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REVIEW

A Call to Action: International Classification for Nursing Practice Integration for Undergraduate Nursing Education in the UAE – A Narrative Review

Un llamado a la acción: Integración de la Clasificación Internacional para la Práctica de Enfermería en la educación universitaria de pregrado en los EAU – Una Revisión Narrativa

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ABSTRACT

Introduction: the United Arab Emirates (UAE) is experiencing rapid changes in healthcare and education, yet undergraduate nursing education faces challenges in addressing the theory-practice gap and adopting standardized terminologies. The international classification for nursing practice (ICNP) offers a framework to enhance nursing education, but its integration remains underexplored.

Development: this review evaluates the potential of ICNP, combined with the systematized nomenclature of medicine – clinical terms (SNOMED CT), to improve patient care, interprofessional collaboration, and healthcare system efficiency. It proposes a phased curriculum integration plan, identifies stakeholder roles, and addresses global adoption challenges. The review highlights benefits for career preparedness, health informatics, and data interoperability.

Conclusion: integrating ICNP into UAE nursing education can bridge the theory-practice gap, enhance global competitiveness, and align with national health priorities. A structured implementation plan ensures sustainability, positioning UAE nursing education as a leader in health informatics.

Keywords: International Classification for Nursing Practice; Systematized Nomenclature of Medicine – Clinical Terms; Nursing Education; Health Informatics; Standardized Terminology.

RESUMEN

Introducción: los Emiratos Árabes Unidos (EAU) están avanzando en sus sistemas de salud y educación, pero la educación de pregrado en enfermería enfrenta desafíos para cerrar la brecha entre teoría y práctica y adoptar terminologías estandarizadas. La Clasificación Internacional para la Práctica de Enfermería (ICNP) ofrece un marco para mejorar la educación en enfermería, pero su integración sigue siendo poco explorada.

Desarrollo: esta revisión evalúa el potencial de la ICNP, combinada con la Nomenclatura Sistemática de la Medicina – Términos Clínicos (SNOMED CT), para mejorar la atención al paciente, la colaboración interprofesional y la eficiencia del sistema de salud. Propone un plan de integración curricular por fases, identifica los roles de las partes interesadas y aborda los desafíos de adopción global. La revisión destaca los beneficios para la preparación profesional, la informática sanitaria y la interoperabilidad de datos.

Conclusiones: la integración de la ICNP en la educación de enfermería de los EAU puede cerrar la brecha entre teoría y práctica, mejorar la competitividad global y alinearse con las prioridades nacionales de

salud. Un plan de implementación estructurado garantiza la sostenibilidad, posicionando a la educación en enfermería de los EAU como líder en informática sanitaria.

Palabras clave: Clasificación Internacional para la Práctica de Enfermería; Nomenclatura Sistemática de la Medicina — Términos Clínicos; Educación en Enfermería; Informática de la Salud; Terminología Estandarizada.

INTRODUCTION

The United Arab Emirates (UAE) leads in healthcare innovation and educational reform, establishing a strong foundation for advancing nursing education. The International Classification for Nursing Practice (ICNP) features a polyhierarchical structure that represents diagnoses, interventions, and outcomes.[1] The International Council of Nurses developed it to standardize nursing practice and facilitate easy integration with electronic health records. It supports nursing practice and research by enabling data collection, analysis, and comparison across different healthcare settings, contributing to improved patient care and health system efficiency.[2] WHO has approved ICNP to expand the scope of nursing practice as an essential and complementary part of professional health services.[3] When combined with Systematized Nomenclature of Medicine – Clinical Terms (SNOMED CT), it provides comprehensive clinical documentation across fields.[4] Therefore, incorporating ICNP into undergraduate nursing programs will help provide students with a standardized language that enhances patient care, encourages interdisciplinary collaboration, and promotes data-driven improvements in the health system.

The literature emphasizes the importance of ICNP in connecting theory and practice in nursing education, with implications for the UAE, advocating for its strategic adoption to align with national goals for patient-centered care and global competitiveness. A study on perceived knowledge of ICNP among undergraduate nursing students highlights the need for targeted education to improve familiarity and application, recommending early integration into curricula to build competence.[5] In the UAE, research on the theory-practice gap in nursing education points to opportunities for standardized tools like ICNP to enhance clinical readiness and evidence-based practice.[6] The synergy between ICNP and SNOMED CT is well documented, with joint efforts to create reference sets that enable cross-mapping and unify nursing terminology.[7] Automated mapping studies support the feasibility of integrating these systems to improve documentation accuracy and interoperability.[8] These findings demonstrate ICNP's potential to standardize nursing practice worldwide, especially in emerging health systems. Despite promising evidence, barriers such as inconsistent implementation and limited faculty training were identified.[9] Addressing these issues through curriculum reform can help accelerate the translation of knowledge into practice.

