the ruling, the Ministry of Public Health issued Regulation 59/2024, establishing procedures for voluntary active euthanasia and avoluntary euthanasia (euthanasia based on advance directives), pending the enactment of specific legislation [4]. According to the Constitutional Court, 12 euthanasia requests were processed between 2024 and 2025, of which five were not approved [5]. To date, two euthanasia procedures have been publicly reported as having been carried out in Ecuador [6].

This new context poses important clinical and ethical challenges for physicians [2]. Knowledge of legal and procedural requirements, professional preparedness, personal and religious beliefs, and perceptions of suffering and autonomy may influence how physicians approach euthanasia [7]. These considerations are particularly relevant in a healthcare system where access to palliative care and other services for relieving suffering may be inequitable [8–10].

Physicians may be required to distinguish euthanasia from other end-of-life practices, assess suffering and decision-making capacity, understand eligibility criteria and safeguards, communicate available alternatives, and reconcile patients' choices with their own professional and moral responsibilities [11, 12]. International evidence also shows considerable variation in physicians' attitudes toward euthanasia and assisted dying, suggesting that these positions are shaped not only by individual characteristics but also by clinical experience, religious and cultural values, legal frameworks, and the context in which end-of-life care is provided [13, 14].

These issues are particularly relevant in Ecuador, where the regulatory change is recent and where decisions about euthanasia occur within the broader conditions of the healthcare system, including access to palliative and comprehensive end-of-life care [10]. The availability of alternatives for alleviating suffering is ethically relevant because it may influence the conditions under which patients make end-of-life decisions. At the same time, physicians must navigate questions concerning autonomy, vulnerability, conscientious objection, professional responsibility, and their role in responding to requests for euthanasia.

Empirical evidence on Ecuadorian physicians' knowledge and attitudes toward euthanasia following its decriminalization and regulation remains limited. Moreover, quantitative measures of knowledge and attitudes alone may not capture the clinical, ethical, relational, and structural considerations underlying

physicians' positions. Therefore, this study aimed to assess physicians' knowledge and attitudes toward euthanasia and explore how they understand and evaluate euthanasia following its decriminalization and subsequent regulation in Ecuador, using a concurrent mixed-methods design.

Methods

Study design

We conducted a concurrent mixed-methods study combining a cross-sectional quantitative component assessing physicians' knowledge and attitudes toward euthanasia with an exploratory qualitative component examining the clinical, ethical, relational, and contextual considerations underlying their perspectives. Both components were conducted in parallel and integrated during interpretation.

Study population and recruitment

The quantitative component included 126 physicians recruited through non-probability convenience sampling between June and December 2025. Eligible participants were physicians aged ≥ 18 years, currently practicing in Ecuador, with at least one year of professional experience, who provided informed consent. The anonymous online survey was administered through Google Forms and disseminated through professional networks, medical societies, postgraduate programs, and direct professional contacts to reach physicians from different specialties and healthcare settings. Participation was voluntary. The questionnaire collected information on sociodemographic and professional characteristics, previous training on euthanasia, knowledge of the regulatory framework, and attitudes toward euthanasia [15]. Respondents could optionally provide contact information to express interest in participating in the qualitative component.

For the qualitative component, 11 physicians were purposively selected from survey respondents who had expressed interest in being interviewed. Selection sought variation in professional background, clinical experience, and perspectives toward euthanasia. Individual semi-structured interviews were conducted until sufficient depth and diversity of perspectives were achieved.

Data collection

Quantitative component

Knowledge was assessed using 10 multiple-choice questions based on Ecuadorian Regulation 59/2024. The items were developed collaboratively by a multidisciplinary research team comprising three family physicians, a bioethics expert, an anthropologist, and two medical students. The team reviewed the items for content and correspondence with the regulatory framework. Questions addressed the purpose of the regulation, definitions and types of euthanasia, eligibility requirements, application procedures, composition of the interdisciplinary committee, conscientious objection, and settings where euthanasia may be performed.

The questionnaire was pilot-tested with 30 physicians to assess clarity, relevance, and comprehension, and was refined accordingly. One point was assigned for each correct response, producing a score ranging from 0 to 10. For descriptive purposes, adequate knowledge was operationally defined a priori as ≥ 7 correct answers. This threshold was established by the research team and should not be interpreted as a validated diagnostic cut-off.

The knowledge questionnaire was developed specifically for this study and is provided in English as Supplementary material, Appendix 1.

