DOI: https://doi.org/10.36489/saudecoletiva.2021v11i68p7671-7678

Use of educational technologies based on andragogy for education of nursing nurses

Uso de tecnologías educativas basadas en la andragogía para la educación de enfermeras de enfermería

Uso de tecnologias educacionais baseadas na andragogia para educação de enfermeiros nefrologistas

ABSTRACT
Objective: To analyze the scientific production on the use of educational technologies for training and qualification of nephrology nurses who work in hemodialysis based on Andragogy. Method: The bibliographic survey was carried out through consultations in the following databases: Latin American and Caribbean Literature on Health Sciences (LILACS), SCIENCE DIRECT, MEDLINE, COCHRANE LIBRARY, BDENF and ERIC, with crossing of operators. Results: Fourteen articles were identified, which revealed a variety of technologies applied to the teaching of nurses. It was found that there was a predominance of studies with strength of evidence II and III, followed by level IV and V. Conclusion: Therefore, it is suggested in the research the dissemination of knowledge and construction of new studies on the subject in order to improve education for nurses, whether at the university or in their work environment.
DESCRIPTORS: Nephrology Nursing; Educational Technology; Learning.

RESUMEN
Objetivo: Analizar la producción científica sobre el uso de tecnologías educativas para la formación y calificación de enfermeras nefrológicas que laboran en hemodiálisis basada en Andragogía. Metodo: El levantamiento bibliográfico se realizó mediante consultas en las siguientes bases de datos: Literatura Latinoamericana y del Caribe en Ciencias de la Salud (LILACS), SCIENCE DIRECT, MEDLINE, COCHRANE LIBRARY, BDENF y ERIC, con cruce de operadores. Resultados: Se identificaron catorce artículos que revelaron una variedad de tecnologías aplicadas a la enseñanza de enfermeras. Se encontró que hubo predominio de estudios con fuerza de evidencia II y III, seguidos del nivel IV y V. Conclusión: Por lo tanto, se sugiere en la investigación la difusión del conocimiento y la construcción de nuevos estudios sobre el tema con el fin de mejorar la educación de las enfermeras, ya sea en la universidad o en su entorno laboral.
DESCRIPTORES: Enfermería en Nefrología; Tecnología Educativa; Aprendizaje.

RESUMO
Objetivo: Analisar a produção científica acerca da utilização de tecnologias educacionais para treinamento e qualificação de enfermeiros nefrologistas que atuam na hemodiálise que tivessem como base a Andragogia. Método: O levantamento bibliográfico foi realizado por meio de consultas nas bases de dados: Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS), SCIENCE DIRECT, MEDLINE, COCHRANE LIBRARY, BDENF e ERIC, com cruzamento de operadores. Resultados: Identificaram-se quatorze artigos, que revelaram uma variedade de tecnologias aplicadas ao ensino de Enfermeiros. Constatou-se que houve um predomínio dos estudos com força de evidência II e III, seguido no nível IV e V. Conclusão: Assim sendo, sugere-se na pesquisa a disseminação do conhecimento e construção de novos estudos sobre o tema a fim de melhorar a educação aos enfermeiros, seja na universidade, seja no seu ambiente de trabalho.
DESCRITORES: Enfermagem em Nefrologia; Tecnologia Educacional; Aprendizagem.

RECEIVED ON: 06/28/2021 **APPROVED ON:** 07/06/2021

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INTRODUCTION

Andragogy is the art and science of leading adults towards learning, [1] groups together principles that contribute to the success of learning and, consequently, promote improvement in professional training, permanent education and health education.

At the end of the 20th century, Andragogy began to be used in Nursing, [2] which is why it is opportune to inquire about the current state of knowledge production in this field.

According to data from the Brazilian Society of Nephrology (SBN - Sociedade Brasileira de Nefrologia), in 2018, in Brazil there were about 786 dialysis centers with approximately 119.850 patients undergoing hemodialysis treatment. [3]

That said, it is of paramount importance that, in order to provide quality nursing care, the nephrologist nurse must maintain their qualifications through continued learning, since there are great technological advances in the area of nephrology, especially in hemodialysis. [4]

In current times where educational technologies are daily innovating the teaching-learning process, there is a need for nephrology nurses to be effective in dialysis units, to reduce the time spent on training due to the many activities listed in their work routine.

In this context, interest in the subject emerged, as as a nephrologist nurse working in hemodialysis units, it was observed that nurses have great difficulty in developing their team's continuing education, with tiring and sometimes time-consuming and ineffective training.

Thus, the relevance of the study is highlighted because it allows to offer subsidies about the educational technologies used for the teaching of nursing professionals in order to help health professionals, especially nurses, who work in these units to know a little more about the opportunities for education and training based on adult education and current educational technologies used for this process.

In this context, the objective was to analyze the scientific production about the use of educational technologies for training and qualification of nephrologist nurses who work in hemodialysis based on Andragogy, which is the science for adult education.

METHOD

This is an integrative review type study, which aims to gather and synthesize research results on a given topic, in a systematic and orderly manner, contributing to the deepening of knowledge of the topic investigated. [3]

To achieve the proposed objective, the following steps were followed: sample selection by searching the databases; summary of information extracted from selected articles; evaluation of studies; interpretation and discussion of results; presentation of the review and synthesis of knowledge. [5] The collection period was from March to July 2020, following the pre-established criteria.

The bibliographic survey was carried out through consultations in the following databases: Latin American and Caribbean Literature on Health Sciences (LILACS), SCIENCE DIRECT, MEDLINE, COCHRANE LIBRARY, BDENF and ERIC. Using the descriptors: Nephrology Nursing AND Education, Higher AND Educational Technology according to the MeSH terminology, crossing the Boolean operator.

