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Innovative Clinical Progression for Midwifery Training : The Clinical Education Model in a New Health Scenario

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Abstract

The training of midwives in Chile faces growing challenges associated with epidemiological transformations, changes in birth and fertility rates, post-pandemic restrictions in clinical training centers, along with new regulatory requirements related to quality and patient safety (6,11,18). In this context, it becomes necessary to reconsider the paradigms of clinical training in order to ensure a coherent academic trajectory aligned with the achievement of the program's graduate profile.

This essay analyzes a proposal for progressive practical training developed at the Universidad de Las Américas, conceived as a structured response based on advanced clinical education methodologies. The proposal integrates the regulatory framework established by the Chilean Health Code (23), the graduate profile of the Obstetrics and Midwifery program, and available evidence in clinical education. It highlights the role of spiral learning (1), deliberate practice and clinical simulation (4,7,16), interprofessional education (8,17), authentic assessment (3,15), and metacognitive reflection.

In addition, the essay examines the challenges arising from the sustained decline in Chile's Total Fertility Rate (19) and the consequent reduction in direct obstetric clinical experiences, which requires the implementation of pedagogical strategies that ensure meaningful learning experiences even when the availability of clinical settings is limited.

Keywords: clinical education; midwifery; patient safety; simulation; training progression; sexual and reproductive health.

Introduction

Health education is undergoing profound transformations driven by increasing healthcare complexity, demographic changes, epidemiological transitions, and the expansion of sexual and reproductive rights (2,6,11,12). These dynamics require professionals capable of integrating updated scientific knowledge, technical skills, communication competencies, and the ability to work collaboratively in interprofessional teams within increasingly complex clinical environments.

The professional practice of midwifery in Chile is regulated by the **Chilean Health Code (Articles 117–118)** (23), which establishes specific competencies in sexual, reproductive, perinatal, and gynecological health. This regulatory framework positions midwives as professionals with direct responsibilities in providing comprehensive care to individuals throughout the life course, which requires rigorous and ethical training aligned with contemporary standards of quality and patient safety (11,18).

At the same time, Chile is experiencing a sustained decline in the **Total Fertility Rate**. According to the National Institute of Statistics, in 2024 the rate reached an average of **1.03 live births per woman**, well below the generational replacement level estimated at **2.1 children per woman** (19). This demographic trend has resulted in a reduction in the availability of direct obstetric clinical experiences for students in training.

In addition, the **COVID-19 pandemic** restricted student access to clinical training centers at various levels of healthcare, prioritizing the safety of patients and healthcare teams (14).

These conditions limited learning opportunities in real clinical environments, reinforcing the need to strengthen structured and safe pedagogical strategies.

Within this context, the central challenge currently facing midwifery education can be formulated as follows: the sustained reduction in direct obstetric clinical experiences, combined with the increasing complexity of the professional role and contemporary patient safety requirements, places pressure on traditional clinical teaching models that rely exclusively on direct clinical exposure, potentially compromising the consistent acquisition of essential competencies.

In response to this scenario, the **Center for Advanced Clinical Education (CECA)** (22) has emerged as an interinstitutional initiative aimed at strengthening the clinical training of students from health-related programs at Universidad Andrés Bello, **Universidad de Las Américas, and Instituto Profesional AIEP**. At Universidad de Las Américas, the methodologies associated with CECA are being gradually implemented in the **Interdisciplinary Clinical Education Centers (CECI)** located within institutional facilities, while the CECA building is currently under construction.

The model is based on principles of **spiral learning** (1), **deliberate practice** (4), **progressive clinical simulation** (4,7,16), **interprofessional education** (8,17), **authentic assessment through validated instruments** (3,15), and **metacognitive reflection** as a strategy for consolidating learning. Its purpose is to ensure that midwifery students achieve the learning outcomes defined in the graduate profile, even in contexts where clinical training opportunities are limited.

Regulatory Framework and Contemporary Challenges in Midwifery

The professional practice of midwives in Chile is regulated by the **Chilean Health Code** (23), which in Articles 117 and 118 establishes specific competencies in areas such as prenatal care, childbirth and postpartum care, neonatal care, sexual and reproductive health, family planning, and contraceptive counseling. This regulatory framework not only defines the scope of professional practice but also establishes direct clinical responsibilities that require rigorous training, continuous professional development, and adherence to healthcare quality standards.

Additionally, other relevant areas of professional practice—such as the prevention and management of sexually transmitted infections (STIs), as well as participation in comprehensive sexual and reproductive healthcare within the framework of **Law No. 21.030**—are supported by specific regulations issued by the Chilean Ministry of Health. This legislation and its technical guidelines establish an institutional and interprofessional approach that guides the actions of healthcare teams, including midwives, in accordance with principles of quality, confidentiality, respect for rights, and patient safety (20,21). Furthermore, current ministerial guidelines in sexual and reproductive health and STIs (21) define their participation in promotion, prevention, counseling, and screening activities across different levels of healthcare.