Attitudes toward euthanasia were assessed using the Spanish-validated Euthanasia Attitude Scale (EAS), a 21-item instrument with previously demonstrated reliability and construct validity [15]. Total scores range from 21 to 105, with higher scores indicating more favorable attitudes toward euthanasia. Scores were categorized as favorable (≥ 84), neutral (63–83), or unfavorable (≤ 62). The scale encompasses four domains: ethical considerations, practical considerations, valuing life, and naturalistic beliefs. In the present sample, the EAS showed internal consistency (Cronbach's α = 0.90). Supplementary material, Appendix 2.

Qualitative component

The semi-structured interview guide was developed and refined during a multidisciplinary workshop involving members of the research team. Interviews were conducted by a family physician with research experience and a bioethicist. They were conducted in Spanish, either in person or via Zoom according to participants' availability, and lasted approximately 40–60 minutes. Neither interviewer had a prior relationship with the participants. Interviews explored participants' understanding of euthanasia and its regulatory framework, personal and professional attitudes, experiences related to end-of-life care, circumstances influencing euthanasia requests, autonomy and family involvement, professional responsibilities and competencies, and conscientious objection.

The semi-structured interview guide was developed specifically for this study and is provided in English as Supplementary material, Appendix 3.

Interviews were audio-recorded with participants' consent and transcribed verbatim. A hybrid deductive–inductive thematic approach was used. Initial coding was informed by the study objectives and interview guide, while additional codes and subcodes were generated inductively as analysis progressed. Emerging categories included suffering, irreversibility, autonomy, meaningful life, family relationships, professional identity, religious beliefs, palliative care,

legal uncertainty, healthcare-system limitations, and conscientious objection. Through iterative comparison and refinement, these categories were organized into broader themes.

Coding was conducted manually by two researchers. Disagreements were discussed and resolved by consensus, with a third researcher involved when necessary. An audit trail of coding decisions was maintained, and emerging interpretations were discussed within the research team. Reflexivity was addressed through discussions of how researchers' professional backgrounds and prior assumptions regarding euthanasia could influence interpretation. Consistency between the original data, codes, categories, and final themes was reviewed throughout the analytical process.

Pilot testing

Both instruments were pilot-tested before data collection. The quantitative questionnaire was assessed for clarity, comprehension, coherence, and completion time, while the semi-structured interview guide was assessed for clarity, relevance, sequencing, and its ability to elicit sufficiently detailed responses. Findings from the pilot tests were used to refine the wording and structure of the instruments before final administration.

Statistical analysis

Continuous variables were summarized using mean and standard deviation or median and interquartile range (IQR), according to their distribution, and categorical variables using frequencies and percentages. Distributional assumptions and the presence of influential outliers were examined before selecting the statistical tests.

Bivariate analyses explored differences in knowledge and attitude scores across sociodemographic and professional characteristics, with qualitative findings used to contextualize the observed patterns. Because knowledge scores showed a non-normal distribution, Mann–Whitney U tests were used for two-group comparisons and Kruskal–Wallis tests for comparisons involving three or more groups. EAS scores were compared using independent-samples Student's *t*-tests for two groups and one-way ANOVA for three or more groups. Statistical significance was set at $p < 0.05$.

Mixed-methods integration

Quantitative and qualitative findings were integrated during interpretation, using qualitative findings to contextualize and deepen understanding of quantitative patterns.

Ethical considerations

The study was approved by the Research Ethics Committee for Human Subjects of the Pontificia Universidad Católica del Ecuador (PUCE) (EO-018-2025, V2; April 29, 2025). All participants provided informed consent before participation. Participation was voluntary, and confidentiality and anonymity were maintained throughout data collection, analysis, and reporting.

Results

Quantitative findings

Participant characteristics

A total of 126 physicians participated in the quantitative component. The median age was 39 years (IQR 37–46), and participants had a median of 11 years (IQR 7–20) of professional experience. Most were women (58.7%), worked in public healthcare facilities (63.5%), and identified as Catholic (71.4%). Family medicine was the most frequently reported specialty (34.1%), and 58.7% reported no previous training on euthanasia. Half of the participants (50.8%) were currently practicing in Pichincha province (Table 1).

Table 1
Characteristics of the study population (n = 126)

Characteristic	n (%) or summary
Age, median (IQR), years	**39 (37–46)**
Professional experience, median (IQR), years	**11 (7–20)**
Sex	
Female	74 (58.7)
Male	52 (41.3)
Previous training on euthanasia	
Yes	52 (41.3)
No	74 (58.7)
Religious affiliation	
Catholic	90 (71.4)
Non-Catholic	36 (28.6)
Medical specialty	
Family Medicine	43 (34.1)
General Medicine	28 (22.2)
Anesthesiology	12 (9.5)
Other specialties	43 (34.1)
Healthcare setting	
Public	80 (63.5)
Private	33 (26.2)
Other	13 (10.3)

Knowledge and attitudes toward euthanasia

Overall knowledge was limited, with a median score of 5 (IQR 3–6) out of 10, and only 24.6% of physicians meeting the predefined criterion for adequate knowledge (Table 2). Knowledge varied considerably across topics, with relatively higher accuracy for the definition of severe and irreversible bodily injury (84.1%) and eligibility requirements (77.0%), and the largest gaps concerning the waiting period (11.1%) and composition of the Interdisciplinary Committee (18.3%). The mean EAS score was 71.33 ± 14.67 out of a possible 105 points. Most physicians were classified as having a neutral attitude toward euthanasia (55.6%), while 24.6% had an unfavorable attitude and 19.8% a favorable attitude.

