ACTIVE METHODOLOGIES IN HIGHER EDUCATION: OPINIONS, KNOWLEDGE AND TEACHING ATTITUDES

METODOLOGIAS ATIVAS NO ENSINO SUPERIOR: OPINIÕES, CONHECIMENTOS E ATITUDES DOCENTES

METODOLOGÍAS ACTIVAS EN LA ENSEÑANZA SUPERIOR: OPINIONES, CONOCIMIENTOS Y ACTITUDES DOCENTES

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ABSTRACT

Objective: to examine the opinions, knowledge and attitudes about the active methodologies of undergraduate health professors. **Method:** this is a bibliographical study, type integrative review carried out between December 2016 and February 2017, in the databases MEDLINE, LILACS and virtual library SciELO. The articles were analyzed and the results presented in the form of figures. **Results:** the sample was composed by 25 publications. After the analysis, three thematic categories were obtained: "Opinions of the health professors on the use of active methodologies"; "Knowledge of health teachers about the use of active methodologies" and "Attitudes of health professors on the use of active methodologies". **Conclusion:** the prevalence of the traditional model of education was identified, with emphasis on the weaknesses of higher education institutions for the desired changes; in the knowledge factor, teachers showed little mastery of the fundamentals of active methodologies; in the attitude attitude, both immobile and favorable attitudes were evidenced, as well as recognition of positive results in the use of active methodologies. **Descriptors:** Education; Higher education; Methodology; Teaching; Courses in Health Sciences; Higher education institutions.

RESUMO

Objetivo: examinar as opiniões, conhecimentos e atitudes sobre as metodologias ativas dos docentes dos cursos de graduação da área da saúde. **Método:** trata-se de um estudo bibliográfico, tipo revisão integrativa realizada entre dezembro de 2016 e fevereiro de 2017, nas bases de dados MEDLINE, LILACS e biblioteca virtual SciELO. Analisaram-se os artigos e os resultados apresentaram-se em forma de figuras. **Resultados:** compôs-se a amostra por 25 publicações. Obtiveram-se, após a análise, três categorias temáticas: "Opiniões dos docentes da área da saúde sobre a utilização de metodologias ativas"; "Conhecimentos dos docentes da área da saúde sobre a utilização de metodologias ativas" e "Atitudes dos docentes da área da saúde sobre a utilização de metodologias ativas". **Conclusão:** identificou-se, no quesito opinião, a prevalência do modelo tradicional de ensino, destacando-se as fragilidades das instituições de ensino superior para as mudanças pretendidas; no fator conhecimento, os docentes demonstraram pouco domínio dos fundamentos das metodologias ativas; no quesito atitude, evidenciaram-se tanto atitudes imobilistas, quanto favoráveis e de reconhecimento dos resultados positivos no uso de metodologias ativas. **Descritores:** Educação; Ensino Superior; Metodologia; Docência; Cursos em Ciências da Saúde; Instituições de Ensino Superior.

RESUMEN

Objetivo: examinar las opiniones, conocimientos y actitudes sobre las metodologías activas de los docentes de los cursos de graduación del área de la salud. **Método:** se trata de un estudio bibliográfico, tipo revisión integrativa realizada entre diciembre de 2016 y febrero de 2017, en las bases de datos MEDLINE, LILACS y biblioteca virtual SciELO. Se analizaron los artículos y los resultados se presentaron en forma de figuras. **Resultados:** se compuso la muestra por 25 publicaciones. Se obtuvieron, después del análisis, tres categorías temáticas: "Opiniones de los docentes del área de la salud sobre la utilización de metodologías activas"; "Conocimientos de los docentes del área de la salud sobre la utilización de metodologías activas" y "Actitudes de los docentes del área de la salud sobre la utilización de metodologías activas". **Conclusión:** se identificó, cuanto a la opinión, la prevalencia del modelo tradicional de enseñanza, destacándose las fragilidades de las instituciones de enseñanza superior para los cambios pretendidos; en el factor conocimiento, los docentes demostraron poco dominio de los fundamentos de las metodologías activas; en lo que se refiere a la actitud, se evidenciaron tanto actitudes inmovilistas, como favorables y de reconocimiento de los resultados positivos en el uso de metodologías activas. **Descriptor:** Enfermería Maternoinfantil; Enfermería Neonatal; Relaciones Madre-Hijo; Recien Nacido Prematuro; Enfermería Transcultural; Investigación en Enfermería.

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INTRODUCTION

It is known that undergraduate education in the health area involves humanistic, critical and philosophical aspects that support the construction of knowledge and that, faced with the complexity of training professionals in the health area, higher education institutions (HEIs) must construct proposals who consider the current demands of the world of work and the integral training of these professionals. However, the predominance of a pedagogical vision directed to the traditional model.¹

It is observed that contemporary demands professional skills, such as initiative, flexibility, creativity, among others, and this scenario has cast doubt on the traditional forms of teaching.¹ In this way, interactive pedagogical tendencies are mentioned, among them the active methodologies (AM), which constitute a means of learning to learn, focusing on the principles of critical, reflexive and transformative pedagogy.

The active methodologies are based on ways to develop the learning process, using real or simulated experiences, aiming at the conditions to solve the challenges arising from the essential activities of social practice, in different contexts, leading students to reflect on the reality in which they are inserted, developing, in the professional future, the autonomy and the creativity to act on this reality, transforming it.²

According to the National Education Bases and Guidelines (NEBG) and the National Curriculum Guidelines (NCG) of the health courses for these changes, they are defined as principles for universities to stimulate the articulation between teaching, research and encouraging the use of active methodologies and the qualification of the pedagogical project that fully meets the training needs of professionals.

