AG EDITOR

REVIEW

Learning based on problems with a focus multidisciplinar toward the aging in the Primary Attention of Health

Aprendizaje basado en problemas con un enfoque multidisciplinar hacia el envejecimiento en la Atención Primaria de Salud

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ABSTRACT

Introduction: the population's aging is a growing challenge that requires an integral boarding and multidisciplinary in the Primary Attention of Health, the Based Learning in Problems it is presented like an innovative and effective educational methodology to prepare to the professional futures of the health to face this challenge.

Objective: to design a methodology of the learning based on problems with a focus multidisciplinary toward the aging in the Primary Attention of Health for students of the medicine career.

Development: the combined teaching methods can create an environment of dynamic and effective learning that prepares the medicine students to approach the challenges of the aging in the Primary Attention of Health, the Based Learning in Problems it is considered one of the most effective methodologies, it enriches the theoretical knowledge, it develops practical abilities and of communication, he/she prepares the students to face real situations and it foments a focus multidisciplinary and collaborative, he/she offers benefits in the medical education, when fomenting a more deep, significant learning and centered in the student, it transforms the medical education when creating an environment of active learning, preparing to medical futures to offer an attention of health of high quality and based on the evidence.

Conclusions: the Based Learning in Problems, with their focus multidisciplinary, it is a powerful tool in the formation of professionals of the health, equipping them with the necessary competitions to approach in an integral and effective way the challenges of the aging in the Primary Attention of Health.

Keywords: Learning Based on Problems, Aging; Primary Attention of Health.

RESUMEN

Introducción: el envejecimiento de la población es un desafío creciente que requiere un abordaje integral y multidisciplinar en la Atención Primaria de Salud, el Aprendizaje Basado en Problemas se presenta como una metodología educativa innovadora y efectiva para preparar a los futuros profesionales de la salud a enfrentar este reto.

Objetivo: diseñar una metodología del aprendizaje basado en problemas con un enfoque multidisciplinar hacia el envejecimiento en la Atención Primaria de Salud para estudiantes de la carrera de medicina.

Desarrollo: los métodos de enseñanza combinados pueden crear un entorno de aprendizaje dinámico y efectivo que prepare a los estudiantes de medicina para abordar los desafíos del envejecimiento en la Atención Primaria de Salud, el Aprendizaje Basado en Problemas se considera una de las metodologías más efectivas, enriquece el conocimiento teórico, desarrolla habilidades prácticas y de comunicación, prepara a los estudiantes para enfrentar situaciones reales y fomenta un enfoque multidisciplinario y colaborativo, ofrece beneficios en la educación médica, al fomentar un aprendizaje más profundo, significativo y centrado en el estudiante, transforma la educación médica al crear un entorno de aprendizaje activo, preparando a futuros médicos para ofrecer una atención de salud de alta calidad y basada en la evidencia.
Conclusiones: el Aprendizaje Basado en Problemas, con su enfoque multidisciplinar, es una herramienta poderosa en la formación de profesionales de la salud, equipándolos con las competencias necesarias para abordar de manera integral y efectiva los desafíos del envejecimiento en la Atención Primaria de Salud.

Palabras claves: Aprendizaje Basado en Problemas, Envejecimiento; Atención Primaria de Salud.

INTRODUCTION

The processes of improvement in Higher Education have an impact on the relevance and quality of teaching programs, providing teachers with tools that facilitate the development of the teaching-learning process in a dynamic, inclusive, interactive, participatory, and integrative way[1] where the student has a vital role in their training, where they can be creative and independent to achieve the skills and competences of the professional model and graduate profile.

A distinction must be made between knowledge that should be taught and learned and information that should be known. Furthermore, education is only effective when the student acquires knowledge by himself, and then the classes and lectures that condition passive students should be replaced by other activities. Recognizing what you forget, transforming problems into questions, and finding answers is problem-solving learning. This requires time to study, think, and reason, as well as the tremendous curricular deficiency of most medical degrees.[2]

Learning is an individual construction, a particular and remarkable interpretation of what is taught; it is not only the accumulation of knowledge or reproducing information but the ability to interpret it.[3]

The professionalization of the teacher is transcendent. Traditional pedagogical attributes, as essential in the doctor, prevail. Today, the teacher must be a competent expert in his career as a pedagogue, controlling and ensuring his ability to transmit and develop the planned curricular tasks.[2]

Modern teaching focuses on the axis in which one learns, and the teacher must be a learning guide but also plan, produce resources, and measure results.[2]

The International Society for Medical Education considers university teachers should have Discovery activities and traditional research. Integration activities are the capacity and ability to recognize the transcendence of different areas of knowledge and make connections to renew ideas. Application activities bridge between theory and practice, converting ideas into solutions to problems. Teaching activities are the ability to turn something difficult to understand into something easy to assimilate. Not as a passive transmission of knowledge but as a transformation of knowledge into a dynamic tide of information and questions to be answered: the active way of learning.[2]

The current Cuban medical university is in a constant process of transformation to keep up with the demands of the development of our society at the level of new knowledge and scientific-technical advances.[1]

In recent decades, medical programs have been recognizing and implementing teaching strategies aimed at promoting critical, meaningful, and open learning. Problem-based learning (PBL) is presented as an innovative strategy with a critical sense in which the student is part of his or her own training process.