Table 2
Knowledge and attitudes toward euthanasia among physicians (n = 126)

Measure / knowledge topic	Result
Knowledge score (possible range: 0–10), median (IQR)	**5 (3–6)**
Adequate knowledge, n (%)	**31 (24.6)**
Knowledge topics, correct responses, n (%)	
Purpose of Regulation 59/2024	66 (52.4)
Definition of voluntary active euthanasia	90 (71.4)
Difference between voluntary and avoluntary euthanasia (euthanasia based on advance directives)	39 (31.0)
Definition of severe and irreversible bodily injury	**106 (84.1)**
Requirements for voluntary active euthanasia	**97 (77.0)**
Requirements for euthanasia based on advance directives	65 (51.6)
Waiting period for ratification or revocation of the request	**14 (11.1)**
Composition of the Interdisciplinary Committee	**23 (18.3)**
Conscientious objection	54 (42.9)
Settings where euthanasia may be performed	41 (32.5)
Euthanasia Attitude Scale (EAS) score (possible range: 21–105), mean ± SD	**71.33 ± 14.67**
Attitude classification, n (%)	
Unfavorable	31 (24.6)
Neutral	70 (55.6)
Favorable	25 (19.8)

Differences in knowledge and attitude scores across participant characteristics

Previous training on euthanasia was significantly associated with higher knowledge scores. Physicians who had received previous training had a median knowledge score of 6 (IQR 4–7), compared with 4 (IQR 3–5) among those without training ($p < 0.001$). Knowledge scores did not differ significantly by sex, religious affiliation, medical specialty, or healthcare setting (Table 3).

Attitudes toward euthanasia differed significantly by sex and religious affiliation. Male physicians had higher mean EAS scores than female physicians (75.00 ± 12.62 vs. 68.76 ± 15.52; $p = 0.018$). Similarly, non-Catholic physicians had higher mean scores than Catholic physicians (75.64 ± 16.21 vs. 69.61 ± 13.73; $p = 0.037$), indicating more favorable attitudes toward euthanasia. No statistically significant differences in EAS scores were observed according to previous training, medical specialty, or healthcare setting.

Table 3
Bivariate comparison of knowledge and attitude scores according to participant characteristics (n = 126)

Characteristic	Knowledge score, median (IQR)	p-value[1]	EAS score, mean ± SD	p-value[2]
Sex		0.194		**0.018**
Female	4 (3–6)		68.76 ± 15.52	
Male	5 (4–7)		75.00 ± 12.62	
Previous training on euthanasia		**< 0.001**		0.521
No	4 (3–5)		72.04 ± 14.43	
Yes	6 (4–7)		70.33 ± 15.09	
Religious affiliation		0.657		**0.037**
Catholic	5 (3–7)		69.61 ± 13.73	
Non-Catholic	5 (3–6)		75.64 ± 16.21	
Medical specialty		0.098		0.403
Family Medicine	5 (4–7)		70.65 ± 12.03	
General Medicine	4 (2.75–5.25)		70.64 ± 13.89	
Anesthesiology	4.5 (0.75–7)		78.25 ± 14.72	
Other specialties	5 (3.5–7)		70.53 ± 17.32	
Healthcare setting		0.794		0.592
Public	5 (4–6)		71.26 ± 13.87	
Private	5 (3–7)		70.06 ± 15.09	
Other	4 (3–7)		75.00 ± 18.68	

Note: Knowledge scores are presented as median (IQR), and EAS scores as mean ± SD. Higher EAS scores indicate more favorable attitudes toward euthanasia.

[1] Mann–Whitney U test for comparisons between two groups and Kruskal–Wallis test for comparisons among three or more groups.

[2] Independent-samples Student's *t*-test for comparisons between two groups and one-way ANOVA for comparisons among three or more groups.

Bold values indicate statistical significance ($p < 0.05$). EAS, Euthanasia Attitude Scale; IQR, interquartile range; SD, standard deviation.