DEVELOPMENT

Enhancing Nursing Education via ICNP Integration

For nursing students in the UAE, ICNP enables benchmarking and research engagement. When it is complemented by SNOMED CT, it offers broad clinical terms, supports integrated care, and enhances nursing visibility in multidisciplinary data ecosystems.[10] Teaching nursing students to navigate these terminologies prepares them for local and global healthcare environments. Varied worldwide adoption leads to disparities in graduate preparedness. The UAE's modernization presents opportunities to lead in standardized education, leveraging its investment in healthcare and health informatics to align with national priorities.[6] Integration of ICNP into nursing education offers multiple benefits. It enhances career readiness by equipping graduates with skills to optimize electronic health records and contribute to quality improvement initiatives. In health informatics, ICNP's standardized terminology supports reliable handoffs and robust data analytics. Additionally, fluency in ICNP and SNOMED CT empowers nurses to influence healthcare policies and contribute to health initiatives globally. Finally, it encourages educational innovation via enabling scholarly projects focused on developing and refining care pathways, preparing nurses for leadership in clinical and academic settings.[1]

Phased Integration Plan

A structured plan for integrating ICNP into nursing education involves several key components. Curriculum alignment ensures that ICNP competencies are mapped across teaching courses to build progressive expertise.[11] Training introduces students to the ICNP taxonomy and its application in electronic health records during early practice. Clinical application incorporates ICNP into practicums and simulations to reinforce practical use. Teaching interoperable mapping with SNOMED CT enhances data standardization and system compatibility. Furthermore, assessment strategies include developing keys to evaluate ICNP accuracy to ensure proficiency.[12] Faculty development provides training on ICNP terminology and workflows to support effective instruction. Moreover, a comprehensive integration framework involves partnerships with institutions already adopting ICNP

to facilitate collaboration, resource sharing, and real-world application.

A phased, collaborative implementation strategy is essential for the successful integration of the ICNP in the UAE (Central Illustration). The first step involves convening a national working group comprising representatives from nursing schools, hospitals, informatics specialists, and regulatory bodies. This task force will develop a national roadmap for ICNP integration to establish a clear timeline, define metrics for success, and ensure alignment with the UAE's health and education strategies. Additionally, a pilot program is crucial to test and refine the integration process. Leading universities and partner hospitals should be identified as pilot sites to implement the ICNP curriculum modules. Outcomes from this pilot program will provide feedback used to refine implementation approaches and address challenges early in the process.[5]

Stakeholder Roles and Policy Implications

Successful integration of the ICNP in the UAE requires coordinated efforts across multiple stakeholders to align with educational and healthcare goals. Colleges and schools of nursing must lead by embedding ICNP into curricula over a 2–3-year timeline. This involves forming task forces to redesign curricula, integrating ICNP into learning outcomes, and aligning with accreditation standards. Faculty training programs are critical to building expertise in ICNP and SNOMED CT, ensuring effective teaching and assessment.[13] Universities should invest in simulated electronic health record platforms for hands-on ICNP practice and foster interdisciplinary collaborations to enhance curriculum development.[14] Hospitals and health systems play a vital role by aligning preceptorship with ICNP documentation practices and providing access to ICNP-enabled models. They should support outcome-based evaluation studies to assess the impact of standardized terminology on care quality and patient safety. Collaborative clinical placements can bridge the gap between academic learning and real-world application, enabling seamless transitions for nursing students from the classroom to clinical settings.[5]

Policymakers and accrediting bodies – such as the UAE Ministry of Health and Prevention and nursing councils- should incentivize ICNP adoption by linking it to accreditation criteria and national health informatics strategies. Policies promoting data interoperability and standardized documentation will drive system-wide benefits, aligning with the UAE's vision for integrated healthcare. Researchers and funders are essential for advancing ICNP integration. Academic and clinical researchers should conduct longitudinal studies to evaluate ICNP's impact on educational outcomes, care quality, and patient safety.[15] Funders -including government and health organizations- can provide grants for faculty development and curriculum innovation. Professional nursing associations can advocate for ICNP adoption via workshops, certifications, and resources. Their efforts foster a culture of standardized practice and support advocacy for nursing's role in health policy to ensure the UAE's nursing workforce is equipped to contribute to a unified healthcare system.[6,16,17]

Resource development is another key component, creating a shared repository of ICNP-focused teaching materials. The repository should include case studies, simulation scenarios, and assessment rubrics, designed as open source to reduce barriers to implementation. Furthermore, faculty and student development initiatives are vital to building capacity and ensuring competency. Evaluation and scaling will drive national adoption. Pilot program metrics should be monitored. Successful elements will be scaled nationally, supported by stakeholder collaboration to ensure a cohesive and sustainable ICNP integration across the UAE's nursing education and healthcare systems.[9]

Research Opportunities and Limitations

ICNP integration opens avenues for research, including longitudinal studies to evaluate its impact on educational outcomes, care quality, and patient safety. Researchers should explore how ICNP enhances nursing visibility in health policy and global health initiatives. However, this review acknowledges limitations, including the reliance on narrative synthesis, which may introduce selection bias, and the limited generalizability of findings due to the UAE's unique healthcare context. Future research should include empirical studies to validate the proposed integration plan and address barriers such as inconsistent implementation and resource constraints.

CONCLUSION

This review advocates for the integration of ICNP into UAE undergraduate nursing education as a transformative step toward fostering a generation of proficient, globally competitive nurses. By incorporating SNOMED CT mappings, this approach enhances care quality, interoperability, and health system performance to align with the UAE's vision for patient-centered healthcare. The proposed integration plan ensures feasibility and sustainability. Expected outcomes include improved patient safety, enhanced data analytics, and a strengthened global reputation for UAE nursing education. By seizing this opportunity, the UAE can position its nursing workforce at the forefront of health informatics and excellence in healthcare. This strategic investment bridges the theory-practice gap and empowers future nurses to lead in transforming health systems locally, regionally, and globally.

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CONFLICT OF INTEREST
The authors declare that there is no conflict of interest.

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