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THE INTEGRATED CURRICULUM AND HEALTH EDUCATION IN BRAZIL: AN INTEGRATIVE REVIEW

O currículo integrado e a formação em saúde no Brasil: uma revisão integrativa

El currículo integrado y la formación en salud en Brasil: una revisión integrativa

Odonilton Lima Lemos[1]
Orcid: https://orcid.org/0000-0002-1101-6687
E-mail: odonilton.lima@ufba.br

Carmen Fontes Teixeira[2]
Orcid: https://orcid.org/0000-0002-8080-9146
E-mail: carment@ufba.br

Renata Meira Veras[3]
Orcid: https://orcid.org/0000-0002-1681-1401
E-mail: renata.veras@ufba.br

Resumo: Este estudo tem por objetivo analisar a produção científica brasileira sobre a incorporação de currículos integrados nos cursos de graduação em saúde no país. Trata-se de uma revisão integrativa de literatura em duas bases de dados. A busca resultou em 195 artigos, sendo selecionados 27, lidos na íntegra e analisados. No que diz respeito à concepção de CI, a maioria aponta a mudança da relação teoria-prática no processo de ensino, que muitas vezes ocorre por meio de metodologias ativas de aprendizagem. Além disso, os estudos registram as dificuldades para a plena implementação do CI, como a falta de pessoal docente qualificado, material bibliográfico e deficiências na estrutura física das Instituições. Conclui-se que o tema ainda é abordado insuficientemente pela comunidade científica da área de saúde, apesar do crescimento do número de cursos de graduação desde a década de 90, principalmente pela recomendação de mudança e adequação dos processos de ensino conforme as Diretrizes Curriculares Nacionais para a área de saúde, adotadas a partir de 2001.

Palavras-chave: currículo integrado; graduação em saúde; educação superior em saúde.

[1] Universidade Federal da Bahia. Salvador, BA, Brasil.
[2] Universidade Federal da Bahia. Salvador, BA, Brasil.
[3] Universidade Federal da Bahia. Salvador, BA, Brasil.

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Abstract: This study aims to analyze Brazilian scientific production on the incorporation of integrated curricula in undergraduate health courses in the country. It is an integrative literature review in two databases. The search resulted in 195 articles, which were reduced to 27 after analysis and were submitted to full reading. Regarding the conception of the IC, most of them point to a change in the theory-practice relationship in the teaching process, which often occurs through active learning methodologies. In addition, the studies report difficulties in fully implementing the IC, such as a lack of qualified teaching staff, bibliographic material and deficiencies in the physical structure of the institutions. It is concluded that the topic is still insufficiently addressed by the scientific community in the health area, despite the increase in the number of undergraduate courses since the 1990s, mainly due to the recommendation for change and adequacy of the teaching processes according to the National Curriculum Guidelines for the health area, adopted since 2001.

Keywords: integrated curriculum; undergraduate health education; higher education in health.

Resumen: Este estudio tiene como objetivo analizar la producción científica brasileña sobre la incorporación de currículos integrados en los cursos de grado en salud en el país. Se trata de una revisión integrativa de literatura en dos bases de datos. La búsqueda resultó en 195 artículos, y se seleccionaron y analisaram 27. la mayoría señala el cambio en la relación teoría-práctica en el proceso de enseñanza, que ocurre a través de metodologías activas de aprendizaje. Además, los estudios registran las dificultades para la plena implementación del CI, especialmente la falta de personal docente calificado, material bibliográfico y deficiencias en la estructura física de las instituciones. Se concluye que el tema aún se aborda de manera insuficiente por la comunidad científica del área de la salud, a pesar del crecimiento en el número de cursos desde la década de 1990, y principalmente por la recomendación de cambio y adecuación de los procesos de enseñanza de acuerdo con las Directrices Curriculares Nacionales para el área de la salud, adoptadas a partir de 2001.

Palavras clave: plan de estudios integrado; grado en salud; educación superior en salud.

1 INTRODUCTION

The process of implementing the Unified Health System (SUS, *Sistema Único de Saúde),* since the recognition of the Universal Right to Health in the Federal Constitution of 1988 and the approval of the system's organic legislation (BRASIL, 1988, 1990a, 1990b) has faced a series of problems and challenges, which hinder its full operationalization (Paim *et al*., 2011; Paim, 2018; Teixeira *et al.* 2022).