The medicine of aging is integrative and multidisciplinary. It can point out the negative factors that determine premature aging, based on a proper understanding of physiological aging, proposing systems for the promotion of health and the prevention of diseases and other health problems throughout life, applying possible procedures to restore the organic, functional and/or aesthetic signs of logical aging.[4]

Since 1959, transformations have been made in Cuban medical education aimed at solving teaching and care problems in line with the needs of professionals in the sector. Primary Health Care (PHC) is considered a priority to guarantee the quality of its service.[5,6]

Achieving a quality teaching-learning process is a priority of contemporary higher education, which entails elevating the role of the student as the subject and, at the same time, the object of their learning. The Cuban Medical University has the social responsibility of training, maintaining, updating, and preparing the doctors who work in the National Health System.[7]

Current teaching presupposes the student as an active seeker of knowledge, capable of developing cognitive

independence, mobilizing rational thought processes, and applying knowledge in any educational process, with medical students adequately motivated.[7]

The aging population is a growing challenge that requires a comprehensive and multidisciplinary approach to Primary Health Care. Problem-based learning (PBL) is an innovative and effective educational methodology for preparing future health professionals to face this challenge.

PBL focuses on active and collaborative learning, where students work in small groups to solve real and complex clinical problems. This approach fosters the development of critical skills such as analytical thinking, evidence-based decision-making, and effective communication.

In the context of aging, PBL allows students to integrate knowledge from various disciplines, such as medicine, nursing, psychology, nutrition, and rehabilitation. Through clinical cases that address chronic diseases, polypharmacy, fall prevention, and pain and mental health management, students learn to provide patient-centered care based on a holistic approach.

In addition, PBL prepares students to work in interdisciplinary teams, a fundamental aspect of caring for geriatric patients. Collaboration and the exchange of perspectives between professionals from different areas guarantee more comprehensive and effective care, improving the quality of life of elderly patients.

For the above reasons, the national directorate of education of the Ministry of Public Health (MINSAP) draws up methodological guidelines each academic year. It proposes that various contents, including aging, be incorporated into the medical degree programs of the optional/elective curriculum. Hence, this article aims to design a problem-based learning methodology with a multidisciplinary approach to aging in Primary Health Care for medical students.

DEVELOPMENT

Higher Education has the social responsibility of preparing people to exercise a profession that can meet the demands of today's society. This is an excellent challenge for the Universities of Medical Sciences; hence, there is a need for comprehensive training of medical science professionals in Cuba. Thus, the teaching-learning process is oriented from a historical-cultural approach to guarantee that it instructs, educates, and develops the student's personality.[8,9]

Learning demands are constantly changing, so using strategies from different theories is necessary, considering that these can be combined. Learning strategies constitute a set of mental procedures and processes used by the individual in a particular learning situation to facilitate the acquisition of knowledge; this process involves the characteristics of the learner, the learning materials, the demands, the criteria of the tasks, and knowledge strategies that the student has, what they know and how they apply it.[10]

The teaching and learning process must keep pace with changes in scientific, technical, and social development; combined teaching methods can create a dynamic and effective learning environment that prepares medical students to address the challenges of aging in Primary Health Care (PHC).

The effectiveness of a teaching methodology may vary depending on the context and the specific needs of the students. However, in the comprehensive management of aging from the Primary Health Care (PHC) perspective, Problem-Based Learning (PBL) is considered one of the most effective methodologies.

Reasons for the Effectiveness of Problem-Based Learning (PBL)

1. Practical Application and Relevance: PBL uses real clinical cases so that students can apply theoretical knowledge in practical situations. This increases relevance and motivation to learn.

2. Development of Clinical Skills and Problem-Solving

Working on clinical problem-solving encourages critical thinking and the development of clinical skills essential for managing geriatric patients.

3. Promotion of Teamwork and Collaboration

Students work in small groups, which promotes collaboration, the exchange of ideas, and the joint construction of knowledge.

4. Active Learning: PBL actively involves students in their learning process, making them responsible for researching, analyzing, and solving problems.

5. Improved Communication and Interpersonal Skills: group discussions and case presentations help improve communication skills and the ability to work in a team, skills crucial for elderly patients.

6. Adaptability and Flexibility: PBL can be adapted to different levels of students' knowledge and skills, allowing for personalization of learning.

7. Integration of Multidisciplinary Knowledge: by tackling complex problems, PBL facilitates the integration of knowledge from different disciplines, which is essential for the comprehensive care of the geriatric patient.

Problem-based learning (PBL) enriches theoretical knowledge, develops practical and communication skills,

prepares students to face real situations, and fosters a multidisciplinary and collaborative approach to aging issues. Real-life scenarios, such as medical consultations, home visits, nursing home institutions, and others, can be used in PHC.