Among the challenges encountered in the implementation of the NCDs of health courses in the most diverse curricular designs of HEIs, the search for change to adapt the training of these professionals to the diversity and complexity of the contemporary world.³

It is necessary, in this perspective, the use of AMs that support the pedagogical conceptions inherent to teacher training so as to strengthen the relationship between theory and practice, to meet the needs of society in solving problems that emerge from everyday life and place the student as the protagonist of their learning.⁴

It is argued that traditional methods, also known as banking methods of teaching and learning, no longer meet the needs of young students and the development of skills and abilities for professional life, contextualized learning and the interdisciplinary view of knowledge.²

It is pertinent, in this sense, to know what opinions, knowledge and attitudes about the active methodologies, of undergraduate health professors.

It is evaluated that the study presents, as contribution, the possibility of reflection on the new educational practices in the teaching of the health sciences. The literature on the use of AM is widely considered, however, there is no scientific evidence on AMs regarding this research proposal.

OBJECTIVE

- To examine the opinions, knowledge and attitudes about the active methodologies of undergraduate health professors.

METHOD

It is a bibliographical study, type integrative review (IR).⁵ It was structured in six steps: establishment of the research question; search in literature; data collect; evaluation of included studies; interpretation and discussion of the results and presentation of the review.⁶

It was established, as a first step, the research question that guided the research: "What are the opinions, knowledge and attitudes about the active methodologies of undergraduate health professors?".

The qualitative strategy was used to elaborate the research question.⁷ The teaching professionals of the health area were classified as the population (P); the active methodologies as a phenomenon of interest (I) and undergraduate education was considered as the context (Co).

The search was carried out in the scientific literature through the Descriptors in Health Sciences (DeCS) and the Medical Subjective Headings (MeSH) higher education, Education, teachers, courses in health sciences, Nursing, Medicine, Dentistry, Speech Therapy, Physiotherapy, Psychology, Pharmacy, Physical Education and Nutrition. We also used the key words active methodologies and innovative methodologies. Both the DeCS / MeSH and the corresponding words were used in the English language. The search for articles was carried out between December 2016 and February 2017, using the Latin American and Caribbean Literature in Health

Sciences (LILACS) databases and MEDLINE and the Scientific Electronic Library Online virtual library (SciELO).

The following inclusion criteria were defined: original articles; of reflection and report of experience; available on-line in full; with free access in Portuguese, English and Spanish. The choice for this type of publication was due to the greater accessibility of scientific productions. We have included articles whose approach dealt with the active methodologies within the area of education of undergraduate courses in the health area. Secondary publications such as dissertations and theses were excluded, and those that did not meet the purpose of this study.

After reading the titles and abstracts, 57 articles were selected. In this step, a data extraction route was constructed and validated.⁸ Information about the identification of the article and its authors, the objectives, the subjects/period of the research, the method used, the main findings, the main conclusions of the study and the limitations of the study / comments.

Data was analyzed after extraction, using thematic analysis of content and thematic-categorical systematization throughout the corpus of selected scientific production.⁹⁻¹⁰

They presented, aiming at a better visibility of the results, figures in a descriptive way. A response diagram with the dimensions that emerged from the thematic-categorical analysis was created to better systematize the study.

It should be pointed out that, in order to carry out this research, it was not necessary to seek the consent of the participants in compliance with Resolution 466/2012 of the National Health Council, since the study was an RI. However, throughout the development of this work, the author of the information used in scientific support was respected as a way of recognizing the originality of the researchers' intellectual production.

The review was composed of 25 articles that were classified according to the level of evidence hierarchy, based on the Agency for Healthcare Research and Quality (AHRQ) categorization, which aims to classify the studies and assist the researcher in the critical evaluation of the results from the surveys.⁷

According to the AHRQ, the quality of evidence is categorized into seven levels: evidence from a systematic review and/or meta-analysis, in which there are included only controlled and randomized clinical studies; evidence from at least one

randomized controlled trial; evidence from a single randomized controlled trial; evidence from case-control or cohort; evidence from the systematic review of descriptive and qualitative studies; evidence derived from only a descriptive and qualitative study and evidence from the reflections of authorities and/or reports prepared by a group of experts.⁷

For the description of the stages of search and selection of the studies, the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) were used, according to the following flowchart (Figure 1).

Figure 1. Flowchart of the search of the articles. Manaus (AM), Brazil, 2017.

RESULTS

There are 25 publications that composed the final sample listed in figure 2, characterized by title, undergraduate course of health, year of publication and country of the research and methodological design, with the number of participants and database.

Title	Health Course	Year/Cou ntry	Outline/N. participants	of Data bases
Perceptions of teachers of the first and second phase of the undergraduate medical course on the new curriculum of the Federal University of Santa Catarina ¹¹	Medicine	2004 Brazil	Case study n=10 teachers	LILACS
Teaching quality conceptions of undergraduate coordinators: an analysis of dentistry courses in the State of São Paulo ¹²	Dentistry	2004 Brazil	Descriptive exploratory n = 13 coordinators	and LILACS
Between continuity and innovation. Nursing higher education and pedagogical practices of Nursing teachers ¹³	Nursing	2005 Portugal	Descriptive exploratory n = 6 teachers	and SciELO
The first teaching experience we never forget ¹⁴	Nursing	2007 Brazil	Relato de experiência	SciELO
Concepts of teachers and students about teaching-learning methodologies: case analysis of the Nursing Course of the Vale do Acaraú State University in Sobral ¹⁵	Nursing	2009 Brazil	Case study n = 8 teachers and 9 students	SciELO