In this process, one of the "critical issues" affecting the functioning of the SUS is the availability, distribution and, mainly, the inadequacy of the professional profile of the system workers (Almeida Filho, 2011), as there is still a gap between the professional training process and the needs of the services, which has repercussions on the effectiveness and quality of the carried out actions, and is expressed in the population's dissatisfaction with the service provided (Machado; Ximenes Neto, 2018).

To address this problem, the need for change in higher education in health has been discussed, in order to adapt the curricula of the various courses, aiming at the training of technically qualified professionals who are socially committed to guaranteeing access and improving the quality of services, at the various levels of care (Matta; Lima, 2008; Rocha, 2014; Teixeira; Santos; Rocha, 2022).

In this sense, the authors propose a curriculum that promotes the insertion of students into practical settings from the first semester, and that has as its theoretical basis an understanding of the complexity of health and its social determinants, as well as an analysis of the epidemiological profile of the population and the organization of health services in the local and regional context where the course is located. Thus, the authors propose the creation of practical settings that favor the appropriation of knowledge and the development of skills and values by students of the various courses, encouraging, among other things, the implementation of the cycle system and interprofessional education (Peduzzi *et al*., 2013; Veras *et al*., 2018).

Thus, aiming to adapt the training processes to the needs and demands arising from the changes that have been occurring in the health system organization and, mainly, in the organization of the work processes developed by the various professionals in the area, the National Curricular Guidelines (DCN, *Diretrizes Curriculares Nacionais)* were drawn up in 2001 for all courses, and in 2014 these DCNs were updated for the medical course, guiding the reformulation of the pedagogical projects of the various courses and the creation of new ones (Brasil, 2001, 2014).

Based on the aforementioned changes, the maintenance of disciplinary curricula is increasingly less observed, since an integrated curriculum (IC) emerges as a proposal to diversify the training fields, aiming at training that makes the teaching-learning process more meaningful and focused on the epidemiological, sanitary and sociocultural reality of the population that accesses health services in the different regions of the country (Harden; Sowden; Dunn, 1984).

From this perspective, studies are needed on the processes of incorporating IC into professional training courses in this field. For this purpose, these questions were considered: What are the conceptual and methodological foundations of curricular integration proposals? How have these proposals been incorporated into undergraduate health programs in Brazil? To answer these questions, the objective of this study is to analyze Brazilian scientific literature on the incorporation of integrated curriculum proposals into undergraduate health programs in the country.

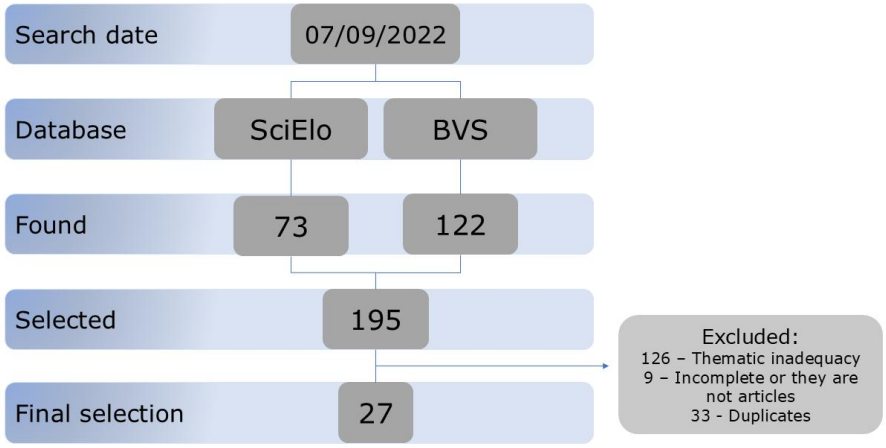
2 METHOD

This is an integrative literature review study in two national databases, SciElo and the Virtual Health Library (VHL). The review was carried out on September 7, 2022, using the descriptor "Integrated curriculum." Articles that met the following inclusion criteria were included in the analysis matrix: a) articles containing the expression "integrated curriculum" in the title and/or abstract; b) published in Portuguese; c) had a full online version available free of charge. Other types of publications were excluded from the analysis.