Qualitative findings

The qualitative analysis showed that physicians' views on euthanasia could not be adequately characterized as simply favorable or unfavorable. Rather, their positions reflected a situated moral evaluation, shaped by how they interpreted suffering, irreversibility, autonomy, available care alternatives, personal and professional values, and the conditions of the healthcare system.

Theme 1. Understanding euthanasia in a new and uncertain regulatory context

Physicians showed heterogeneous understanding of euthanasia and its regulatory framework. Some clearly distinguished euthanasia from other end-of-life practices and recognized that the Constitutional Court ruling resulted in decriminalization rather than legalization. Others reported limited knowledge of the regulation, relied primarily on media coverage, or expressed uncertainty about procedures, eligibility criteria, and referral pathways.

Importantly, limited regulatory knowledge was also observed among physicians who expressed clear positions toward euthanasia. Several participants emphasized that information about the new framework had not been sufficiently disseminated through professional or academic channels, leaving physicians uncertain about how to respond to a request in clinical practice.

"It wasn't legalized; it was decriminalized." (E004)

"I personally don't know what process should be followed to get to this point." (E007)

This perceived gap between regulatory change and professional preparedness extended beyond legal knowledge to practical implementation, including how to assess a request, where to refer patients, and what responsibilities physicians would assume.

Theme 2. What makes euthanasia morally acceptable or unacceptable?

Physicians' positions were strongly shaped by the clinical circumstances in which euthanasia was considered. Irreversibility emerged as a critical boundary. Progressive conditions with no meaningful possibility of recovery were more readily viewed as circumstances in which euthanasia could be considered, whereas potentially treatable conditions, particularly psychiatric disorders, generated greater caution.

Suffering was central to these evaluations but was understood as multidimensional, encompassing physical pain, psychological and existential distress, loss of independence, dependency, and changes in identity and meaningful life. Importantly, suffering did not lead uniformly to support for euthanasia. For some physicians, irreversible suffering strengthened its moral acceptability; for others, suffering reinforced the obligation to provide care and alleviate its causes.

"The diagnosis would be a key factor." (E009)

"What euthanasia does is eliminate the person who is suffering, but it does not eliminate the suffering." (E003)

Several physicians also described situations in which requests to die changed after pain control, psychological support, or attention to relational needs. Thus, the moral evaluation depended not only on the intensity of suffering, but also on whether its causes were perceived as reversible, treatable, or amenable to meaningful intervention.

This produced positions that were often conditional rather than simply supportive or opposed: the same physician could consider euthanasia acceptable in irreversible degenerative disease while rejecting it when suffering might still be modified.

Theme 3. Personal beliefs, professional responsibility, and relational autonomy

Physicians distinguished between supporting access to euthanasia, considering it for themselves, and being willing to perform it professionally. These positions did not necessarily coincide. Some physicians respected a patient's decision while personally rejecting euthanasia or choosing not to participate in the procedure.

Personal values, religious beliefs, and professional identity shaped these positions. For some, religious convictions constituted a firm moral boundary; for others, professional experiences with severe and irreversible suffering supported more favorable or conditional positions.

"We cannot decide over someone's life, neither as a family nor as physicians." (E008)

"I wouldn't perform it, but I wouldn't restrict their final decision either." (E002)

Although autonomy was generally considered central, physicians described decisions as occurring within relationships involving families and healthcare teams. The patient's wishes were usually prioritized when decision-making capacity was preserved, while greater uncertainty emerged when decisions depended on family members or representatives.

Conscientious objection was widely recognized as a legitimate professional right. However, several participants emphasized that objection should not result in abandonment or obstruction of access.

"I may exercise conscientious objection, but I do not have the right to abandon the patient." (E004)

Thus, autonomy was interpreted as applying not only to patients but also to physicians, creating a need to balance patient choice, professional moral integrity, and continuity of care.

Theme 4. Palliative care and structural conditions shaping end-of-life choice

Healthcare system conditions were central to physicians' moral evaluations of euthanasia. Several participants questioned whether a decision could be considered fully informed and autonomous when palliative care and comprehensive end-of-life care were not consistently accessible. Limited availability of services, fragmented care, bureaucratic barriers, financial constraints, and insufficient continuity of care were described as restricting the alternatives available to patients.

"I cannot offer death to someone if I have not first offered them everything they should receive to control their illness." (E004)

Some physicians described clinical experiences in which requests for euthanasia were reconsidered or withdrawn after symptom relief or other supportive interventions. These experiences reinforced concerns that euthanasia should not become a response to unmet healthcare or social needs.