<i>Problem-based learning versus lectures: Comparison of academic results and time devoted by teachers in a course on Dentistry in Special Patients</i> ¹⁶	Dentistry	2009 Spain	Descriptive exploratory n = 3 teachers and 51 students	and PubMed
Teaching Development and Training of Physicians ¹⁷	Medicine	2009 Brazil	Descriptive exploratory n = 28 medical schools	and LILACS
Perception of dentistry teachers in the teaching-learning process ¹⁸	Dentistry	2010 Brazil	Descriptive exploratory n = 12 teachers	and LILACS
Pedagogical training of medical teachers ¹⁹	Medicine	2010 Brazil	Descriptive exploratory n = 35 teachers	and LILACS
Identification of new pedagogical practices in the perception of the teachers of a nursing course ²⁰	Nursing	2010 Brazil	Descriptive exploratory n = 4 teachers in phase I, 14 teachers in phase II	and LILACS
Integrity of care: conceptions and practices of undergraduate nursing teachers in the State of Goiás ²¹	Nursing	2010 Brazil	Descriptive exploratory n = 11 teachers	and LILACS
Rethinking the nurse teacher in the perspective of complex thinking ²²	Nursing	2010 Brazil	Action research n = 30 teachers and 380 students	SciELO
Pedagogical practices in nursing teaching: a study from the perspective of institutional analysis ²³	Nursing	2010 Brazil	Descriptive exploratory n = 29 teachers and 24 students	and SciELO
<i>La Evaluación Docente en los nuevos Grados Universitarios</i> ²⁴	Nursing	2011 Spain	Reflection study	LILACS
Analysis of a process of curricular reform experienced by teacher educators of nutritionists ²⁵	Nutrition	2012 Brazil	Descriptive exploratory n = 23 teachers	and SciELO
Workshop on pedagogical project of nursing course: reflecting on innovations, challenges and potentialities ²⁶	Nursing	2012 Brazil	Descriptive exploratory n = 30 teachers	and SciELO
Active teaching-learning methodologies for pharmaceutical education: an experience report ²⁷	Pharmacy	2013 Brazil	Descriptive exploratory n = 11 teachers and 145 graduates	and LILACS
Pedagogical Trends: Conflicts, Challenges and Perspectives of Nursing Teachers ²⁸	Nursing	2013 Brazil	Case study n = 10 teachers	SciELO
<i>Recruitment and retention of tutors in problem-based learning: why teachers in medical education tutor</i> ²⁹	Medicine	2013 Canada	Descriptive exploratory n = 14 teachers	and PubMed
Teaching methodologies used by teachers of the nursing course: focus on problem-solving methodology ³⁰	Nursing	2015 Brazil	Descriptive exploratory n = 14 teachers	and SciELO
<i>Perception of the faculty regarding problem-based learning as an educational approach in Northwestern Saudi Arabia</i> ³¹	Medicine	2015 Saudi Arabia	Descriptive exploratory n = 85 teachers	and PubMed
<i>Evaluación de un programa de perfeccionamiento docente implementado en la Facultad de Medicina de la Universidad Finis Terrae</i> ³²	Nursing Nutrition Medicine	2015 Chile	Retrospective n = 102 teachers	PubMed
The implementation of the competence-based curriculum in physiotherapy graduation: completeness as the driving axis ³³	Physiotherapy	2015 Brazil	Action research n = 12 teachers	LILACS
Pharmacy education in southern Brazil: preparing pharmacists for the single health system? ³⁴	Pharmacy	2016 Brazil	Descriptive exploratory n = 4 teachers and 15 students	and SciELO
Teaching knowledge about the teaching-learning process and its importance for professional training in health ³⁵	Medicine Nursing Physiotherapy Speech Therapy	2016 Brazil	Descriptive exploratory n = 11 teachers	and LILACS

Figure 2. Synthesis of the studies included in the review. Manaus (AM), Brazil, 2017.

It is pointed out that, of the 25 articles that composed the sample of this study, six (24%) are international, with Spain being the country with the highest scientific production on the subject, presenting two (8%) articles; in the sequence, Portugal, Canada, Saudi Arabia and Chile, with one (16%) each, involving the relationship between active methodologies and teachers in the area of health in Higher Education.

It should be noted that Brazil was the country with the largest number of publications, with 19 papers (76%), four (16%) coming from the Northeast, three from Alagoas and one from Ceará; four (16%), from the Center-West, two from Goiás and two from Mato Grosso; six (24%) from the Southeast, three from São Paulo, one from Rio de Janeiro, two from Minas Gerais and five (20%) from the south of the country, two from Paraná, two from Santa Catarina and one from Rio Grande do Sul.

It was recorded, in relation to the database, that 11 (44%) articles were published in LILACS, four (16%) were published in PubMed and ten (40%) in SciELO.

It is worth noting that two (8%) articles were published in the year 2004; one (4%) in 2005; one (4%) in 2007; three (12%) in 2009; six (24%) in 2010; one (4%) in 2011; two (8%) in 2012; three (12%) in 2013; four (16%) in 2015 and two (8%) in 2016.

The undergraduate courses in the health area were presented which presented the scientific production involving the theme of the study: Nursing, with 11 (44%) articles; Medicine, with five (20%); Dentistry, with

three (12%); Pharmacy, with two (8%); Nutrition, with one (4%); Physiotherapy, with one (4%). It is pointed out that the Medicine course produced one (4%) article involving professors of Nursing, Nutrition and Medicine courses, and one (4%) involving professors of Medicine, Nursing, Physical Therapy, Speech-Language Pathology and Occupational Therapy.

It is verified, according to the classification of the levels of evidence of the selected articles, that 23 (92%) studies were classified in level VI, which includes the evidence from only one descriptive and qualitative study with adequate design, while two (8%) studies were classified in level VII, which involves the evidence originating from reflections of authorities and / or reports prepared by a group of experts.

