

## Interprofessional collaborative clinical simulation in breastfeeding: a training strategy

### Simulación clínica colaborativa interprofesional en lactancia materna: una estrategia formativa

Karen Irribarra<sup>a,d</sup>, Mackarena Fernández-S.<sup>b,e</sup>, Macarena Rodríguez<sup>c,f</sup>, Miguel Sagredo<sup>g</sup>

<sup>a</sup>Universidad Central de Chile. La Serena, Chile.

<sup>b</sup>Universidad de Playa Ancha de Ciencias de la Educación. Valparaíso, Chile.

<sup>c</sup>Universidad Andrés Bello. Viña del Mar, Chile.

<sup>d</sup>Matrona.

<sup>e</sup>Fonoaudióloga.

<sup>f</sup>Odontóloga.

<sup>g</sup>Profesor de Educación Básica.

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#### What do we know about the subject matter of this study?

Collaborative clinical simulation enhances interprofessional skills in healthcare, but its application in breastfeeding is limited. Although there have been regulatory advances and recommendations from the Ministry of Health, there is still a lack of interprofessional work, with no clear references or counter-references in regions, affecting the quality of care.

#### What does this study contribute to what is already known?

This study provides new evidence in Chile by evaluating the satisfaction of public system professionals with Interprofessional Collaborative Clinical Simulation (ICCS) in breastfeeding care. It expands on what was previously known by demonstrating that ICCS is feasible and highly valued, consolidating itself as an innovative strategy to close training gaps, strengthen continuing education, and enhance collaborative work in maternal and child health.

#### Abstract

The growing complexity of healthcare systems demands innovative strategies to strengthen collaborative work, particularly in breastfeeding, where clinical, social, and cultural factors converge. In this context, Interprofessional Collaborative Clinical Simulation (ICCS) has emerged as a promising methodology to promote learning in safe and reflective environments. **Objective:** To evaluate the satisfaction of health professionals with the learning experience generated through an ICCS in a continuing education program on breastfeeding. **Methods:** Quantitative study with an exploratory qualitative component, and a cross-sectional, non-experimental design. The sampling method was by convenience and included 216 public health professionals. The intervention was carried out in

#### Keywords:

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Health Education;  
Patient Simulation

high-fidelity scenarios organized into 27 interprofessional groups. Satisfaction was measured using a validated questionnaire and an open-ended question. Quantitative data were analyzed with descriptive statistics and instrument reliability using Cronbach's alpha, while qualitative data were examined through open coding and constant comparisons. **Results:** 93.1% of participants scored maximum satisfaction. Qualitative analysis identified six key dimensions: interprofessional coordination, clinical communication, collaborative learning, emotional development, debriefing appraisal, and clinical applicability. Triangulation demonstrated consistency between both approaches, reinforcing the robustness of the findings. **Conclusions:** ICCS was perceived as highly satisfactory and feasible, addressing gaps in traditional training and strengthening interprofessional collaboration in breastfeeding care.

## Introduction

The growing complexity of health systems has put pressure on traditional models of care, requiring new forms of professional interaction. In this scenario, fragmentation of care poses a threat to therapeutic continuity and user safety, especially in sensitive areas such as breastfeeding, where clinical, social, and cultural factors converge, requiring integrated and collaborative responses from health teams<sup>1-4</sup>.

Although exclusive breastfeeding has widely recognized benefits such as lower infant morbidity, better immune system development, and strengthening of the emotional bond, its practice faces multiple barriers. These include the perception of insufficient milk supply, maternal insecurity, and a lack of professional support and support networks<sup>5-8</sup>. These difficulties are exacerbated in contexts of social vulnerability, where the limited availability of specialized services amplifies health inequalities from early stages of life<sup>9</sup>.

Given this situation, international organizations such as the World Health Organization have emphasized the need to strengthen interprofessional competencies to improve the quality of care and ensure family-centered care<sup>10-12</sup>. Collaborative work among health professionals allows for the integration of complementary perspectives, clarification of roles, and promotion of respectful and timely care for the mother-child dyad. Skills such as clinical communication, shared decision-making, and joint problem-solving are recognized as critical dimensions for interprofessional practice in this field<sup>13-15</sup>.