At the same time, strengthening the **culture of patient safety** has become a structural pillar of healthcare education worldwide (11,12). Evidence shows that the systematic integration of patient safety and risk management content in educational programs contributes to improved clinical outcomes and a reduction in adverse events (15,18). In this regard, midwifery education cannot be limited to the acquisition of technical skills alone but must also incorporate principles of safety, effective communication, teamwork, and decision-making in contexts of uncertainty.

The broad scope of the profession is also linked to the recognition of **sexual and reproductive rights** as essential components of well-being and health equity (2,6). This implies that professional education must integrate a biopsychosocial approach, cultural sensitivity, and a gender perspective, consistent with the graduate profile of the program and with global priorities in education and health.

Within this evolving regulatory and social framework, clinical training faces the challenge of ensuring curricular coherence between regulatory standards, current healthcare demands, and the actual availability of training experiences. The previously described decline in birth rates (19) does not reduce professional responsibility; rather, it complicates the pedagogical design required to ensure that students develop comprehensive clinical competencies, even when direct clinical exposure is more limited.

Demographic Transformations and Redistribution of the Professional Field

Chile is undergoing an advanced demographic transition characterized by historically low birth and fertility rates (19). This trend has altered both the volume and the type of clinical experiences available for the training of students in health-related programs, particularly those with a strong obstetric component.

The sustained reduction in the number of births does not imply a decrease in the professional field of midwifery, but rather a transformation in the distribution of disciplinary practice. While a lower frequency of direct obstetric care is observed in some healthcare centers, there has simultaneously been an expansion and diversification of areas related to comprehensive sexual and reproductive health, climacteric care, gynecological health, gynecologic oncology, comprehensive sexual education, fertility and contraception, male sexual health, support in situations of violence, and the promotion of rights through a community-based approach.

This shift in the focus of care requires rethinking traditional training models that are centered exclusively on repeated exposure to childbirth and obstetric procedures. Contemporary education must consider not only the frequency of clinical

cases but also the complexity of situations, epidemiological variability, and the need to develop competencies that are transferable across multiple professional contexts.

In this regard, the reduction in the volume of direct obstetric care resulting from the national demographic context (19) requires the design of educational pathways that ensure the achievement of essential competencies, even when the number of available clinical experiences is limited. This calls for structured pedagogical strategies that integrate clinical simulation, diagnostic reasoning, and deliberate practice, in line with international evidence in health education (4,7,16).

Impact of the Pandemic and Methodological Strengthening

In addition to demographic transformations, the COVID-19 pandemic generated significant restrictions on students' access to clinical training sites (14). During this period, institutional priorities focused on ensuring the safety of patients and healthcare teams, which limited the direct participation of students in various care settings.

This situation revealed the vulnerability of educational models that depend excessively on the continuous availability of clinical placements. In response, many health education institutions strengthened the use of methodologies based on high-fidelity simulation, structured training, and authentic assessment strategies in order to maintain educational continuity without compromising quality standards (4,7,16).

Clinical simulation has been shown to improve technical performance, teamwork, and decision-making under conditions of uncertainty (16,17). Furthermore, the explicit incorporation of patient safety content into simulated scenarios allows students to practice risk identification, effective communication, and the management of adverse events (11,15,18).

In this context, structured methodologies do not replace real clinical experience but rather function as a preparatory mechanism that strengthens safety and performance before direct contact with patients and families. This approach aligns with international recommendations that promote progressive clinical education based on deliberate practice and structured feedback (4,9,10).

Progressive Clinical Education Model

The clinical education model implemented is based on the principle of **spiral learning** described by Bruner (1), according to which competencies are revisited throughout the educational trajectory with increasing levels of complexity and conceptual depth. This approach allows students to progressively consolidate knowledge, skills, and attitudes, integrating prior experiences into new clinical contexts.

Consistent with this framework, the educational design incorporates **deliberate practice** as a central strategy for the development of both technical and non-technical competencies (4). Deliberate practice involves structured training, explicit objectives, immediate feedback, and systematic repetition—elements widely supported in the literature on clinical education (4,9,10).

The model includes a training sequence organized into three levels

Initial Stages

Priority is given to the development of basic psychomotor skills, safe handling of instruments, initial communication with patients, and recognition of fundamental principles of patient safety (11). At this stage, training is conducted in simulated environments with low- and medium-fidelity simulation, allowing the acquisition of skills in a controlled setting.

Intermediate Stages

Technical skills are integrated with structured clinical reasoning. The discussion of clinical cases, Grand Rounds, and structured patient rounds are supported by strategies described for clinical teaching in real healthcare environments (9,10). These methodologies promote the development of clinical judgment, diagnostic prioritization, and evidence-based decision-making.

Advanced Stages

Students engage with scenarios involving greater uncertainty and complexity, including obstetric emergencies, perinatal risk situations, and cases in sexual and reproductive health with significant ethical and communication challenges. At this stage, high-fidelity clinical simulation and interprofessional simulation enable training in team coordination, leadership, and responses to critical events (16,17).