A physician described caring for a patient who had requested euthanasia while experiencing severe respiratory symptoms. After treatment improved her breathing, the patient no longer wished to proceed with the request:

"When we asked her again whether she was still requesting euthanasia, she told me, 'No, doctor, not anymore.'" (E004)

A Physician described another patient who initially requested euthanasia after receiving a serious diagnosis but later reconsidered after his pain was controlled and treatment was initiated. These experiences led some participants to emphasize that potentially remediable sources of suffering should be identified and addressed when evaluating a request for euthanasia.

"How can you really choose?" (E003)

Structural limitations also affected physicians themselves. Participants reported uncertainty about referral pathways, legal protection, technical preparedness, and institutional support. Even physicians who considered euthanasia ethically acceptable sometimes reported that they would not currently perform it because they lacked sufficient training or perceived legal security.

"If I were in an appropriate legal position, legally protected, I would do it." (E006)

Overall, physicians framed access to palliative and comprehensive end-of-life care as an important condition for meaningful choice. In this sense, euthanasia was evaluated not only as an individual clinical decision, but also within the broader context of healthcare access, equity, and institutional capacity.

Integration of quantitative and qualitative findings

Quantitative and qualitative findings were complementary (Table 4). Quantitatively, only 24.6% of physicians met the criterion for adequate knowledge, and previous training was associated with higher knowledge scores. Qualitative findings helped explain this gap, revealing limited dissemination of the regulatory framework, reliance on media sources, and uncertainty regarding procedures, referral pathways, and professional responsibilities.

Although more than half of participants were quantitatively classified as having a neutral attitude (55.6%), the interviews showed that neutrality did not necessarily represent an absence of position. Physicians frequently expressed conditional views, evaluating euthanasia differently according to irreversibility, suffering, autonomy, available alternatives, personal beliefs, and professional responsibilities.

Attitude scores were higher among men than women and among non-Catholic than Catholic physicians. Qualitative findings provided context for the latter difference by showing that religious beliefs varied in their influence: for some physicians they informed the deliberative process, whereas for others they constituted a firm moral boundary against euthanasia.

Table 4
Joint display integrating quantitative and qualitative findings

Domain	Quantitative finding	Qualitative finding	Integrated interpretation
Knowledge	Knowledge of the regulatory framework was low. Physicians with previous training in regulatory framework had higher knowledge scores.	Participants described limited familiarity with aspects of the regulation and uncertainty regarding procedures and professional responsibilities.	Previous training in regulatory framework was associated with greater knowledge, while interviews revealed gaps in understanding and applying the regulatory framework.
Attitudes toward euthanasia	The EAS showed predominantly neutral (55.6%) or unfavorable (24.6%) attitudes toward euthanasia.	Attitudes varied according to clinical circumstances, perceived suffering and irreversibility, personal values, and professional responsibilities.	Although the EAS showed predominantly neutral or unfavorable attitudes, interviews identified the circumstances that shaped these positions.
Religion	Non-Catholic physicians had significantly higher EAS scores than Catholic physicians.	For some participants, religious beliefs constituted a clear moral boundary, while others distinguished their personal beliefs from their professional responsibilities.	Religious affiliation was associated with attitudes, but its influence on individual positions varied and interacted with other clinical and professional considerations.
Autonomy	-	Autonomy was understood within relationships involving families and healthcare professionals, which could support, influence, or constrain decisions.	Interviews broadened the understanding of autonomy by highlighting its relational nature in end-of-life decision-making.
Palliative care and relief of suffering	-	The availability of alternatives to relieve suffering influenced how euthanasia requests were evaluated. Participants described cases in which requests were reconsidered or withdrawn after symptom relief or other supportive interventions.	Meaningful choice requires considering not only formal autonomy but also the actual availability of alternatives to relieve suffering.
Conscientious objection and professional responsability	-	Participants distinguished between respecting a patient's decision, personally agreeing with euthanasia, and being willing to perform the procedure. Objection was not necessarily understood as ending professional responsibility.	Patient autonomy and professional conscience may coexist when information, continuity of care, and non-abandonment are preserved.

Across both components, the findings suggest that physicians' views cannot be fully understood along a simple favorable, unfavorable continuum. The qualitative data instead revealed a situated moral evaluation, in which attitudes were shaped by clinical circumstances, personal and professional values, and the availability of comprehensive end-of-life care.

Discussion

This mixed-methods study provides an early examination of physicians' knowledge, attitudes, and perceptions of euthanasia following its decriminalization and regulation in Ecuador. Three main findings emerged. First, physicians showed limited knowledge of the recently established regulatory framework, with particularly important gaps regarding procedural requirements, while previous training was associated with higher knowledge scores. Second, attitudes toward euthanasia were predominantly neutral or unfavorable and differed according to sex and religious affiliation in bivariate analyses. Third, qualitative findings showed that physicians' positions could not be understood simply as favorable or unfavorable. Their evaluations were shaped by the interaction between suffering and irreversibility, autonomy and its relational context, professional responsibilities and conscientious objection, and the capacity of the healthcare system to provide adequate alternatives for relieving suffering.