It was identified, although the majority of articles presented more comprehensive aspects of the opinions, knowledge and attitudes of health professors on the use of active methodologies in undergraduate education, in the findings of each one, the factors associated with the difficulties in using the themselves. Based on these findings, the following sense nuclei were drawn from discursive clippings from Figure 3.

Senses Cores	Discursive Cuts
Need to know the AMs	- “Teachers say they are going through a transitional time and feel lost”; - “Confusion between PBL, Problematization and Case Study in teaching practice”; - “Lack of knowledge of the proposal of the curricular reform by the faculty”; - “Doubts about the evaluation of the new methodological perspective”; - “The need for a theoretical-pedagogical framework on AM for all who are teachers or wish to become one”; - “Teachers consider Stricto Sensu training unsatisfactory for a good didactic-pedagogical training”; - “We need to reinvent teaching, incorporating new knowledge that was not part of the teacher training process”; - “Teachers had good knowledge and attitudes favorable to PBL”.
Need for instrumentation for the use of AMs	- “Need for mechanisms and tools to enable better understanding of new educational procedures”.

Figure 4. Formation of the sense nuclei from the knowledge of teachers in the health area on active methodologies in undergraduate education - 2004 to 2016. Manaus (AM), Brazil, 2017.

Senses Cores	Discursive Cuts
Immobilism of teachers facing the necessary changes	- “Ease of being a teacher in the traditional model with little inclination to AMs”; - “Difficulties in meeting new methodological proposals”; - “Teachers go through a process of self-formation, slow and uncertain about transformative education”.
A favorable attitude to the use of AMs	- “Seeking to overcome elitist, mechanistic approaches”; - “Teachers concerned about meeting the new NCD”.
Impact of teaching performance on the training of academics	- “After the use of active methodologies, the students are shown to be safer, with greater self-esteem, autonomy and motivation”; - “Academics showed higher performance after their teachers went through pedagogical training”.

Figure 5. Formation of the sense nuclei from the attitudes of health professors on active methodologies in undergraduate education - 2004 to 2016. Manaus (AM), Brazil, 2017.

DISCUSSION

Through the identification of the sense nuclei, the discussion is based on the elaboration of three thematic categories: "Opinions of teachers in the health area on the use of active methodologies", "Knowledge of health professors on the use of active methodologies "and" Attitudes of teachers of the health area on the use of active methodologies".

It can be seen from the results that Brazil is the country with the largest number of publications, with a significant contribution of the national studies on the subject in relation to the total found. In the articles, the prevalence of these studies is evident in the more developed regions, especially in the Southeast. It should be emphasized that there were no articles that looked at the relationship between AM and the opinions, knowledge and attitudes of undergraduate

health professors in the North region, which shows the innovative nature of this research proposal.

♦ **Opinions of health professionals on active methodologies**

It is understood that figure 3, entitled "Formation of senses nuclei from the opinions of health professors on the use of active methodologies in undergraduate education", in its first sense nucleus, points to a greater emphasis on the traditional teaching model in most HEIs. It is known that public institutions have a long operating time, usually over 40 years, which justifies the prevalence of the traditional model of education in these institutions.^{12,17}

It is also revealed that it is still necessary to go a long way so that the HEI can advance towards the determinations of the NCDs; Thus, the teaching-learning process in health occurs centered on the teacher as the sole

holder of the knowledge, which transmits it to the student, who receives it passively.^{15,18-9,35}

It is evaluated that this fact corroborates the studies that demonstrate the necessity that the university institutions demand to reach the requirements of the NCD's. It is pointed out that, in order to apply the AMs, it is fundamental that the institutions adjust to the new teaching-learning model that requires changes in infrastructure, new equipment and teacher development programs, aimed at pedagogical training and an integrated curriculum, since the disarticulation of the curriculum generates the greatest difficulty of the teaching activity, according to the progressive vision.^{16,19,36-8}

It is perceived that the change from a traditional model deeply rooted over the years, both in the institutions and in the social actors involved in the process, requires a personal, institutional and governmental transformation that does not happen without a financial investment and the establishment of partnerships between HEIs, public bodies and popular representation bodies.³⁹

It was also identified a movement of change and rupture with the traditional paradigm in several courses of the health area, mainly, due to the governmental evaluation processes; thus some HEIs have devoted their efforts to walking against the prevailing teaching model that emphasizes a technicist and alienating view. This marks a transition phase from the traditional model to the progressive model, where the student is the center of the teaching-learning process.^{11-2,20,23,35,38,41}

It is the educational current of undergraduate courses in the area of health in the transitional phase from conception to another, from traditional to progressive, requiring scientific research that accompanies this period and its particularities, contributing to the future of the professions of the area of health.

It is verified, therefore, the relation between the number of records included in the qualifying synthesis and the year of their publication, the need for a greater investment in the issues that permeate the teaching-learning process with the use of AM in training of health professionals.