The progressive integration of **classical simulation, immersive simulation, Live-Like Simulation, and interprofessional training** is conceptually aligned with international evidence supporting these strategies as effective tools for improving clinical performance and patient safety (4,7,16,17). Simulation allows students to be exposed to low-frequency but highly complex situations, ensuring educational experience in events that may not occur during routine clinical practice.

Within this framework, **CECA (22)** operationalizes methodologies that, although they may have institution-specific names, remain conceptually aligned with international models of advanced clinical education. These methodologies are systematized in the *Guide to Distinctive Educational Methods and Strategies Applied in Clinical Education at Universidad de Las Américas* (5), a document that supports the structured implementation of progressive clinical training. The technological infrastructure and pedagogical design aim to ensure a structured educational trajectory that compensates for variability in the availability of real clinical cases.

This model does not replace clinical placements but rather **strategically complements them.** Progressive exposure, combined with structured feedback and continuous formative assessment, enables students to enter real clinical settings with greater technical preparation, risk awareness, and the capacity for safe decision-making (11,15,18).

Authentic Assessment and Metacognitive Reflection

Assessment constitutes a central component of the educational model. Internationally validated instruments, such as the **Mini-CEX** (3), are incorporated to evaluate performance in clinical tasks that represent real professional practice. Authentic assessment integrates technical, communicational, ethical, and clinical reasoning dimensions, promoting a comprehensive evaluation of student performance.

Additionally, structured feedback strategies and direct observation are used to encourage continuous improvement and the progressive adjustment of learning (3,9). The combination of formative and summative assessment strengthens the alignment between curricular objectives and learning outcomes.

Metacognitive reflection following simulated or real clinical experiences represents an essential component of the training process. The literature highlights that structured reflection supports the consolidation of learning, the recognition of errors, and the internalization of patient safety principles (4,15,16). In this regard, the model promotes systematic post-simulation analysis sessions aimed at identifying strengths, areas for improvement, and strategies to optimize clinical performance.

Discussion

The clinical education model developed within the framework of **CECA** (22) and implemented at **Universidad de Las Américas** emerges as a coherent pedagogical response to demographic transformations, the redistribution of the professional field of midwifery, and contemporary requirements in patient safety (11,18,19). The reduction in the number of births within the national context does not diminish the responsibility of educational institutions; rather, it necessitates the design of structured educational pathways that ensure the consistent development of essential clinical competencies.

International evidence supports the integration of **progressive simulation, deliberate practice, and authentic assessment** as effective strategies to strengthen clinical performance and decision-making in complex contexts (4,7,16,17). In this regard, the integration of **spiral learning** (1), **structured training** (9,10), and a **culture of safety** (11,12) helps maintain robust educational standards even when direct clinical exposure is more limited.

Furthermore, the diversification of the disciplinary field—which includes areas such as comprehensive sexual health, climacteric care, community health, and a rights-based approach—requires professionals with transferable competencies, critical thinking skills, and the ability to adapt to dynamic healthcare environments (2,6). Progressive education based on simulation and structured clinical discussions facilitates the integration of these competencies from the early stages of the educational trajectory.

Strengthening the **culture of patient safety** constitutes a transversal element of the model. The explicit incorporation of training in risk identification, effective communication, and the management of adverse events aligns with international recommendations and contributes to reducing the likelihood of clinical errors during the early stages of professional practice (11,15,18). Moreover, the literature has emphasized that patient safety has not only clinical implications but also economic and systemic consequences for healthcare systems, reinforcing the need to integrate these concepts in a structured manner within initial professional training (13).

Nevertheless, although the model presents solid theoretical foundations and pedagogical coherence, its consolidation requires systematic longitudinal evaluation to measure its impact on real clinical performance, objective indicators of patient safety, and the perceptions of employers and healthcare teams. The generation of future empirical evidence will be crucial to validate its effectiveness, identify areas for improvement, and optimize its implementation over time.

Conclusions

The progressive clinical education model described represents a relevant educational strategy in response to the demographic and healthcare transformations currently affecting midwifery in Chile. The sustained decline in the **Total Fertility Rate** (19), the restrictions experienced during the **COVID-19 pandemic** (14), and the increasing complexity of the professional role require a reconsideration of traditional paradigms of clinical education.

The interinstitutional collaboration of the **Center for Advanced Clinical Education (CECA)** (22) and its implementation at **Universidad de Las Américas** enables the development of a structured educational pathway based on **spiral learning** (1), **deliberate practice** (4), **progressive simulation** (16,17), **authentic assessment** (3), and a **culture of patient safety** (11,18). This approach strengthens curricular coherence and promotes the progressive development of professional competencies within a dynamic healthcare environment.

The model is envisioned as a structural educational proposal aligned with the contemporary challenges of sexual and reproductive health, contributing to the preparation of professionals capable of performing with critical judgment, technical competence, and ethical commitment across diverse healthcare settings.

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