ONLINE VERSION: ISSN 1028-4818

RPNS-1853

Multimed 2026; 30: e 3287

Original article

Bioethics in early intervention: identifying training needs in child development professionals

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ABSTRACT

Early childhood intervention requires solid competencies to address complex bioethical dilemmas in child development, but faces challenges in clinical practice. The research aimed to determine the training needs in medical bioethics of early intervention professionals at the Julián Grimau Polyclinic, Arroyo Naranjo municipality, Havana. A qualitative-cross-sectional study was conducted (January-December 2024) with 22 professionals. Surveys,

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semi-structured interviews, and a focus group were applied. The results showed that 63.6% lacked prior training in bioethics. A low level of knowledge was evidenced in distributive justice (54.4%), non-maleficence (40.9%), and beneficence (31.8%). It was found that 68.2% base decisions on personal intuition. The main training needs were pediatric bioethics (95.5%) and interdisciplinary confidentiality (81.8%). In conclusion, deficiencies in bioethical knowledge and a clear disposition towards innovative strategies were identified, especially interactive modules and digital resources.

Keywords: Medical bioethics; Early intervention; Pediatrics; Professional training; Educational technologies.

Received: 26/01/2026

Approved: 10/03/2026

Introduction

Early intervention, recognized by international organizations such as UNICEF and the WHO, is a fundamental strategy in child development. It targets children from 0 to 6 years of age, their families, and their environment, aiming to respond promptly to the temporary or permanent needs of children with developmental disorders or at risk of developing them. (1,2)

Significant challenges remain in this area: in 2022, the WHO reported that less than 10% of these children receive adequate early intervention in developing countries. Similarly, in 2023, UNICEF estimated that 240 million children worldwide have some form of disability (3,4), which substantially reduces their chances of subsequent educational inclusion.

In this context, the early intervention team must maintain careful bioethical considerations regarding the intrinsic vulnerability of the child population, the multidisciplinary nature of

the work teams, and the active participation of families in the care processes. To this end, these professionals must consider the principles set forth in the 1978 Belmont Conference document, established by Beauchamp and Childress: (5)

a) Principle of autonomy: grants the patient the right to be respected as a person. Closely related to informed consent.
b) Principle of justice: refers to the equitable distribution of resources without discrimination. Linked to the healthcare system.
c) Principle of non-maleficence: emphasizes that, in those cases where doing good is not possible, the professional must be concerned first and foremost with not doing harm.
d) Principle of beneficence: obliges professionals to act in the best interests of the patient.

Recent studies, conducted in various geographical contexts, agree in pointing out shortcomings in the bioethics training of health professionals. Chaux, (6) for example, in the research on medical bioethics applied to the clinical and experimental field, based in Paraguay, analyzed seven academic programs; among these: Medicine, Nutrition and Physiotherapy and found a low percentage of training in this regard.

From Uganda, Nayiga J et al. (7) conclude their study on the bioethical training needs for HIV research in vulnerable populations, stating that students rate their knowledge as moderate. Similarly, these students express difficulty in maintaining confidentiality, privacy, and informed consent processes in these populations.

In Cuba, Ferrer Magadán et al., (8) highlight that the partial knowledge of bioethical content by teachers of medical sciences, in the Medicine career, prevents integration from the programs in the basic cycle of this career.

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Specifically, at the Julián Grimau polyclinic, in the municipality of Arroyo Naranjo, Havana, shortcomings have been detected regarding the bioethical training of the professionals on the early intervention team, including:

- Conflicts in the informed consent process with parents of children with developmental disorders.
- Tensions between family autonomy and child welfare.
- Difficulties in managing confidentiality in interdisciplinary contexts.
- Challenges in prioritizing resources in situations of scarcity.

This problem underscores the urgent need to strengthen the bioethical training of healthcare professionals. Therefore, the authors of this study focused their research on the training needs in medical bioethics of the early intervention team.