Knowledge in the context of a newly regulated practice

Physicians' limited knowledge of euthanasia should be interpreted within the broader context in which the practice was introduced in Ecuador. Overall knowledge was low, but the gaps identified were not limited to procedural aspects. Difficulties were also observed in fundamental conceptual distinctions

and in key elements concerning the purpose and safeguards established by the regulation. These findings are important because understanding euthanasia involves more than knowing how a request is processed; it requires understanding what the practice entails, why specific safeguards exist, and the ethical and legal principles surrounding this issue, including physicians' rights and responsibilities, conscientious objection, and the clinical management of patients [16, 17]. Adequate preparation is also essential to enable physicians to provide patients and families with accurate information, discuss available alternatives, and facilitate access to comprehensive end-of-life care [17].

Knowledge gaps concerning end-of-life practices and their legal frameworks do not appear to be unique to Ecuador. In Germany, Batzler et al. identified substantial discrepancies between physicians' perceived and actual knowledge of the legal framework governing assisted suicide. Although this concerns a different practice and regulatory context, their findings illustrate that changes in the legal framework do not necessarily translate immediately into professional understanding and preparedness [18].

In Ecuador, limited knowledge should also be considered in the context of a recent legal transformation following the Constitutional Court ruling and the subsequent regulation of euthanasia. Our data do not allow us to establish the causes of physicians' limited knowledge, and it would therefore be inappropriate to attribute it directly to insufficient public or academic debate. However, qualitative accounts describing limited dissemination, unfamiliarity with the regulation, and uncertainty regarding its application suggest that opportunities for professionals to understand and discuss its implications have been limited. These findings point to the need for broader informed deliberation involving healthcare professionals, medical schools, scientific and professional societies, bioethicists, patients, families, and the wider public [11].

Such deliberation is particularly important because euthanasia involves tensions between autonomy, protection of people in vulnerable situations, relief of suffering, professional responsibilities, and the adequacy of safeguards [19]. From a critical perspective on legalization, Pereira argues that requirements such as explicit consent, independent assessment, reporting, and consideration of alternatives are not merely administrative procedures, but safeguards intended to protect patients and ensure adequate scrutiny of decisions to hasten death [20].

In our study, previous training was associated with higher knowledge scores. However, education should not be conceived solely as the acquisition of knowledge required to perform the procedure. In a recently regulated context such as Ecuador, education should enable physicians to critically understand the legal, clinical, and ethical dimensions of euthanasia; distinguish it from other end-of-life practices; understand the rights and safeguards of both patients and professionals; and participate meaningfully in informed societal and professional deliberation about end-of-life care.

Attitudes toward euthanasia as context-dependent moral evaluations

Attitudes toward euthanasia were predominantly neutral or unfavorable in our study, with 55.6% of physicians classified as neutral and 24.6% as unfavorable. However, the qualitative findings revealed considerably greater complexity. Physicians frequently described positions that changed according to the patient's circumstances, particularly the presence and severity of suffering, irreversibility of the condition, availability of therapeutic alternatives, and perceived loss of autonomy or meaningful life.

A recent systematic review of 40 studies found that support for euthanasia ranged from 7.1% to 90.4% in Europe, with particularly high acceptance reported in Belgium (90.4%), while support for physician-assisted death reached 77% in Switzerland. In Asia, support for euthanasia ranged from 9% to 57.5%, whereas support for physician-assisted death was considerably lower, ranging from 5% to 6.3%. In Australia and New Zealand, reported support for euthanasia ranged from 7.1% to 17%. This heterogeneity suggests that attitudes cannot be understood independently of the legal, cultural, religious, and professional contexts in which end-of-life decisions occur [13]. This context-dependent character is also evident within individual settings [21]. In Germany, Batzler et al. found that 70.9% of participants rejected involvement in assisted suicide irrespective of the patient's health condition, whereas 64.6% could envision participation in a palliative care setting. Although assisted suicide differs from euthanasia, these findings reinforce our qualitative observation that physicians' positions may shift according to the clinical circumstances in which a request arises [18]. These differences suggest that physicians' attitudes are strongly context-dependent and may reflect not only individual ethical positions but also legal frameworks, cultural and religious values, medical specialty, and professional exposure to end-of-life care [21, 22].