The search yielded 195 articles, 73 of which were found in the SciElo database and 122 in the VHL (Infographic 1). Reading the abstracts revealed that, of these, 126 did not explicitly address the study topic, and 33 were duplicates and were therefore excluded. Furthermore, three theses, incomplete articles, and two websites were excluded because they did not meet the previously defined inclusion criteria.

The set of 27 selected articles were submitted to full-text reading. Initially, the aim was to identify the course to which the article referred and then classify them by course. Once this classification was completed, information was extracted from each article regarding the following aspects (Appendix 1): a) full reference; b) title; c) objectives; d) methodology; e) results; f) institutional origin of the authors; g) type of article; h) year of publication.

Infographic 1 – Article selection process



Source: the authors

The tabulation of information related to each item resulted in a set of Tables and Graphs that account for the bibliometric aspects of the selected production, complemented by the content analysis of the abstracts, in order to identify the IC concepts adopted in the courses, the characteristics of the process of incorporating this proposal into the courses, according to the experiences reported in the selected articles, as well as the facilities and difficulties faced in the curricular reformulation process based on the integration of knowledge and practices in the teaching-learning process developed in the courses.

3 RESULTS AND DISCUSSION

3.1 Distribution of articles by course

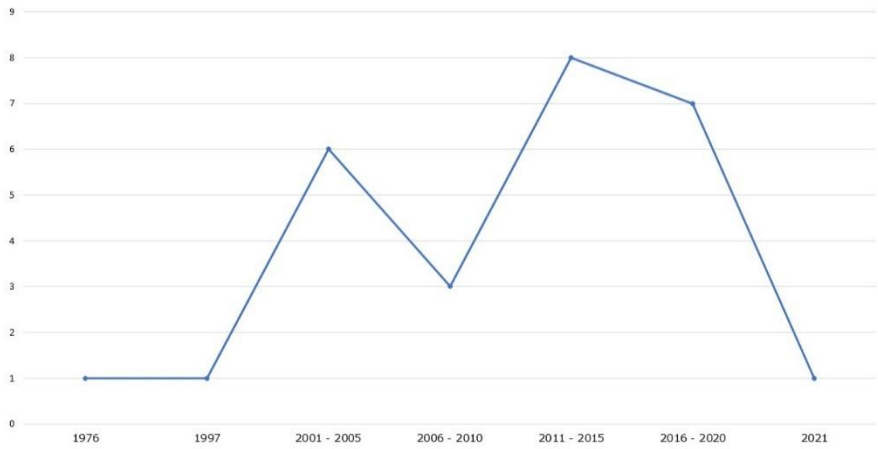
The classification of articles according to the reported course highlights the strong presence of studies on curriculum in the area of nursing, which holds 16 of the 27 articles, more than 59% of the total, with the remainder distributed between medicine with 7 articles (25.92%), dentistry with 3 (11.11%) and physiotherapy with 1 (3.7%).

3.2 Temporal evolution of publications

As shown in Graph 1, the first article found dates back to 1976, and was from the nursing program. Only 21 years later, in 1997, did another article appear on this topic, also in the field of nursing. From 2000 onward, there was an increase in the frequency of these publications, thus establishing a relatively large time interval between the publication of the first identified study and the others. It is noteworthy that only in 2008 was an article published in another course, this one in medicine. Also noteworthy is the increase in the number of studies since 2010, which may be related

to the publication of the National Curricular Guidelines (DCNs), which may have encouraged greater interest among researchers and faculty in this topic. However, there has been a sharp decline in the number of studies in the more recent period, notably in 2021, perhaps due to the COVID-19 pandemic, which caused significant changes in daily university life.