No skill, ability, or appropriate behavior will be achieved by reading texts, lectures, or clinical demonstrations. Students will learn through interaction with the object, under professional/teaching supervision, and the study demanded by the practice.[11]

One of the articles reviewed, which raises elements related to PBL, deals with developmental learning, and the following should be taken into account when creating developmental teaching and learning situations: the possibility of learning through challenging activities that awaken intrinsic motivations; participation in and solutions to real, contextualized problems that allow for exploration, discovery and attempts to change reality; the transformation of the student from recipient to researcher and producer of information; the promotion of self-knowledge, self-assessment and reflection on the learning process, and the valorization of self-direction and self-education as a goal.[7]

Another of the results analyzed in an article on the impact of PBL on health students is reflected in academic performance, as it favors learning. From the students' point of view, it is an attractive, practical, and enjoyable strategy compared to traditional teaching, as it promotes motivation.[12,13,14]

Implementing Problem-Based Learning (PBL) requires careful planning and the creation of an appropriate learning environment.

Key steps to implement PBL effectively:
Problem and Case Identification
- Select real and relevant clinical problems.
- Ensure that complex and multidimensional cases encourage critical thinking and knowledge integration.

Small Group Formation
- Divide students into small groups of 5-8 people.
- Ensure that the groups are heterogeneous regarding knowledge and skills to enrich collaborative learning.

Assignment of Roles
- Appoint a facilitator or tutor for each group. This facilitator should guide the discussion without intervening excessively.
- Within the group, students can assume roles such as coordinator, secretary, and modeler.

Presentation of the Problem
- Present the problem or clinical case to the group, providing enough information to start the discussion.
- Students should identify key facts, formulate questions, and determine what additional information they need.

Group Discussion
- Students discuss the problem, share prior knowledge, and formulate hypotheses.
- The modeler promotes active participation, ensures that all members contribute, and keeps the focus on the problem.

Independent Research
- Students research individually to find answers to the questions posed and gather relevant information.
- They can use textbooks, scientific articles, online resources, and expert consultations. Methodology is the channel through which the student learns; new computer technologies (ICT) can be powerful and practical tools in the educational arsenal. Rather than consider them enemies of face-to-face events, they should be complementary allies to reinforce or monitor the student's learning path.[15,16,17]

Meeting and Synthesis
- Students meet again to share their findings and synthesize the information gathered.
- They discuss and evaluate the initial hypotheses in light of the new information.

Problem Solving
- The group arrives at a solution or management of the problem based on the evidence gathered.
- They draw up a detailed action plan that addresses the different dimensions of the problem.

Presentation and Evaluation
- Students present their conclusions to the rest of the class or in a discussion forum.
- Both formative and summative evaluations of the group's performance and each student are carried out.

Reflection and Feedback
- Students reflect on the learning process and receive feedback from the facilitator and their peers.
- They identify areas for improvement and opportunities to apply what they have learned in future cases.
- Implementing PBL can be challenging initially, but with practice and continuous adaptation, it becomes a powerful tool for deep and meaningful learning.

Problem-Based Learning (PBL) offers numerous benefits in Medical Education by fostering deeper, more meaningful, student-centered learning.

Benefits of Problem-Based Learning (PBL)
1. Development of Critical Thinking: PBL encourages students to analyze and solve complex problems, improving their reasoning and clinical judgment skills. Students learn to evaluate information, formulate hypotheses, and make evidence-based decisions by dealing with real cases.

2. Practical Application of Knowledge: PBL facilitates the connection between theory and practice. Students apply theoretical knowledge acquired in the classroom to real clinical situations, reinforcing learning and increasing information retention.

3. Teamwork and Collaboration: Students work in small groups, which encourages collaboration and teamwork. They learn to communicate effectively, share knowledge, and collaborate to solve problems, essential skills for the professional practice of medicine.

4. Motivation and Active Participation: PBL promotes greater motivation and active participation of students in their learning process. By facing relevant and challenging problems, students feel more engaged and responsible for their Education.

5. Development of Communication Skills: PBL improves interpersonal communication skills, both with peers and patients. Students practice effective communication by discussing clinical cases, presenting their findings, and listening to others' perspectives.

6. Adaptability and Flexibility: PBL adapts to students' needs and knowledge levels, allowing for a personalized approach to learning. Students can progress at their own pace and delve deeper into areas of particular interest.

7. Preparation for Professional Practice: PBL prepares students to face real-world challenges in their future professional practice. They learn to manage uncertainty, make clinical decisions under pressure, and approach problems comprehensively and rigorously.

8. Fostering Curiosity and Lifelong Learning: PBL stimulates curiosity and the desire to learn beyond the classroom. Students develop research and self-learning skills that will be useful throughout their careers.

An example of the impact of PBL on the teaching process is when students carry out Community Health Intervention actions: Groups of student's design and implement a public health project to prevent falls in older adults by selecting a vulnerable older adult population, applying theoretical knowledge and practical skills in a real context.

PBL transforms medical Education by creating an active, collaborative, student-centered learning environment. It prepares future physicians to deliver high-quality, evidence-based healthcare.

CONCLUSIONS

Problem-based learning, with its multidisciplinary approach, is a powerful tool for training health professionals. It equips them with the necessary skills to address the challenges of aging comprehensively and effectively in primary health care.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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