In our quantitative analysis, male physicians had significantly higher EAS scores than female physicians, and non-Catholic physicians had higher scores than Catholic physicians. These associations should be interpreted cautiously because they derive from bivariate analyses and cannot establish that sex or religious affiliation independently explains attitudes toward euthanasia. The association with religious affiliation is consistent with previous research identifying religion as an important factor shaping attitudes toward euthanasia and assisted dying [23]. However, religious affiliation should not be considered equivalent to religiosity or interpreted as determining an individual physician's position. Our qualitative findings add nuance to this association: religious beliefs constituted a firm moral boundary for some participants, whereas others distinguished their personal beliefs from their professional responsibilities [24]. Religion therefore appeared to operate as one of several factors shaping moral evaluation, alongside professional identity, clinical experience, perceptions of suffering and irreversibility, and respect for patient autonomy [25]. Taken together, these findings suggest that sociodemographic differences in attitude scores capture only part of physicians' moral positioning. Rather than viewing attitudes as stable individual preferences determined primarily by characteristics such as sex or religion, our qualitative findings suggest that physicians engage in context-dependent moral evaluations, in which personal values interact with the patient's clinical condition, perceived suffering, available alternatives, and professional responsibilities.

Suffering, irreversibility, and the meaning of autonomy

Suffering emerged as a central element shaping physicians' moral evaluation of euthanasia. Participants did not understand suffering exclusively in terms of physical symptoms, but as a multidimensional experience involving physical, psychological, social, and existential distress, loss of functional independence, dependency, and changes in what patients themselves considered a meaningful or dignified life. Importantly, however, suffering alone did not determine

whether euthanasia was considered acceptable. Physicians repeatedly evaluated suffering in relation to the irreversibility of the underlying condition and the possibility that its causes could be treated or alleviated.

This distinction may help explain why participants were more willing to consider euthanasia in the context of progressive and irreversible disease, while expressing greater uncertainty when suffering was potentially reversible or treatable, particularly in relation to psychiatric conditions. Their accounts suggest that the moral relevance of suffering depended not only on its intensity, but also on its persistence, underlying causes, prognosis, and the availability of meaningful alternatives. Similar concerns have been raised in the bioethical literature. Pereira, from a critical perspective on legalization, emphasizes that requests to hasten death may arise in the context of multiple sources of suffering, including depression, hopelessness, perceived loss of dignity, and feelings of being a burden, highlighting the importance of examining the conditions underlying such requests rather than interpreting them solely as expressions of autonomous choice [20].

Our findings also complicate a purely individualistic interpretation of autonomy. Participants strongly valued patients' right to make decisions about their own lives, but their accounts suggested that the conditions under which those decisions are made also matter ethically. The central question was therefore not simply whether a patient had expressed a choice, but whether that choice was made in the context of adequate information, available alternatives and support, and an appropriate assessment of suffering and its potential reversibility [26, 27]. This tension has also been raised in the Colombian debate. From a critical perspective on euthanasia, Sanz-Rubiales and del Valle caution against reducing autonomy to the patient's expressed wishes as the sole criterion for clinical decision-making and argue that decisions should also be considered in relation to the patient's clinical situation, prognosis, values, and available care [28].

Relational autonomy and professional responsibility

The qualitative findings suggest that physicians did not understand autonomy as an entirely individual process. Although the patient's wishes remained central, participants described end-of-life decisions as occurring within relationships involving families, physicians, and other healthcare professionals. Family members could provide emotional support and help interpret previously expressed wishes, but participants also recognized the possibility of disagreement or influence over patients' decisions. Autonomy therefore emerged not simply as the expression of an individual preference, but as a decision exercised within a network of relationships that may support, shape, or potentially constrain choice.

This interpretation is consistent with relational approaches to autonomy, which challenge the assumption that autonomous decisions are made by individuals independently of their social relationships. Rather, autonomy is understood as developing and being exercised through relationships with others and within particular social and institutional contexts [26, 29]. This perspective is especially relevant to end-of-life decisions, where illness, dependency, changes in communication capacity, and reliance on family and healthcare professionals may increase the importance of relational conditions surrounding decision-making [30].

Physicians' own moral agency also formed part of this relational context. Participants distinguished between respecting a patient's decision, personally agreeing with euthanasia, and being willing to perform the procedure. For some, conscientious objection represented a legitimate boundary between professional duties and deeply held moral convictions. However, objection was not generally understood as ending professional responsibility. Several participants emphasized the importance of maintaining care and ensuring that patients were not abandoned when a physician declined to participate. This distinction is ethically important because respect for physicians' moral integrity must coexist with patients' ability to receive information, continuity of care, and access to the pathways established by the regulatory framework.

Our findings therefore suggest that autonomy and professional conscience should not necessarily be framed as opposing individual rights. Both are exercised within relationships of care and institutional responsibilities. A relational perspective shifts attention from determining whose autonomy should prevail toward examining the conditions necessary to respect patients' choices while also recognizing physicians' moral agency and preserving continuity of care [29].