In this context, Collaborative Clinical Simulation (CCS) has emerged as a highly valuable pedagogical strategy. Its strength lies in the recreation of complex clinical scenarios that allow teams to practice joint decision-making and reflect in a safe and deliberative environment<sup>16-18</sup>. Unlike unidirectional approaches, CCS promotes understanding of interprofessional dynamics, appreciation of each discipline, and the transfer of learning to real practice<sup>17,19</sup>. Several studies have

demonstrated its effectiveness in developing collaborative attitudes, improving clinical communication, and clarifying responsibilities within the team, all of which are essential elements of maternal and child care<sup>14,19</sup>.

In the case of breastfeeding, evidence shows that coordinated and respectful care from health teams can promote exclusive breastfeeding duration and positively impact maternal and child health outcomes<sup>4,10,20,21</sup>. However, the application of CCS in continuing education programs aimed at professionals who care for this process has been scarcely explored, which constitutes a significant gap.

In Chile, the promotion and protection of breastfeeding have been the subject of sustained effort over recent decades, driven by national programs aimed at strengthening education and professional training, as well as implementing protective public policies. As a result of the breastfeeding promotion and support strategies implemented in the last few decades, Chile has shown sustained progress in this area. Recent data indicate that 56.3% of mothers maintain exclusive breastfeeding for 6 months or more, as reported in the National Survey on Breastfeeding in Primary Care (ENALMA)<sup>22</sup>, consolidating the country as a regional benchmark in policies supporting breastfeeding. This progress has been supported by public policies and regulatory frameworks, such as Law No. 20,545 on maternity protection and postnatal parental leave, as well as technical guidelines from the Ministry of Health aimed at humanized care and continuity of care in the postpartum period<sup>23-25</sup>.

Organizations such as the National Breastfeeding Commission (CONALMA), the Chilean Society of Pediatrics (SOCHIPE), the Chilean Institute of Reproductive Medicine (ICMER), and health services have played a key role in training professional teams and organizing continuing education opportunities. In addition, various national studies have documented the impact of comprehensive postpartum interventions and the decisive role of clinical support in the duration and success of breastfeeding<sup>26-28</sup>. These achieve-

ments position Chile as a regional leader in this area, although challenges remain in terms of equitable access and the need to consolidate collaborative practices between disciplines.

In this context, the study was conducted as part of a continuing education course on breastfeeding held in Chile, organized by the V Region branch of SOCHIPE, SEREMI V Region, and CONALMA, to evaluate participants' satisfaction with the learning experience generated by an Interprofessional Collaborative Clinical Simulation (ICCS). The results provide evidence to guide the design of innovative, contextualized, and scalable educational interventions that promote the strengthening of integrated, collaborative, and humanized care models.

The objective of this research was to evaluate the satisfaction of health professionals with the learning experience generated by an ICCS in a continuing education course on breastfeeding.

## Method

### Study design

A quantitative study with an exploratory qualitative component was conducted. It was cross-sectional and non-experimental, aimed at evaluating participants' satisfaction with the learning experience provided by an ICCS in the context of a continuing education course on breastfeeding care.

### Participants

The initial cohort of the course consisted of 270 people from the healthcare sphere. Of these, 216 met the inclusion criteria and formed the final sample, selected by non-probabilistic convenience sampling. The criteria applied were: (1) full attendance at all course sessions, (2) possession of a professional degree in the health field, and (3) at least one year of clinical experience in breastfeeding.

### Intervention

The course consisted of a total of eight sessions, which included short presentations, case studies, and clinical skills workshops. The topics covered included: breastfeeding physiology, common difficulties and their clinical management, support for the mother-child dyad, counseling and clinical communication, hospital discharge and continuity of care, family-centered care, interprofessional networking, and user safety. At the end of these sessions, the ICCS was carried out using real-life scenarios, spread over two consecutive days, with a total of 27 small groups (13 on the first day and 14 on the second day). The CCS was developed in four phases:

### *Learning design*

Definition of training objectives and development of clinical guidelines that included differential diagnoses and criteria for action.