♦ Knowledge of teachers in the health area on active methodologies

It is pointed out the lack of formal and specific qualification for teaching as a factor of singular relevance in the area of health.^{25,33,35,41,45} It is understood that, in most cases, teaching occurs in a reproductive,

intuitive or affinity manner; the teacher sees himself more as a professional specialist or researcher than as a teacher.^{19,25, 41,45}

It is emphasized, through reports of teachers in the texts analyzed, the need to know the AMs to apply them in their teaching practice. It is observed that the insecurity and lack of preparation of teachers to develop practical, scientific and didactic-pedagogical skills that meet the NCDs led to common doubts among teachers of the selected articles: "what strategy to use?" And "how to do it?".^{15,27,41-2} It is noteworthy that, of the international articles, only one highlighted teachers with good knowledge and attitudes favorable to PBL.²⁸

It is therefore necessary for teachers to devote themselves intensely to their pedagogical preparation, in order to understand the characteristics of the AMs to face the challenges that lead to the preparation of analytical students; In this way, the role of the teacher must change from "knowledge provider" to "learning creator", leaving the comfort zone of traditionalism and offering more effort to master and implement innovative pedagogical practices that stimulate the student in learning to learn.⁴⁷

Some activities were suggested that suggest the use of AMs in undergraduate health education: problematization, PBL and case study. However, it is pointed out by the analyzed texts that, when they use the problem constantly, the tutors interrupt the teaching-learning process in the theorizing phase, seeking to achieve knowledge. It is argued that this approach is closer to the BPA, since the problematization has as final phase the transforming action of reality.²¹

There are reports, among the articles researched, that denounce the fragmented knowledge of the teachers regarding the problematization, including, believe that said methodology is the realization of a case study in the classroom, or that it is based on problems, where should use expository and dialog classes; Another misconception was the difficulty in distinguishing case study and directed study.³⁰

It is pointed out that the paradigm changes in higher education are part of a continuous process that is slowly being incorporated, resulting in a transformation understood in an unequal way by the teachers. It is necessary that there is a greater teacher involvement in the search for pedagogical knowledge that favors the application of active methodologies capable of generating qualitative differences in the teaching-learning process.⁴⁹

In this perspective, the studies analyzed show the need for investment in pedagogical processes that foster teacher awareness and reflection for change, offering teachers a tool to help them to critically analyze their work, to better understand the AMs and to develop appropriate strategies to improve the quality of teaching and learning.^{19,25,32,35,43}

Attitudes of teachers in the health area on active methodologies

In international studies, a transition phase with a greater emphasis on the use of AMs and on the break with the traditional model of education is demonstrated. A constant motivation is added to the offer of training of the faculty, which generated a positive impact on the performance of classes, performance and student satisfaction. There are many difficulties, such as the resistance of some teachers and students to change, however, the studies show an optimistic view regarding the responsibility for the social projection of teaching in health.^{16,32,38,40}

It is evaluated that these affirmations corroborate studies that detected the characteristics in the formation of the teachers of the health area, which were formed by a teaching-learning model fragmented, biologicista, hospital-centric and with little cooperation between the disciplines and the sectors responsible for the resolution social problems of the population. It favors, for these factors, the division between theory and practice.^{39,42-4}

It was found that some undergraduate health professors see the traditional model as a method that favors the technical preparation, considered as the main objective, fundamental for proof of residence in medical courses. It is understood that there are teachers, even those who consider some AMs to be "irritating" and "artificial";²⁶ it is a difficulty, evidenced by most studies, to disassociate from the traditional model and adopt progressive pedagogical practices.^{1,32,38,41}

It should be noted that, among the 25 articles that composed the sample of this study, only two, of international origin, presented reports of teachers who considered curricular reform to be calm, challenging and motivating and who described it as a great experience and an opportunity for to acquire new knowledge.^{29,31}

It is pointed out that the relationship between undergraduate health teachers and the methodological approach used by them in the teaching-learning process unfolds in different senses: the ease of being a teacher

in the traditional model; the attempt to innovate in their teaching activity through the use of active methodologies and the existence of teachers with attitudes favorable to AMs.

It is shown in the literature that most teachers do not prioritize AMs and use the traditional approach, since they consider it easier. These statements are justified by the experiences of teachers in most of their periods as learners, in which the teacher-student relationship occurs hierarchically and teacher-centered; therefore, there is a reproduction of the learning process that occurred from the sixteenth century to the present day.^{17-8,34,42-3}

It is pointed out that teachers had their creative potential nullified in such a way that they do not reflect on their professional teaching practice and are unaware of other ways of teaching. It is noticed that this tendency makes that many teachers, even inserted in institutions with a pedagogical proposal focused on the active participation of the student, maintain an authoritarian position and of transmission of contents.^{2,14,17-8,23,26}

In the texts analyzed, it is argued that the globalized and computerized world in constant transformation requires tutors who not only transmit knowledge, but also direct their students to develop their autonomy, reflecting the reality in which they are inserted, and acting actively on her, transforming her. The speeches of some professors are guided by a vision of overcoming traditionalist and curative teaching, being concerned to follow the guidelines of the NCDs. It is understood that these parameters are adopted and try to be achieved, in practice, by the teacher's own efforts, which often occurs slowly and uncertainly.²³

It should be noted that in the articles researched, those who referred to the teachers' attempts to break with the traditional model were the ones that presented the most difficulties found to effect rupture: the hourly load of the insufficient discipline; resistance on the part of some professionals of the team; concern and anxiety in fulfilling the programmatic content; difficulty in promoting more dynamic and attractive classes; difficulty in dealing with the student's uniqueness; compromising the stability of accumulated knowledge, security and mastery in teaching always in the same way; more time required to work all the steps than in an expositive class and not knowing how to evaluate skills and abilities.^{1,13,16,19,21-2,25,33,38,42,45}

It is pointed out, through some studies, that, even if the teacher is committed to health education and refutes the fragmented method of the traditional model, he still has doubts about being able to change it.^{20,28}

It is demonstrated, through the recognition of the traditional methodology of training as insufficient or inadequate on the part of the teachers, the existence of a moment of transition that requires didactic-pedagogical training. It is necessary to create a movement to encourage the formation of teachers of higher education in health, so as to favor the use of the teacher to sensitize him regarding changes in behavior and perspective in his work.⁴⁷⁻⁹

It is known that the use of AMs in the area of health is a recent practice and, therefore, requires more research on the subject explored, fact evidenced by the total of 25 studies selected for this IR in the period of 12 years. Therefore, this fact is recognized as a limitation of this study.