The objective is to determine the training needs in medical bioethics of early care professionals at the Julián Grimau Polyclinic, Arroyo Naranjo municipality, Havana.

Methods

A descriptive, cross-sectional qualitative study was conducted between January and December 2024 in the municipality of Arroyo Naranjo, Havana. This study determined the training needs in medical bioethics of early intervention professionals at the Julián Grimau Polyclinic. The center operates as a multidisciplinary unit and serves a population of approximately 32,453 inhabitants.

The study population consisted of all 22 professionals from the early intervention service at the polyclinic. The inclusion criteria were: professionals of any specialty with direct and permanent ties to the early intervention service, with more than 6 months of experience in the service, and voluntary willingness to participate in the study.

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The research was conducted in accordance with the principles of the Declaration of Helsinki and national ethical standards. Informed consent was obtained from all participants. The right to withdraw at any time without consequence was guaranteed, as agreed upon in the exclusion criteria. Confidentiality was maintained through data coding and secure information storage. The Ethics Committee of the Julián Grimau Polyclinic approved the study.

A methodological triangulation strategy was implemented, combining quantitative and qualitative techniques. A diagnostic survey was used for the quantitative components. Semi-structured interviews and focus groups were used for the qualitative components.

In general, the central variable of the study was the training in medical bioethics of early intervention professionals. The authors agree that this training is defined as: decisions, practices, and interventions aimed at the comprehensive development of children in their early years of life, considering human dignity, respect for diversity, as well as the principles of justice, beneficence, autonomy, and fairness.

This approach recognizes the child's vulnerability, the shared responsibility between professionals and families, and the need to guarantee safe, inclusive, and equitable environments from an interdisciplinary perspective that takes bioethical principles into account. Three dimensions were used for the analysis:

1. Bioethical knowledge: knowledge of medical bioethical principles and identification of dilemmas.
2. Professional attitude: appreciation of the importance of medical bioethics and willingness to apply bioethical criteria.
3. Practical application and training needs: use of bioethical protocols and participation in deliberation spaces.

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All information was stored in a database created in Microsoft Excel 2003. Microsoft Word was used to present the final report, along with tables. Descriptive statistics (frequencies, percentages, measures of central tendency) were applied for the quantitative interpretation of the results. The Likert rating scale facilitated the qualitative interpretation.

Results

The early intervention team at the referral hospital, shown in Table 1, is composed mostly of general practitioners (50.0%) and more than a quarter are physical therapists (27.3%). The table also shows that 63.6% of the professionals lack specific training in medical bioethics, despite most having more than five years of experience in early intervention.

Table 1. Socio-professional characterization of the participants (n=22)

Variable	Category	N	%
Professional specialization	General Practitioner	11	50.0
	Physical Rehabilitation Specialist	6	27.3
	Psychology	2	9.1
	Occupational Therapy	1	4.5
	Digestive Medicine	1	4.5
	Physiatrist	1	4.5
Years of experience	<5 years	6	27.3
	5-10 years	9	40.9
	11-15 years	5	22.7
	>15 years	2	9.1
Bioethics training	Without specific training	14	63.6
	Included in undergraduate training	3	13.6
	Postgraduate courses	5	22.7

Source: own elaboration.

The results of the questionnaire, in table 2, show insufficient theoretical preparation of the professional team: 54.5% of the respondents have a low level of knowledge about the

principle of justice, 40.9% about the principle of non-maleficence and 31.8% with respect to the principle of beneficence.

Table 2. Level of theoretical knowledge about bioethical principles (n=22)

Bioethical principle	High level (%)	Average level (%)	Low level (%)
Autonomy	25.0	45.5	29.5
Charity	31.8	36.4	31.8
Non-maleficence	18.2	40.9	40.9
Justice	13.6	31.8	54.5

Source: own elaboration.

On the other hand, Table 3 presents the results regarding professionals' decision-making practices. It revealed that 68.2% of respondents base bioethical decisions on personal experience and intuition. Only 13.6% document ethical deliberation processes.