### *Collaborative design*

Development of clinical cases by participants, grouped into interdisciplinary subgroups, with pedagogical support from the teaching team.

### *Simulation execution*

Staging of cases by each subgroup, where participants assumed clinical roles in a controlled environment that replicated real conditions of breastfeeding care.

### *Debriefing*

Post-simulation analysis session aimed at reflecting on individual and collective performance, guided by facilitators trained in recognized models such as plus/delta<sup>29</sup> and the "debriefing with good judgment" approach<sup>30</sup>.

Each group was made up of eight professionals, who assumed roles specific to their discipline. The minimum composition included at least one midwifery professional, one nursing professional, and one medical professional, while those practicing physical therapy, speech therapy, nutrition and dietetics, dentistry, and nursing technicians were assigned randomly. The clinical roles were performed by the participating professionals, while the students in the course took on the roles of the simulated characters, following standardized scripts and under the supervision of the teaching team. The scenarios were based on real situations in breastfeeding (Appendix), in accordance with the format of the Template for Intervention Description and Replication (TIDieR)<sup>31</sup> (Table 1).

### Measurement instrument

The sample was characterized using a structured questionnaire, developed by the authors, which was administered electronically at the time of registration. To assess satisfaction, the validated questionnaire "Collaborative Clinical Simulation: Student Evaluation"<sup>32</sup> was used, designed for high-fidelity contexts. The instrument includes seven items on a five-point Likert scale and an open-ended question about perceived learning or benefits. The inclusion of an open-ended question was considered as a minimal exploratory qualitative component (exploratory QUAL), aimed at gathering emerging perceptions without the pretense of saturation, according to initial mixed designs described in the literature. It was administered online, anonymously, and voluntarily, one week after the ICCS.

### Statistical analysis

Quantitative data were processed using descriptive statistics (frequencies, means, and standard deviations) using the SPSS Statistics software, version 29.0.2.0. The internal reliability of the questionnaire was verified using Cronbach's alpha coefficient<sup>33</sup>. At the same time, the qualitative component was addressed using open coding and constant comparison techniques<sup>34</sup>, carried out independently by two researchers. The emerging codes were organized into six dimensions that synthesized the perceived learnings. The qualitative analysis was managed with ATLAS.ti version 8.4.4, applying the criteria of Lincoln and Guba<sup>35</sup> to ensure methodological rigor in terms of credibility, transferability, dependability, and confirmability. The analysis was performed independently by two researchers, who reached an inter-coder agreement  $\kappa = 0.78$  (considered high). Discrepancies were resolved by consensus.

Triangulation was performed by integrating quantitative and qualitative findings, comparing the trends

identified in the frequencies and means of the questionnaire with the perceptions emerging from the narratives. This procedure allowed us to recognize convergences and complementarities between the two approaches, which strengthened the internal validity of the study and enriched our understanding of the phenomenon analyzed by articulating the numerical evidence with the subjective experiences of the participants.

### Ethical considerations

The study was conducted following the Declaration of Helsinki<sup>36</sup> and current institutional regulations. Participation was voluntary, anonymous, and mediated by informed consent. The protocol was approved by the Scientific Ethics Committee of the University of Playa Ancha of Educational Sciences (15-2023). The design and report followed the SRQR and STROBE guidelines, according to the EQUATOR network guidelines.

**Table 1. Checklist of the Template for Intervention Description and Replication (TIDieR) – Collaborative Interprofessional Clinical Simulation Intervention (CICS) in Breastfeeding Care**