Graph 1 – Temporal evolution in the number of publications

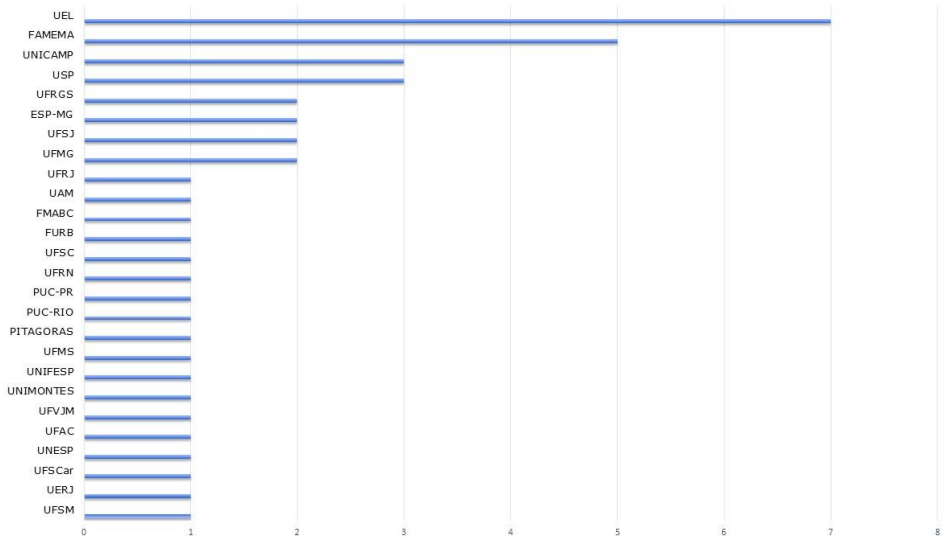


Source: the authors

3.3 Authors' institutional origin

Regarding the authors' institutional background, considering the main author, it is possible to verify that the majority are affiliated with higher education institutions located in the Southeast region (60%). The Universidade Estadual de Londrina (UEL), (UEL) stands out, with 7 articles, and the Faculdade de Medicina de Marília ((FAMEMA) with 5 publications. The Universidade de São Paulo (USP) and the Universidade Estadual de Campinas ((UNICAMP) appear with 3 publications, followed by the Universidade Federal do Rio Grande do Sul ((URGRS), the Escola de Saúde Pública do Estado de Minas Gerais,, the Universidade Federal de São João del-Rei and the Universidade Federal de Minas Gerais with 3 publications each (Graph 2).

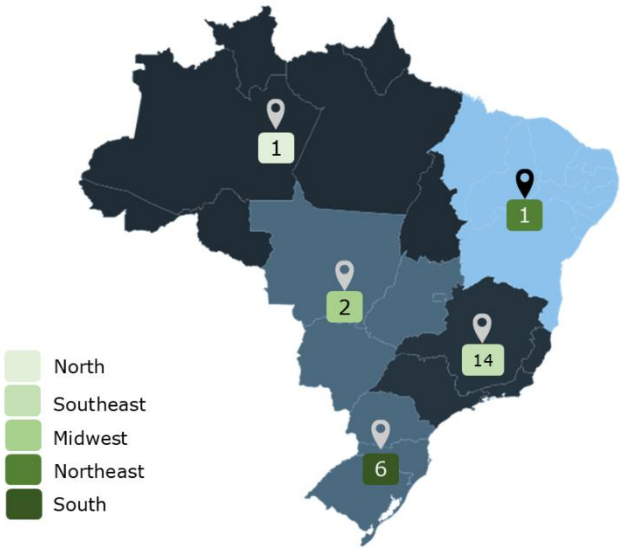
Graph 2 – Distribution of authors according to institutional origin



Source: the authors

Among the other institutions, the small participation of HEIs from the North, Northeast and Midwest regions is noteworthy, from where only three publications come, whose authors are linked to the Universidade Federal do Rio Grande do Norte (1), Universidade Federal do Acre (1) and the Universidade Federal do Mato Grosso do Sul (1).

Figure 1 – Distribution of publications per region of the country



Source: the authors

This highlights the geographic and institutional concentration of health research groups interested in curriculum issues, especially research on concepts, implementation processes, and practices of integrated curriculum (Image 1).