It is considered that the results of this IR can stimulate and support the practice of teachers in the health area to the adoption of AM in the teaching-learning process, leading to the improvement of students, encouraging teamwork, in order to favor many aspects to improving health care according to ethical principles, understanding the social, cultural and economic reality of their environment and directing their actions towards the transformation of the environment in which they live, serving society better.

CONCLUSION

The article analyzed the presence of AMs in daily life of teachers through the IR of national and international articles. The aim was to examine the opinions, knowledge and attitudes of the undergraduate health professors. The prevalence of the traditional teaching model was identified, with emphasis on the weaknesses of higher education institutions for the desired changes; in the knowledge factor, teachers demonstrate little mastery of the fundamentals of active methodologies; in the attitude attitude, there was evidence both immobilistic, favorable and recognition attitudes regarding the positive results in the use of active methodologies.

It was concluded in this review that the rupture with the traditional methodologies of reproduction, considered archaic, and the orientation towards the production of knowledge are essential, however, this change requires the association with the offer of better didactic instruments that guide the

teaching action and the support of educational institutions through the reorganization of the pedagogical project, leading to an integrated curriculum and an assessment system based on skills and abilities.

It is evaluated that the adoption of the AMs is still a challenge, given that, from the articles analyzed, there were more difficulties than facilities on the part of the teachers regarding the use of methodologies. Therefore, the construction of the AVA is justified as another strategy for its.

It is considered pertinent, as a suggestion for future scientific studies, to conduct observational studies and behavioral analysis of undergraduate health professors, in view of the use of AM, in order to maximize the quality of the teaching-learning process and, consequently, contribute to the formation of professionals who are more critical, reflective and transforming reality.

REFERENCES

1. Souza NVD, Penna LHG, Cunha LS, Baptista AAS, Mafra IF, Mariano DCA. Social, economic, and cultural profile of incoming undergraduate students at the school of nursing. *Rev Enferm UERJ* [Internet]. 2013 Dec [cited 2017 Feb 20]; 21(2):718-22. Available from: <http://www.facenf.uerj.br/v21esp2/v21e2a04.pdf>
2. Berbel NN. Active methodologies and the nurturing of students' autonomy. *Semina*. 2011 Jan/June; 32(1):25-40. Doi: 10.5433/1679-0359.2011v32n1p25
3. Fernandes JD, Rebouças LC. A decade of National Curriculum Guidelines for Graduation in Nursing: advances and challenges. *Rev Bras Enferm*. 2013 Sept; 66(Spe):95-101. Doi: <http://dx.doi.org/10.1590/S0034-71672013000700013>
4. Gemignani EYMY. Formação de professores e metodologias ativas de ensino-aprendizagem: Ensinar para compreensão. *Rev Fronteiras Educação* [Internet]. 2012 [cited 2017 Feb 21]; 1(2):1-27. Available from: <http://www.frenteirasdaeducacao.org/index.php/fronteiras/article/view/14>
5. Teixeira E, Medeiros HP, Nascimento MHM, Silva BAC, Rodrigues C. Integrative literature review step-by-step & convergences with other methods of review. *Rev Enferm UFPI*. 2013 Dec; 2(Spe):3-7. Doi: <https://doi.org/10.26694/reufpi.v2i5.1457>
6. Soares CB, Hoga LAK, Peduzzi M, Sangaleti C, Yonekura T, Silva DRA. Integrative review: concepts and methods used in nursing. *Rev*

- esc enferm USP. 2014 Apr; 48(2):329-39. Doi: <http://dx.doi.org/10.1590/S0080-6234201400002000020>
7. Melnyk BM, Fineout-Overholt E. Making the case for evidence-based practice and cultivating a spirit of inquiry. In: Melnyk BM, Fineout-Overholt E. Evidence-based practice in nursing & healthcare. A guide to best practice [Internet]. 2nd ed. Philadelphia: Lippincott Williams & Wilkins; 2005 [cited 2018 June 15]. p. 3-24. Available from: <http://file.zums.ac.ir/ebook/208-Evidence-Based%20Practice%20in%20Nursing%20&%20Healthcare%20-%20A%20Guide%20to%20Best%20Practice,%20Second%20Edition-Be.pdf>
8. Lima MCRAD. Estratégias para o controle da tuberculose no sistema prisional: revisão integrativa. Ribeirão Preto [dissertation] [Internet]. Ribeirão Preto: Universidade de São Paulo, 2015 [cited 2017 Mar 10]; Available from: <http://www.teses.usp.br/teses/disponiveis/2/22133/tde-08052015-165959/publico/MonicaCristinaRibeiroAlexandreDauriadeLima.pdf>
9. Bardin L. Análise de conteúdo. Lisboa: Edições 70; 2011.
10. Oliveira DC. Theme/category-based content analysis: a proposal for systematization Rev Enferm UERJ [Internet]. 2008 Oct/Dec [cited 2018 June 15]; 16(4):569-76. Available from: <http://www.facenf.uerj.br/revista/v16n4/v16n4a19.pdf>
11. Albino RM, Tomazzoni RGC, Rodrigues NC, Silva GA, Riggenbach V, Grosseman S, Silva CAJ. Percepções de professores da primeira e segunda fase do curso de graduação em medicina sobre o novo currículo da Universidade Federal de Santa Catarina. ACM arq catarin med. [Internet]. 2004 [cited 2017 Mar 10]; 33(4):34-41. Available from: <http://www.acm.org.br/revista/pdf/artigos/187.pdf>
12. Secco LG, Pereira MLT. An analysis of the concept of the quality of teaching among course coordinators in the Sao Paulo schools of dentistry. Interface comun saúde educ. 2004 Mar/Aug; 8(15):313-30. Doi: <http://dx.doi.org/10.1590/S1414-32832004000200010>
13. Marques MFM. Entre a continuidade e a inovação. O ensino superior de Enfermagem e as práticas pedagógicas dos professores de Enfermagem. Rev Lusófona Educação [Internet]. 2005 [cited 2017 Mar 12]; 5(5):153-71. Available from:

<http://www.scielo.mec.pt/pdf/rle/n5/n5a09.pdf>

14. Silva KL, Pimenta AM. You never forget your first experience as a teacher... REME rev min enferm. 2007; 11(4):465-69. Doi: <http://www.dx.doi.org/S1415-27622007000400019>
15. Teófilo TJS, Dias, MSA. Teachers' and students' notions regarding teaching-learning methodologies: analysis on the case of the nursing course at the State University of Vale do Acaraú, in Sobral, Ceará. Interface comun saúde educ. 2009 July/Sept; 13(30):137-51. Doi: <http://dx.doi.org/10.1590/S1414-32832009000300012>.
16. Moreno-López LA, Somacarrera-Pérez ML, Díaz-Rodríguez MM, Campo-Trapero J, Cano-Sánchez J. Problem-based learning versus lectures: Comparison of academic results and time devoted by teachers in a course on Dentistry in Special Patients. Med Oral Patol Oral Cir Bucal. 2009 Nov; 12(2):583-87. PMID: 19680208
17. Perim GL, Abdalla IG, Aguilar-da-Silva RH, Lampert JB, Stella RCR, Costa NMSC. Teaching development and medical education. Rev Bras Educ Méd. 2009; 3(Suppl 1):70-82. Doi: <http://dx.doi.org/10.1590/S0100-55022009000500008>
18. Lazzarin HC, Nakama L, Cordoni Júnior L. Perceptions of dentistry teachers in the teaching and learning process. Ciênc Saúde Coletiva. 2010; 15(1):1801-10. Doi: <http://dx.doi.org/10.1590/S1413-81232010000700092>.
19. Costa NMSC. Pedagogical training of medicine professors. Rev Latino-Am Enferm. 2010 Jan/Feb; 18(1):102-8. Doi: <http://dx.doi.org/10.1590/S0104-11692010000100016>
20. Pereira WR, Chaouchar SH. Identification of new pedagogical practices in the perception of nursing professors. Ciênc Cuid Saúde. 2010 Jan/Mar; 9(1):99-106. Doi: [10.4025/ciencucuidsaude.v9i1.10533](http://dx.doi.org/10.4025/ciencucuidsaude.v9i1.10533)
21. Santana FR, Nakatani AYK, Freitas RAMM, Souza ACS, Bachion MM. Care completeness: conceptions and practice of nursing graduation professors in Goiás State.. Ciênc Saúde Coletiva. 2010 June; 15(1):1653-64. Doi: <http://dx.doi.org/10.1590/S1413-81232010000700077>
22. Backes DS, Marinho M, Costenaro RS; Nunes S, Rupolo I. Rethinking the to be a nurse teacher in the perspective of the complex thought. Rev Bras Enferm. 2010 May/June; 63(3):421-6. Doi: <http://dx.doi.org/10.1590/S0034-71672010000300012>