Item	Description
Scenario titles	<ol style="list-style-type: none"> <li>1. Postpartum woman with alcohol and drug use in the decision-making process regarding breastfeeding.</li> <li>2. Hospitalized infant with hyperbilirubinemia.</li> <li>3. Infant with ankyloglossia.</li> <li>4. One-month-old infant with low weight.</li> <li>5. Infant with breastfeeding latch difficulties and maternal pain during breastfeeding.</li> <li>6. Preterm newborn requiring support to initiate breastfeeding.</li> </ol>
Rationale (Why)	To generate a meaningful learning experience aimed at evaluating healthcare professionals' satisfaction with an educational strategy based on collaborative interprofessional clinical simulation in breastfeeding care.
Materials used (What)	Medical records, clinical guidelines, discipline-specific diagnostic instruments, audiovisual resources, clinical furniture, and simulated characters (health students following a script).
Procedures (What)	Initial briefing (15 min), collaborative clinical simulation (30 min), and structured debriefing (15 min) per group.
Intervention providers (Who)	Facilitator instructors with experience in clinical simulation and health students trained as simulated users.
Mode of delivery (How)	Face-to-face clinical simulation conducted in interprofessional groups, using standardized scripts and a common structure.
Setting (Where)	Simulation laboratories configured as primary, secondary, and tertiary care clinical rooms.
When and intensity	The strategy was implemented over two consecutive days. Each of the 27 subgroups completed one 60-minute session (15 min briefing, 30 min simulation, 15 min debriefing).
Adaptations made	Real-time adjustments to the emotional and verbal intensity by simulated characters without altering the core script.
Structural modifications	No modifications were made to the initial planning.
Planned fidelity	Use of standardized clinical scripts, discipline-specific roles, realistic setting, and a structured debriefing guide.
Observed fidelity	High adherence to the planned script and structure; realistic and coherent execution with strict compliance with the planned stages.

## Results

The sample consisted of 216 health professionals, with a predominance of women in all disciplines represented, reflecting the usual composition of staff involved in perinatal care. Most participants worked in midwifery (36.6%), nursing (20.4%), and medicine (12.5%). An analysis of previous training revealed low exposure to clinical simulation methodologies: only 3.2% of the total had previously participated in this type of training, suggesting limited incorporation of these tools in continuing education in these disciplines.

In relation to experience in breastfeeding care management, a generally low representation was observed. Among those who reported experience in breastfeeding ( $n = 216$ ), 37.0% were in medicine, 35.7% in nutrition, and 28.6% were nursing technicians, followed by nursing with 27.3%, speech therapy with 20.0%, and midwifery with 17.7%. Finally, physical therapists and dentists had the lowest percentages, both with 10.0% reporting experience in this area.

Besides, experience in interdisciplinary work was minimal: only four professionals (1.85%) reported having recently been part of structured interprofessional teams to address breastfeeding cases, defined by effective interaction between three or more disciplines with shared decision-making. This finding highlights a critical gap in collaborative training, particularly relevant in the perinatal setting, where comprehensive care requires the coordination of multiple actors in the health team (Table 2).

From a quantitative perspective, the overall assessment of the training strategy was overwhelmingly positive. 99.1% of participants gave the teaching team the highest possible score for the attention they received, while 93.1% expressed the same level of satisfaction with the learning experience as a whole. The debriefing phase, a reflective analysis session following the simulation, was highlighted as one of the most significant parts of the training process, with 95.4% of the evaluations at the highest level of satisfaction. In contrast, the physical environment, particularly the Clinical Skills Laboratory facilities, received a lower proportion of top ratings (87.5%), suggesting a concrete opportunity for improvement in the infrastructure supporting practical training.

Psychometric analysis of the evaluation questionnaire showed high internal consistency (Cronbach's  $\alpha = 0.85$ ), validating the reliability of the instrument. The highest-rated dimensions were "attention provided by teachers" (mean = 4.99; SD = 0.10) and "critical reflection during debriefing" (mean = 4.95; SD = 0.21). In contrast, the items "clinical case design" (mean = 4.81; SD = 0.48) and "facility conditions" (mean = 4.87; SD = 0.35) showed greater variability in

responses, reflecting more heterogeneous experiences among participants (Table 3).

Analysis of the responses to the open-ended question revealed six key formative dimensions that emerged repeatedly in the participants' testimonies: (1) interprofessional coordination, (2) effective clinical communication, (3) collaborative learning, (4) emotional development in clinical contexts, (5) debriefing assessment, and (6) clinical applicability of what was learned.