Table 3 Professional practices in ethical decision-making (n=22)

Professional practice	n	%
Use structured frameworks for ethical decisions	7	31.8
Base decisions on personal experience and intuition	15	68.2
Seek support from colleagues when faced with	13	59.1
Use institutional ethics committees	5	22.7
It documents ethical deliberation processes	3	13.6

Source: own elaboration.

Table 4 shows the results regarding urgent training needs. Professionals identified bioethics in pediatrics and early intervention (95.5%) and confidentiality in interdisciplinary contexts (81.8%) as the most urgent. 90.9% expressed a preference for interactive modules for receiving training in medical bioethics.

Table 4. Training needs and methodological preferences (n=22)

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Aspect evaluated	n	%
Priority training in pediatric bioethics and early intervention	21	95.5
Confidentiality in interdisciplinary contexts	18	81.8
Decision-making in situations of uncertainty	17	77.3
Interest in educational technologies	19	86.4
Preference for interactive modules	20	90.9
Need for institutional protocols	17	77.3
Current access to digital resources	16	72.7

Source: own elaboration.

Discussion

The participant selection process ensured the reliability of the study. Furthermore, it provided relevant data with a broad perspective on the early intervention team.

In general, the results in each table translate measurable indicators that confirm clear shortcomings in the bioethical training of early intervention professionals: 63.3% without specific training, in the understanding and application of the principles of justice (54.5%), beneficence (31.8%) and non-maleficence (40.9%) and ethical decisions based on personal experience and intuition (68.2%).

These results highlight the absence of structured and systematic programs on this topic; furthermore, they warn about the consequences for the clinical relationship, since this can be influenced by the beliefs, education received, experiences, preferences, desires or feelings of the professional, which may not correspond to what the patient or society expects.

In this regard, Victoria Rosales (10) argues that the knowledge produced in deliberation arises from both theoretical and generalizable concepts as well as from the patient's specific

circumstances. It is important to reach decisions that are fair, ethical, and beneficial to the individual.

Regarding educational technologies, professionals showed interest in videos, virtual platforms, and infographics. They also showed a clear preference for practical and experiential approaches with interactive modules. Cabrera Nuñez, et al. (11) and Muñoz Merino (12) propose a series of actions to initiate knowledge of medical bioethics: training in real clinical settings, a competency-based model, and active and interdisciplinary methodologies.

Portal Benitez et al. suggest a competency-based approach to integrating this into teaching. They conclude that values education from a bioethical perspective guarantees competent and well-rounded professionals. (13)

In general, as in the study by Feito Grande, (14) a structural problem is corroborated, which transcends geographical contexts and health systems.

Limitations of the study

Limitations of this study include the small sample size, although it is representative of the specific institutional context. Furthermore, the cross-sectional nature of the design does not allow for the establishment of causal relationships. Future research could benefit from longitudinal approaches that evaluate the impact of the proposed training interventions.

Conclusions

The study identified specific shortcomings in the systematic and structured training of early intervention professionals in medical bioethics. Deficiencies were found in the application of the principles of justice, beneficence, and non-maleficence to the pediatric context, as well as in ethical decision-making.

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Recommendations

It is recommended to create bioethical training strategies in pediatrics and early intervention, incorporating innovative approaches with interactive modules such as case simulations, debates, and workshops that foster knowledge and practical skills in reflective settings. This should include digital resources that strengthen the professional and humanistic preparation of the early intervention team.

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Conflicts of interest

The authors declare no conflicts of interest.

Authorship contribution

Yenisleydis Girón Pérez: Conceptualization, Research, Methodology, Formal Analysis, Writing - Original Draft, Visualization.

Katiuska Echevarria Hernandez: Supervision, Validation, Data Curation, Writing - Review and Editing, Project Management.

Elvia Rosabal Álvarez: Supervision, Validation, Data Curation, Writing - Review and Editing.

All authors approve the final version of the manuscript.