23. Pereira WR, Tavares CMM. Pedagogical practices in nursing teaching: a study from the perspective of institutional analysis. *Rev esc enferm USP*. 2010 Dec; 44(4):1077-84. Doi: <http://dx.doi.org/10.1590/S0080-62342010000400032>
24. Lorenzo DJF, González AB, López RL. Teacher Evaluation in the new University Degrees. *Index Enferm*. 2011 Jan/June; 20(1):106-10. Doi: <http://dx.doi.org/10.4321/S1132-12962011000100022>
25. Costa EQ, Ribeiro VMB. Analysis of a curricular reform process experienced by teachers of nutrition. *Ciênc educ (Bauru)*. 2012; 18(3):657-73. Doi: <http://dx.doi.org/10.1590/S1516-73132012000300011>
26. Souza MCC, Otoni A, Santos LL, Campos LG, Oliveira VJ. Workshop on the teaching project of the nursing course: reflecting on innovations, challenges and potential. *Referência*. 2012 Dec; 3(8):67-73. Doi: <http://dx.doi.org/10.12707/R111128>
27. Limberger JB. Active teaching-learning methodologies for pharmaceutical education: a report on experience. *Interface comun saúde educ*. 2013 Oct/Dec; 17(47):969-75. Doi: <http://dx.doi.org/10.1590/1807-57622013.3683>
28. Rodrigues JA, Rocha LS, Anjos DS, Cavalcante LPF, Rozendo CA. Pedagogical trends: conflicts, challenges and perspectives of nursing teachers. *Rev Bras Educ Méd*. 2013 July/Sept; 37(3):333-49. Doi: <http://dx.doi.org/10.1590/S0100-55022013000300005>
29. Paslawski T, Kearney R, White J. Recruitment and retention of tutors in problem-based learning: why teachers in medical education tutor. *Can Med Educ J*. 2013 Mar; 4(1):49-58. PMID: [26451200](https://pubmed.ncbi.nlm.nih.gov/26451200/)
30. Paim AS, Iappe NT, Rocha DLB. Teaching methods used by teachers of nursing: focus on questionable methodology. *Enferm Glob [internet]*. 2015 Jan [cited 2017 Mar 12]; 37:153-169. Available from: http://scielo.isciii.es/pdf/eg/v14n37/pt_doce_ncia2.pdf
31. Aboonq M. Perception of the faculty regarding problem-based learning as an educational approach in Northwestern Saudi Arabia. *Saudi Med J*. 2015 Nov; 36(11):1329-35. Doi: [10.15537/smj.2015.11.12263](https://doi.org/10.15537/smj.2015.11.12263)
32. Santelices L, Williams C, Soto M, Dougnac A. Evaluation of a teaching training program implemented in a faculty of medicine. *Rev Méd Chile*. 2015 Sept; 143(9):1152-61. Doi: <http://dx.doi.org/10.4067/S0034-714.190897>
33. Raymundo CS, Varjabedian D, Guazzelli ME, Akerman M. The deployment of the competency based curriculum in undergraduate physiotherapy: the integrality as the driver axis. *ABCS Health Sci*. 2015; 40(3):220-8. Doi: <http://dx.doi.org/10.7322/abcshs.v40i3.799>
34. Monteguti BR, Diehl EE. Pharmacy education in southern Brazil: preparing pharmacists for the unified health system? *Trab Educ Saúde*. 2016 Jan/Mar; 14(1):77-95. Doi: <http://dx.doi.org/10.1590/1981-7746-sol00008>
35. Freitas DA, Santos SEM, Lima LVS; Miranda, L.N; Vasconcelos, E.L; Nagliate, P.C. Teachers' knowledge about teaching-learning process and its importance for professional education in health. *Interface comun saúde educ*. 2016; 20(57):437-48. Doi: <http://dx.doi.org/10.1590/1807-57622014.1177>
36. Guedes MJP, Alves NB, Wyszomirska RMAF. Teaching and practice of physical therapy applied to vocational training of the child. *Fisioter Mov*. 2013 Apr/June; 26(2):291-305. Doi: <http://dx.doi.org/10.1590/S0103-51502013000200006>
37. Eupierre YS, Mesa EC, Pérez YG. Qualifications of teachers to lead the teaching-learning process using levels of assimilation. *Edumecentro [Internet]*. 2013 May/Aug [cited 2018 July 15]; 5(3):95-107. Available from: <http://scielo.sld.cu/pdf/edu/v5n3/edu07313.pdf>
38. Carácio FCC, Conterno LO, Oliveira MAC, Oliveira ACH, Marim MJS, Braccialli LAD. The experience of a public institution in the training of health professionals to work in primary care. *Ciênc Saúde Coletiva*. 2014 July; 19(7):2133-42. Doi: <http://dx.doi.org/10.1590/1413-81232014197.08762013>
39. Machado MLP, Oliveira DLLC, Manica ST. Extended nursing consultation: education possibilities for the practice of integrality in health. *Rev Gaúcha Enferm*. 2013 Dec; 34(4):53-60. Doi: <http://dx.doi.org/10.1590/S1983-14472013000400007>
40. Tshibwabwa ET, Cannon J, Rice J, Kawooya MG, Sanii R, Mallin R. Integrating Ultrasound Teaching into Preclinical Problem-based Learning. *J Clin Imaging Sci*. 2016 Sept; 6(1):38. Doi: [10.4103/2156-7514.190897](https://doi.org/10.4103/2156-7514.190897)

41. Almeida MTC, Batista NA. Teaching through active learning methods in medical training. *Rev Bras Educ Med*. 2011 Oct/Dec; 35(4):468-76. Available from: <http://www.scielo.br/pdf/rbem/v35n4/a05v35n4>
42. Mesquita SKC, Meneses RMV, Ramos DKR. Active teaching/learning methodologies: difficulties faced by the faculty of a nursing course. *Trab Educ Saúde*. 2016; 14(2):473-86. Doi: <http://dx.doi.org/10.1590/1981-7746-sip00114>.
43. Meira MDD, Kurcgant P. Nursing education: training evaluation by graduates, employers and teachers. *Rev Bras Enferm*. 2016 Jan/Feb;69(1):10-5. Doi: <http://dx.doi.org/10.1590/0034-7167.2016690102i>
44. Sena RS, Leite JCA, Silva KL, Costa FM. Uni Project: a background in which to learn, think and build interdisciplinarity in teaching nursing. *Interface comun saúde educ*. 2003 Aug;7(13):79-90. Doi: <http://dx.doi.org/10.1590/S1414-32832003000200006>.
45. Barreto NAP, Xavier AREO, Sonzogno MC. Tutors' Perception of their Assessment by Students of a Medical Course. *Rev Bras Educ Méd*. 2017 Apr/June; 41(2):221-30. Doi: <http://dx.doi.org/10.1590/1981-52712015v41n2rb20160026>
46. Rodrigues RM, Caldeira S. Movements in high education, in health and nursing education. *Rev Bras Enferm*. 2008 Sept/Oct; 61(5):629-36. Doi: <http://dx.doi.org/10.1590/S0034-71672008000500016>
47. Ruslai NH, Salam A. PBL triggers in relation to students' generated learning issues and predetermined faculty objectives: study in a Malaysian public university. *Pak J Med Sci* [Internet]. 2016 [cited 2017 May 29]; 32(2):324-8. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4859015/pdf/PJMS-32-324.pdf>
48. Pereira WR, Ribeiro MRR, Santos NC, Depes VBS. Pedagogical practices, processes of subjectification and desire to learn from the institutionalist perspective. *Acta Paul Enferm*. 2012;25(6):962-8. Doi: <http://dx.doi.org/10.1590/S0103-21002012000600021>
49. Backes VMS, Moya JLM, Prado ML, Menegaz JC, Cunha AP, Francisco BS. Expressions of pedagogical content knowledge of an experienced nursing teacher. *Texto contexto-enferm*. 2013 July/Sept; 22(3):804-10. Doi: <http://dx.doi.org/10.1590/S0104-07072013000300029>

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