Interprofessional coordination was one of the most prominent categories, with participants noting that "understanding the role of each professional allowed us to make more coordinated and effective decisions" (P6) and that "identifying the roles of each team member made decisions faster and more confident" (P9). In terms of clinical communication, there was an improvement in clarity and active listening: "I learned to better summarize key information and listen without interrupting" (P77), which, according to the participants, "improved the team's fluidity" (P42). Collaborative learning was mentioned as a space for knowledge exchange: "Everyone contributed from their own experience, and that enriched the solution to the clinical case" (P104), recognizing the value of "different perspectives that enrich problem solving by improving communication skills among professionals" (P215).

From an emotional perspective, professionals valued the simulated environment as a safe space for managing stress: "I was able to train myself to stay calm under pressure, knowing that I was not alone" (P110), and they emphasized that "experiencing the stress of real situations in a controlled environment was formative" (P2). The debriefing stage was valued as central to critical reflection and learning: "I understood mistakes I hadn't noticed, and it helped me think about how to act differently in the future" (P8). Finally, the participants identified a high clinical applicability of the lessons learned: "After the course, I felt I had more practical and concrete tools to support breastfeeding in my daily work" (P11). These dimensions illustrate not only the perceived usefulness of the strategy but also a significant transformation in the understanding of collaborative work in sensitive clinical contexts (Table 4).

The triangulation of quantitative and qualitative results allowed us to construct a coherent picture of the educational value of the ICCS. The limited previous experience in clinical simulation, reported by more than 95% of the participants, was reflected in the testimonials, which highlighted the novelty and pedagogical impact of the methodology. Similarly, the limited interprofessional training in breastfeeding, particularly in midwifery (17.7%), nursing (27.3%), and medicine (37.0%), coincided with the qualitative perception that such instances are insufficient and require further de-

**Table 2. Sample Characteristics**

Profession	Number	Gender	Clinical Simulation Experience <sup>a</sup>	Breastfeeding Experience <sup>b</sup>	Participation in Interdisciplinary Work <sup>c</sup>
Midwife	79	55/24	3/76	14/65	2/77
Nurse	44	31/13	2/42	12/32	0/44
Doctor	27	19/8	1/26	10/17	1/26
Physiotherapist	20	14/6	0/20	2/18	0/20
Speech-Language Pathologist	15	10/5	0/15	3/12	0/15
Nutritionist	14	10/4	1/13	5/9	1/13
Dentist	10	7/3	0/10	1/9	0/10
Nursing Technician	7	5/2	0/7	2/5	0/7

F: Female. M: Male. <sup>a</sup>Clinical simulation experience was defined as prior participation in training activities that incorporated simulation-based methodologies, such as workshops, clinical training with mannequins, standardized patients, or technological simulators, with or without structured debriefing. <sup>b</sup>Breastfeeding experience was defined as clinical experience in this field based on self-report provided at the time of registration. The thresholds used to classify experience ( $\geq 10$  years in breastfeeding and  $\geq 10$  previous simulation activities) were operationally defined by the research team due to the absence of consensus thresholds in the literature and are acknowledged as a limitation of the study. <sup>c</sup>Participation in interdisciplinary work was defined as clinical care delivered within interprofessional teams composed of three or more distinct disciplines, involving effective interaction and shared decision-making.

velopment with an interdisciplinary approach. Likewise, low participation in structured interprofessional teams (1.85%) was associated with reports that highlighted gaps in collaborative training, identified as a priority need in the perinatal field.

Beyond the high levels of satisfaction reported, a shared perception emerged about the transformative nature of ICCS, especially regarding strengthening collaborative practices. The testimonies collected revealed an awareness of the persistent gaps in traditional interprofessional training and positioned this methodology as a valid alternative to address them. Far from being considered an isolated experience, the ICCS was interpreted as a turning point in the understanding of teamwork, reinforcing its potential as an education-

al tool that can be replicated and transferred to real healthcare contexts.

Examples of these perceptions are reflected in statements such as: “I had never worked in such a realistic setting before; it made me realize how valuable it is to learn from other disciplines” (P12); “The simulation allowed me to understand what other professionals expect from my role and how we can complement each other” (P34); “I identified gaps in my training, especially in breastfeeding, and now I see the importance of reinforcing them as a team to improve user care, especially with nonverbal communication” (P56); and “I was surprised to discover that collaboration does not happen on its own, but requires training spaces like this to practice” (P78).