Palliative care, meaningful choice, and healthcare-system conditions

Access to palliative care emerged as a central condition shaping physicians' views on euthanasia. Participants questioned whether a request for euthanasia could be considered a fully meaningful choice when patients had not had adequate access to symptom control, psychological support, and comprehensive end-of-life care. Some physicians described situations in which requests for euthanasia were reconsidered or withdrawn after symptom relief or other supportive interventions. Importantly, these accounts did not necessarily imply rejection of patient autonomy; rather, they raised the question of whether meaningful choice requires the availability of reasonable alternatives.

This concern is particularly relevant in healthcare systems where access to palliative care remains uneven. From a critical perspective on euthanasia, Sanz-Rubiales and del Valle argue that it is ethically problematic to consider euthanasia as a response to suffering when adequate symptom control is not universally accessible [28]. A different perspective emerges from Colombia, where Erazo-Muñoz et al. examined 50 euthanasia requests within a palliative care program. Rather than conceptualizing palliative care and euthanasia as mutually exclusive, they proposed that palliative care can accompany patients requesting euthanasia by supporting decision-making, alleviating suffering, and providing emotional support until death [27].

These contrasting perspectives illustrate an important ethical tension also reflected in our findings. The relevant question may not be whether palliative care and euthanasia are inherently alternatives or complementary practices, but whether patients requesting euthanasia have had genuine access to comprehensive care capable of addressing potentially remediable sources of suffering. Ensuring such access does not require assuming that adequate palliative care will eliminate all requests for euthanasia; rather, it helps ensure that decisions are made in a context in which suffering has been appropriately assessed and reasonable alternatives have been available.

Our participants also identified broader structural limitations, including fragmented services, insufficient professional preparation, uncertain referral pathways, and concerns about institutional and legal support like eligibility criteria, conscientious objection, communication, assessment of suffering, and end-of-life decision-making. These findings extend the ethical discussion beyond individual autonomy. If the options realistically available to patients are constrained by deficiencies in the healthcare system, then the conditions under which end-of-life choices are made become a matter not only of autonomy, but also of equity and justice. In this sense, implementation of the regulatory framework requires attention not only to procedural safeguards, but also to the healthcare conditions necessary for patients to make informed and meaningful end-of-life decisions.

Limitation

This study has several strengths, including its concurrent mixed-methods design, which allowed quantitative patterns in knowledge and attitudes to be examined alongside physicians' explanations of how they approach euthanasia in clinical and ethical terms. The study was conducted shortly after the introduction of Ecuador's regulatory framework, providing evidence from an early stage of its implementation. Several limitations should be acknowledged. The non-probability sampling and online recruitment may have introduced selection bias, limiting the generalizability of the findings. The cross-sectional design and bivariate analyses preclude causal or independent-effect interpretations. In addition, the knowledge questions were developed specifically for the Ecuadorian regulatory context and should not be interpreted as a validated general measure of euthanasia knowledge.

Conclusion

This mixed-methods study showed limited knowledge of Ecuador's recently established euthanasia regulatory framework and predominantly neutral or unfavorable attitudes among physicians included in the study. Qualitative findings revealed that physicians' positions extended beyond simple support or opposition and were shaped by suffering and irreversibility, autonomy, personal and professional values, relationships with patients and families, and healthcare-system conditions. These findings highlight that regulating euthanasia involves more than establishing procedural requirements. It also requires informed professional and societal deliberation, legal, ethical, and clinical preparation, and access to comprehensive end-of-life care. Ensuring that physicians, patients, and families understand the available options and the safeguards surrounding them is essential to support informed and meaningful decision-making at the end of life.

Abbreviations

EAS
Euthanasia Attitude Scale
IQR
Interquartile range
SD
Standard deviation

Declarations

Ethics approval and consent to participate

This study was conducted in accordance with the Declaration of Helsinki. The study was approved by the Committee for Research in Human Subjects (CEISH) of the Pontifical Catholic University of Ecuador (approval code EO-018-2025). Written informed consent was obtained from all participants before data collection.

Consent for publication

Not Applicable

Competing interests

The authors declare that they have no competing interests.

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Author Contribution

BT, IDE, KC, PT, and CTP contributed to the conceptualization and methodology of the study. DS, PM, BT, KC, and CTP contributed to data collection. All authors contributed to the analysis and interpretation of the findings. BT drafted the original manuscript. All authors reviewed, edited, and approved the final manuscript.

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Data Availability

The data used and/or analyzed during the current study are available from the corresponding author upon reasonable request, subject to ethical and confidentiality considerations.

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