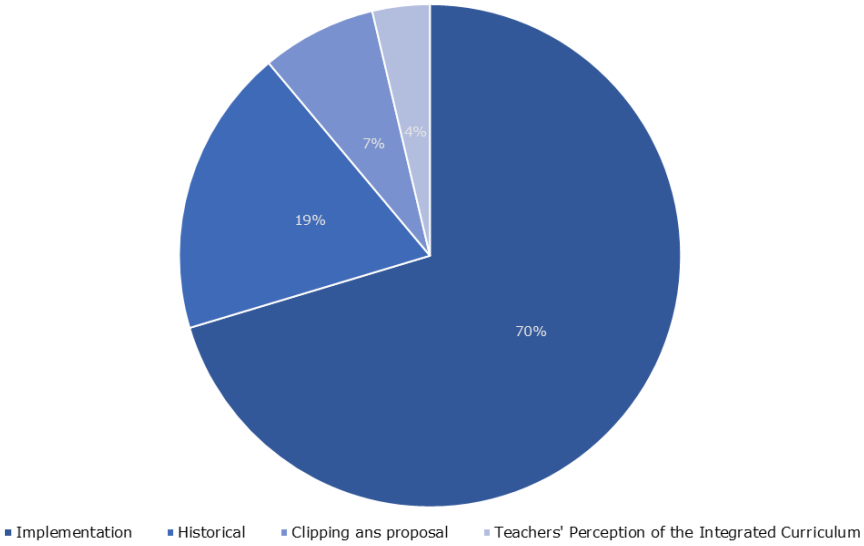
3.4 Typology of studies according to objectives and methodology adopted

Most studies in nursing courses aim to analyze the implementation processes of the integrated curriculum (Godoy; Souza, 2001a, 2001b; Zem-Mascarenhas; Beretta, 2005; Laluna; Ferraz, 2006; Opitz et al., 2008; Leite et al., 2011; Alves; Berbel, 2012; Ide et al., 2014; Scaramal et al., 2017). Other studies (Godoy, 2002; Freire et al., 2003; Laluna; Ferraz, 2003; Franco; Soares; Gazzinelli, 2018) show a more historical approach, investigating the creation and reconstruction of IC projects in the respective courses. Also in the nursing field, there are studies that analyze specific aspects of the Political Pedagogical Project (PPP) or identify problems and formulate proposals for implementing the IC (Silva; Southier; Mazuroni, 1976; Romano; Papa; Lopes, 1997). Finally, only one study (Franco; SOARES; Bethony, 2016) aimed to understand the concepts of integrated curriculum held by the course's teachers.

Much of the work on medical courses also aims to analyze the course implementation processes, with only one study investigating historical aspects of the curriculum integrated into the course (Heinzle; Bagnato, 2015). Studies on dentistry courses (Toassl *et al.*, 2012; Lamers *et al.*, 2016; Noro, 2019) and physiotherapy (Raymundo et al., 2015), in turn, focused on analyzing the characteristics of the process of implementing curricular reforms in their respective courses.

Thus, it is possible to observe that a good portion of the studies focused predominantly on investigating aspects related to the process of implementing curricular reforms, investigating the perspectives, difficulties, reflections and perceptions of teachers, students and coordinators regarding the integrated curriculum, also presenting the results that have been achieved based on changes in the political pedagogical projects of the courses.

Graph 3 – Study objectives



Source: the authors

The classification of studies according to the methodology used, shows that the majority (19) are single case studies, and in this group, the majority conducted data collection with teachers, students and/or people who occupy directive positions, through semi-structured interviews, application of questionnaires and establishment of focal groups, while other case studies are based solely on documentary analyses (Godoy, 2002; Freire et al., 2003; Laluna; Ferraz, 2003). In addition to these, two publications (Souza; Zeferino; Da Ros, 2001; Heinzle; Bagnato, 2015) conducted multiple case studies, analyzing and comparing integrated curriculum projects in different medical schools. It is interesting to note that the article related to the Physiotherapy Course (Raymundo et al., 2015) also consisted of a single case study; however, adopting the action research strategy. Finally, some studies showed descriptions of implementation processes of projects already built (Zem-Mascarenhas; Beretta, 2005; Noro, 2019; Zeferino; Zanolli; Antonio, 2012; Silva; Southier; Mazuroni, 1976; Romano; Papa; Lopes, 1997).