**Table 3. Psychometric indices of the satisfaction questionnaire applied in the breastfeeding update course**

Items	Questions	Psychometric parameters				
		Min	Max	Mean	SD	Variance
A. Personal satisfaction with the activity	The attention provided by the simulation instructors	4	5	4.99	0.10	0.01
	The facilities of the Clinical Skills Laboratory	3	5	4.87	0.35	0.12
	The learning experience of the CCS	3	5	4.93	0.28	0.08
	The CCS (instructors + facilities + learning experience)	2	5	4.89	0.39	0.16
B. Usefulness of the stages for learning	Designing the clinical case	3	5	4.81	0.48	0.23
	Developing the case in the simulator	4	5	4.94	0.25	0.06
	Reflecting on the case during the debriefing	4	5	4.95	0.21	0.04

CCS: Collaborative Clinical Simulation.

**Table 4. Coding of responses to the question: "What training advantage(s) of collaborative clinical simulation have you perceived?"**

Explored dimensions	Subtheme	Coding frequency	Example quotes
Interprofessional coordination	Shared decision-making and clearly defined roles	132	"During the simulation, understanding each professional's role allowed us to make more coordinated and effective decisions" (P6). "Identifying each team member's role helped decisions be made more quickly and safely" (P9).
Effective clinical communication	Clarity in information exchange and active listening	118	"I learned to express my ideas clearly and to listen actively, which improved team communication" (P42). "I learned to better summarize key information and listen without interrupting, which facilitated teamwork" (P77).
Collaborative learning	Knowledge exchange and joint construction of solutions	107	"It was an opportunity where everyone contributed from their experience, enriching the solution to the clinical case" (P104). "I realized that other professions bring different perspectives that enrich problem solving" (P215).
Emotional development in clinical contexts	Stress regulation and mutual support in critical scenarios	96	"I was able to train myself to remain calm under pressure, knowing that I was not alone" (P110). "The simulated environment allowed me to experience the stress of real situations, but in a safe space" (P2).
Debriefing as a reflective strategy	Self-assessment, feedback, and continuous improvement	89	"The debriefing was essential to understand what we did well and what we could improve" (P34). "During the debriefing I realized mistakes I had not noticed and it helped me think about how to act differently in the future" (P8).
Clinical applicability of learning	Transfer of skills to real clinical practice	78	"Now I feel more prepared to address complex breastfeeding situations because I practiced them in a realistic way" (P49). "After the course, I felt I had more practical and concrete tools to support breastfeeding in my daily work" (P11).

P: Participant.

## Discussion

The findings of this study show that a training intervention based on ICCS generates high levels of satisfaction among healthcare professionals, even in contexts where previous experience in interprofessional work or clinical simulation was limited. This positive perception reflects a high level of acceptance of the methodology and is consistent with international literature, which reports simulation as a highly valued strategy in continuing education programs and especially relevant in maternal and child health<sup>37,38</sup>. The limited previous exposure to simulation experiences in this area coincides with the findings of other studies, which describe persistent gaps in interprofessional training and highlight the need to expand the use of these methodologies in educational practice<sup>39,40</sup>.

Similarly, various Latin American studies have reported high levels of satisfaction with simulation experiences in related areas. In Chile, more than 79% of obstetrics and childcare students rated tele-simulation applied to childcare scenarios positively, even in contexts with limited resources<sup>41</sup>. Likewise, a study con-

ducted at the *Universidad de Concepción* showed that all obstetrics students considered high-fidelity clinical simulation satisfactory<sup>42</sup>, but there was little evidence of this among professionals who had already graduated. In addition, the relevance of simulated scenarios in humanized labor and birth has been documented, highlighting their acceptance and positive assessment by health teams<sup>43</sup>. Taken together, these findings reinforce the external validity of the findings of this study in the Latin American context.