Inclusion criteria were: articles that address the proposed objectives, published in the last five years, from October 2014 to October 2019, being in English, Portuguese or Spanish; and be available electronically in full.

As exclusion criteria, the following were adopted: a) studies in editorial formats; b) studies in the form of letters to the editor and c) integrative reviews or literature reviews.

For the initial collection of data, an instrument was used to search for articles that have already been validated, which analyzes the methodological characteristics of the studies. [6] Peer review still remains the best method of research review, and it can be performed openly or blindly.

Thus, the search equation used was: Nephrology Nursing AND Education, Higher AND Educational Technology OR Education, Higher AND Educational Technology OR Educational Technology AND Nephrology Nursing.

Thus, 6883 articles were identified on the proposed topic, being: 18 in BDENF, 68 in LILACS, 12 in COCHRANE LIBRARY, 308 in MEDLINE, 160 in SCIENCE DIRECT and 6317 in ERIC.

After discussing the findings, 6864 articles were excluded, as follows: 18 in BDENF, 64 in LILACS, 12 in COCHRANE LIBRARY, 296 in MEDLINE, 160 in SCIENCE DIRECT and 6317 in ERIC for addressing other topics, thus being outside the inclusion criteria. We selected: 04 in LILACS, 11 in MEDLINE, totaling 15 articles, after applying the eligibility, 01 was duplicated, thus remaining 14 articles within the criteria.

RESULTS

DISCUSSION

The reading of the selected works resulted in different apprehensions about the strategies used in the teaching-learning process in nursing through educational technologies.

It was found that there was a predominance of studies with strength of evidence II and III, followed by level IV and V, that is, research with levels of evidence related to case-control or case study and originating from a descriptive study, respectively.

A1, A2, A5 and A14 authors emphasize the importance of creating new educational scenarios to seek greater efficiency in the teaching-learning process. On the other hand, A4 author diverges from the statement and states that only the use of Team-Based Learning brings the student the same degree of content acquisition.

Authors defend the use of information and communication technologies, as well as assistive technologies, to improve the teaching and learning process. [20, 21]

Assis and Almeida 20 report that the use of ICTs in pedagogical practices are

Chart 1 – Distribution of the general overview of articles regarding title, type of study, and level of evidence. Fortaleza - CE. 2019.

STUDY	TITLE	COUNTRY OF ORIGIN / YEAR OF PUBLICATION	METHOD	LEVEL OF EVIDENCE
A1	The trend of the teacher's role in the learning process [7]	2018 / Brazil	Descriptive exploratory research	5
A2	Learning styles scale in technology use situations: internal structure [8]	2018 / Brazil	Methodological Study	3
A3	Learning design e tecnologias: criação de ambientes colaborativos para a aprendizagem [9]	2017 / Brazil	Qualitative Study	4
A4	A Systematic Review Examining The Effectiveness Of Blending Technology With Team-Based Learning [10]	2016 / Australia	Systematic review	2
A5	Competency And An Active Learning Program In Undergraduate Nursing Education[11]	2014 / USA	Quantitative Empirical Research	5
A6	Technology To Enhance In-Class Discussions And Student Participation At A Multi-Campus Program[12]	2019 / USA	Descriptive Cross-sectional Research	3
A7	Five Years Of Lesson Modification To Implement Non-Traditional Learning Sessions In A Traditional-Delivery Curriculum: A Retrospective Assessment Using Applied Implementation Variables[13]	2017 / USA	COHORT	3
A8	Flipping for success: evaluating the effectiveness of a novel teaching approach in a graduate level setting [14]	2015 / Canada	Control Case	4
A9	Improving nursing students' learning outcomes in fundamentals of nursing course through combination of traditional and e-learning methods [15]	2019 / Iran	Control Case	4
A10	The impact of assistive technology use for students with disabilities in higher education: a systematic review [16]	2019 / Ireland	Systematic Review	2
A11	An ehealth capabilities framework for graduates and health professionals: mixed-methods study[17]	2018 / Australia	Methodological Study	3
A12	Strategies used for the promotion of critical thinking in nursing undergraduate education: a systematic review [18]	2017 / USA	Systematic Literature Review	2
A13	Using bourdieu's theory of practice to understand ict use amongst nurse educators [19]	2014 / United Kingdom	Descriptive Exploratory Study	5
A14	Health teaching: time of new information and communication technologies [20]	2018 / Brazil	Narrative Literature Review	3

Fonte: Elaborado pelo autor, 2021

essential and of great power with regard to the teaching process, but without planning we may have a decrease in adherence to them, indicating the need to develop training processes with this focus.

According to McNicholl [21] through a systematic review, it shows the importance of AT (Assisted Technology) in academic training, increasing student learning and engagement, in addition to benefiting the team of academic facilitators.

Moraros [14] describes that the Flipped Classroom technology had as a problem the management of the program and audio quality, the comfort of the students was impaired due to the delay in posting videos.

We see through the studies mentioned in the research that we still have a long way to go towards the perfect design of the teaching-learning process for the nursing professional, as a student in continuing education.

CONCLUSION

When we talk about Nephrology Nursing, such a specific area of expertise, where technology emerges with new materials and equipment at an immeasurable speed, we see the urgent need to improve the quality of teaching learning to increase efficiency and decrease learning time for the use of these new technologies.

Nursing in nephrology, as a specific area of expertise, where technology emerges with new materials and equipment day after day at an immeasurable speed, we see the urgent need to improve the quality of the teaching-learning process to increase efficiency and decrease the learning time to use these new technologies.

Thus, further research on the subject is needed to encourage professional nurses to create new teaching technologies in order to facilitate continuing education in hemodialysis units, thus improving care for renal patients.■

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