3.5 Conceptual and methodological bases of the curricular integration proposals adopted in health courses

Some studies on nursing courses demonstrate a broad conception of the curriculum, understood not only as an ordered and sequential set of disciplines, but as the set of educational experiences carried out during the course, emphasizing that the teaching process "must privilege the experience of the self with the other, aiming at the formation of bonds between people at school and in immersion scenarios" (Franco; Soares; Bethony, 2016). Of the 16 studies on this course, nine (Zem-Mascarenhas; Beretta, 2005; Laluna; Ferraz, 2006; Opitz *et al.*, 2008; Leite *et al.*, 2011; Ide *et al.*, 2014; Scaramal *et al.*, 2017; Freire *et al.*, 2003; Laluna; Ferraz, 2003; Franco; Soares; Gazzinelll,

2018) show an understanding of IC as a way to guarantee the inseparability between theory and practice and the articulation between the basic and clinical cycles in the teaching-learning process, thus seeking to overcome the fragmentation of knowledge and enable students to analyze health problems from an interdisciplinary point of view. However, three articles (Alves; Berbel, 2012; Silva; Southier; Mazuroni, 1976; Romano; Papa; Lopes, 1997) do not make clear the concept of IC adopted and only mention that it is a process through which regional health demands will be addressed.

In several nursing studies (Godoy; Souza, 2001a, 2001b; Leite et al., 2011; Alves; Berbel, 2012; Ide et al., 2014; Godoy, 2002; Silva; Southier; Mazuroni, 1976), the pedagogy of problematization was identified as the means of operationalizing integration, using "theorization from practice in the various workspaces" (Franco; Soares; Bethony, 2016), especially valuing the fields of practice within the health system. Thus, the disciplines "began to relate to each other and [...] knowledge became the main objective" (Franco; Soares; Gazzinelli, 2018). This relationship often occurred through "educational units" or "modules" that organize components and subjects according to related topics and issues, requiring an interdisciplinary approach (Alves; Berbel, 2012).

Studies on the medical course (Vargas *et al.*, 2008; Souza; Zeferino; Da Ros, 2011; Zeferino; Zanolli; Antonio, 2012; Costa; Tonhom; Fleur, 2016; Rezende et al., 2020; Lima et al., 2021; Heinzle; Bagnato, 2015) show a conception of curriculum as the articulation of knowledge in an inter, intra and transdisciplinary way, aiming at the construction of knowledge according to the students' needs, valuing the students' experiences and practices, in order to make the teaching-learning process more meaningful. They also emphasize that proposing an integrated curriculum requires thinking beyond the organizational component, including reflection on the professional profile and the relationships between the teaching collective and other social actors involved in the teaching-learning process, corroborating the understanding of the curriculum as a dynamic process that involves more than simply the appropriation of knowledge and the development of technical skills. Furthermore, several articles (Vargas *et al.*, 2008; Souza; Zeferino; Da Ros, 2011; Zeferino; Zanolli; Antonio, 2012; Costa; Tonhom; Fleur, 2016; Rezende *et al.*, 2020; Lima *et al.*, 2021; Heinzle; Bagnato, 2015) refer to the organization of "interdisciplinary thematic modules, [...] which aim to develop clinical and practical skills through the articulation of teaching, service and community" (Vargas *et al.*, 2008), while highlighting the use of active methodologies, especially Problem-Based Learning (PBL).

Studies of the dentistry course understand that curriculum reform goes beyond the organizational issue, being a "cultural construction shaped from the specific context in which it is situated" (Toassi *et al.*, 2012), argue that it must be structured in a way "that allows the development of diverse knowledge, skills and abilities, both general and specific" (Noro, 2019), and furthermore, they indicate that the curriculum should

not be understood as a finished process but rather "something alive that is constantly under construction" (Lamers *et al*., 2016).

Two of the three studies on dentistry courses (Toassi *et al*., 2012; Lamers et al., 2016) highlight the "transition" process between the old and new curricula, as a specific curricular component was included in each semester to integrate the content covered in the other components, preserving the disciplines prior to the IC but seeking to integrate them. Another study (Noro, 2019) presents the construction of integrated modules in the course, and although it does not describe how these modules were implemented, it demonstrates concern that this integration should occur not only in teaching but also in extension projects, internships, and complementary activities.

Finally, the work that addresses the curricular reformulation of a physiotherapy course (Raymundo et al., 2015) also shows a concept of IC as the "incorporation of interdisciplinarity in the organization of knowledge" with the perspective of subsidizing health practices and actions that guarantee comprehensive care. The study indicates that the contents are organized into interdisciplinary modules according to topics that articulate the contents of the disciplines of the basic cycle and the clinical cycle, observing a certain concern with the development of skills that are not restricted to outpatient and hospital care.