A central aspect of the reported satisfaction was the debriefing phase, considered by participants as the moment of greatest pedagogical value. Beyond being a space for feedback, it was perceived as a safe environment for critical reflection, analysis of practice, and reinterpretation of clinical experience. This finding is consistent with previous research highlighting the role of structured debriefing in satisfaction with simulation activities, given its impact on motivation, confidence, and collaborative learning<sup>44-46</sup>.

The qualitative results complemented this finding, showing that satisfaction was not limited to technical learning but also included the perception of a training space enriched by interdisciplinary interaction. The

identification of elements such as interprofessional coordination and effective communication was mentioned as a source of satisfaction, in line with studies that recognize that these aspects favor the motivation and commitment of participants<sup>47,48</sup>. Likewise, the possibility of interacting with different roles in a safe environment was valued as a unique opportunity to understand the importance of teamwork, which coincides with the literature linking these experiences with greater acceptance of interprofessional methodologies<sup>49,50</sup>.

In this sense, the high acceptability and satisfaction observed in this study reinforce the potential of ICCS as a replicable training strategy in the field of breastfeeding. Its perceived applicability is in line with international guidelines that promote interprofessional education and simulation as effective ways to improve the quality of care and respond to the demands of contemporary health systems<sup>51</sup>. Furthermore, the assessment of satisfaction is justified in classic models of educational intervention impact analysis, such as the Kirkpatrick model<sup>52</sup>, which places this indicator as the first level for assessing the effectiveness of a training experience.

A relevant limitation of the study is its cross-sectional design with convenience sampling, which limits the generalizability of the results. Likewise, the use of a self-report questionnaire may introduce social desirability biases, which is also described in similar studies<sup>50,51</sup>. Despite these limitations, the consistency of the findings and triangulation with qualitative evidence strengthen the validity of the results and provide empirical evidence on perceived satisfaction with ICCS in real training contexts.

## Conclusions

The experience gained clearly demonstrates that ICCS is a highly satisfactory training tool, even for professionals with little or no previous experience in clinical simulation or interprofessional work. The fact that most participants value the strategy positively reveals not only its acceptability but also its ability to exceed initial expectations and position itself as an innovative methodology that directly responds to widely recognized training gaps in breastfeeding care.

Debriefing emerged as the most decisive element of the intervention, becoming a safe space for critical reflection and shared learning. The coincidence between quantitative data and qualitative perceptions confirms the robustness of the findings and reinforces the idea that ICCS is not an episodic experience, but a resource with real transformative potential in continuing education courses to improve effective communication

skills and quality of care. Developed with professionals from the public health system and in the specific context of breastfeeding, the strategy demonstrated its clinical relevance and viability for integration into institutional continuing education programs without requiring large investments, which favors its sustainability and scalability.

The satisfaction expressed by participants should be interpreted as more than just a positive indicator; it is a predictor of change. In the field of breastfeeding, where interprofessional coordination and clinical communication are essential, the willingness of professionals to transfer what they have learned and recommend the experience to their peers is particularly relevant for strengthening the quality of care. At the same time, the assessment of the human dimension of learning—empathy, collaboration, and family-centered care—confirms that ICCS not only educates but also inspires more ethical and sensitive clinical practice in this priority area.

For all these reasons, it is imperative to move toward the systematic integration of ICCS into continuing education programs related to breastfeeding. The results of this study are a call to transform the way health teams are trained in this area, which is strategic for maternal and child well-being. Committing to collaborative simulation in breastfeeding is not a marginal option, but rather a structural decision to build teams that are better prepared, more cohesive, and capable of responding to the contemporary challenges of mother-child dyad care.

## Ethical Responsibilities

**Human Beings and animals protection:** Disclosure the authors state that the procedures were followed according to the Declaration of Helsinki and the World Medical Association regarding human experimentation developed for the medical community.

**Data confidentiality:** The authors state that they have followed the protocols of their Center and Local regulations on the publication of patient data.

**Rights to privacy and informed consent:** The authors have obtained the informed consent of the patients and/or subjects referred to in the article. This document is in the possession of the correspondence author.

## Conflicts of Interest

Authors declare no conflict of interest regarding the present study.

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