3.6 Implementation of proposals of integration of the curriculum: facilities and difficulties

In the set of studies, it is possible to observe the results that have been achieved by the courses that adopt the proposal to implement the integrated curriculum and the faced difficulties, among which are the "[...] scarcity of human and bibliographic resources [...] and inadequate physical structure of the classrooms" (Godoy; Souza, 2001a, 2001b; Ide *et al*., 2014; Zeferino; Zanolli; Antônio, 2012; Rezende et al., 2020), changes in the teaching staff and coordinators throughout the process and, above all, the inexperience and unpreparedness of the teaching staff in relation to the proposed pedagogical processes, an aspect that appears in studies of the various courses (Laluna; Ferraz, 2006; Opitz et al., 2008; Ide et al., 2014; Franco; Soares; Gazzinelli, 2018; ToassI et al., 2012; Lamers *et al*., 2016; Raymundo et al., 2015), since many of the teachers were trained using traditional methods.

In this sense, they state that the Integrated Curriculum is "a reference site cohabited by the traditional curriculum," each with its own instruments, revealing that the IC ends up being "anchored in the experiences and training processes of teachers," so that some teachers, even knowing the proposal, reproduce traditional teaching practices, limiting themselves to the presentation and transmission of information. (Franco; Soares; Gazzinell, 2018). Another study (Heinzle; Bagnato, 2015) points out that teachers' pedagogical practices are not, in fact, consistent with the proposals, drawing attention to the fact that in the discussions prior to the implementation of the

proposal, there was little teacher participation, despite the institution's efforts to encourage such participation.

Associated with that, it is noted that the majority of students also come from schools which employ traditional teaching and therefore have a certain resistance to the proposed innovations, adopting a passive behavior in the teaching-learning process (Leite et al., 2011; Franco; Soares; Bethony, 2016) considering that, precisely in this posture, "lies part of the difficulties of breaking and overcoming" (Opitz et al., 2008) the previous model. On the other hand, one study (Toassi et al., 2012) indicates that students demonstrate "maturity, clarity, and [...] a desire for the proposal to work well," emphasizing the positive aspects of the IC such as clinical teaching organized by levels of complexity, internships in the Unified Health System (SUS), and the learning of humanized care. Other studies (Vargas et al., 2008; Rezende et al., 2020) also indicate the satisfaction of students and faculty with the teaching and learning process that has been taking place in the course, following the proposed curriculum. They also point to actions taken to overcome these obstacles, such as courses, lectures, and training to prepare teachers to work within the IC perspective.

Therefore, it is emphasized that "the transformation of people [...] is difficult, slow, conflicting, complex [...]" and requires multidimensional work, encompassing subjective and affective issues (Godoy, 2002), which sometimes establish resistance to change (Laluna; Ferraz, 2003). This corroborates the findings of other studies (Rezende et al., 2020) that emphasize the need for actors to participate in the construction of the course's curricular reform to ensure understanding of the proposed curriculum and more effective implementation.

Considering the above, it was possible to observe common problems across all courses, such as a lack of faculty experience, which indicates that these difficulties stem in part from the traditional educational system, which is still strongly present, even in courses created with integrated curriculum proposals. Thus, the implementation of the IC requires investment in both faculty qualifications and improved infrastructure at higher education institutions. It also depends on improvements to the healthcare system itself, which is part of the teaching and learning process, since this is largely where future professionals' fields of practice are located.

Thus, it is clear that implementing a proposed change in the teaching-learning process in undergraduate health programs, such as the implementation of the IC, transcends organizational issues and encompasses everything from adapting the courses' physical facilities and ensuring the necessary support materials, to changing and adapting the faculty profile, addressing resistance from faculty and students, and reorganizing teaching-service relationships to ensure practice areas where inter- and transdisciplinary teaching is possible, anchored in the analysis of the population's health problems. This allows us to affirm that the curriculum is the synthesis of the proposed knowledge and the circumstances of its operationalization.

4 FINAL CONSIDERATIONS

The review revealed that studies on curricular reformulation in undergraduate health courses have adopted an integrated curriculum concept that emphasizes the articulation between theory and practice, the organization of interdisciplinary thematic modules, the incorporation of active learning methodologies, and the need to strengthen the relationship between teaching, health services and the local community.

However, the small number of articles found, the concentration of studies in the area of nursing, and the territorial concentration in HEIs from which the studies originate, highlights the need for further studies on this process, including in undergraduate health courses that were not identified in the set of articles analyzed.

Despite the incipience of studies on the topic, it was possible to identify a series of difficulties faced in the process of implementing the IC, both in the conception of the IC itself and in the difficulties of operationalizing this proposal, often revealing that the integrated curriculum is, in fact, cohabiting with the traditional curriculum. However, despite these difficulties, changes have been occurring in the training of health professionals, which stimulates interest in developing new studies on ongoing experiences.

REFERENCES

ALMEIDA-FILHO, Naomar. Higher education and health care in Brazil. **The Lancet**, [S. L.], v. 377, n. 9781, p. 1898-1900, jun. 2011. Elsevier BV. Disponível em: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(11)60326-7/fulltext?rss=yes. Acesso em: 10 mar. 2023.

ALVES, Elaine.; BERBEL, Neusi Aparecida Navas. A resolução de problemas no contexto de um currículo integrado de enfermagem. **Ciência, Cuidado e Saúde**, Maringá, v. 11, n. 5, p. 191-198, 30 maio 2012. Disponível em: https://pesquisa.bvsalud.org/portal/resource/pt/bde-23586. Acesso em: 15 set. 2022.

BRASIL. Conselho Nacional de Educação. Câmara da Educação Superior. Parecer CNE/CES nº 1.133, de 7 de agosto de 2001. Estabelece as diretrizes curriculares para os cursos de Enfermagem, Medicina e Nutrição. **Diário Oficial da União**, Brasília, DF, 3 out. 2001. Disponível em: https://normativasconselhos.mec.gov.br/normativa/view/CNE_pces113301.pdf?query=FAM%C3%8DLIA. Acesso em: 08 jan. 2023.

BRASIL. Constituição da República Federativa do Brasil. **Diário Oficial da União**, Brasília, DF, 5 out. 1988. Disponível em: https://www2.senado.leg.br/bdsf/bitstream/handle/id/518231/CF88_Livro_EC91_2016.pdf. Acesso em: 05 jan. 2023.

BRASIL. Lei nº 8.080, de 19 de setembro de 1990. **Diário Oficial [da] República Federativa do Brasil,** Brasília, DF, 24 set. 1990a. Disponível em: https://www.planalto.gov.br/ccivil_03/leis/l8080.htm. Acesso em: 05 jan. 2023.

BRASIL. Lei nº 8.142, de 28 de dezembro de 1990. **Diário Oficial [da] República Federativa do Brasil**, Brasília, DF, 31 dez. 1990b. Disponível em: http://www.planalto.gov.br/ccivil_03/leis/l8142.htm. Acesso em: 05 jan. 2023.

BRASIL. Ministério da Saúde. **Diretrizes curriculares nacionais do curso de graduação em medicina.** Brasília: Ministério da Saúde, 2014. Disponível em: http://portal.mec.gov.br/cne/arquivos/pdf/Med.pdf. Acesso em: 06 jan. 2023.

COSTA, Maria Cristina Guimarães da; TONHOM, Silvia Franco da Rocha; FLEUR, Lucas Noda. Ensino e Aprendizagem da Prática Profissional: perspectiva de estudantes de medicina. **Revista Brasileira de Educação Médica**, Brasília, v. 40, n. 2, p. 245-253, jun. 2016. Disponível em: https://www.scielo.br/j/rbem/a/RhQX89tvSTXSf8TwgM35ZLJ/?lang=pt. Acesso em: 22 set. 2022.

FRANCO, Elaine Cristina Dias; SOARES, Amanda Nathale; BETHONY, Maria Flavia Gazzinelli. Currículo integrado no ensino superior em enfermagem: o que dizem os enfermeiros docentes. **Enfermagem Foco**, Brasília, v. 7, n. 1, p. 33-36, mar. 2016. Disponível em: https://pesquisa.bvsalud.org/portal/resource/pt/biblio-1028238. Acesso em: 15 set. 2022.

FRANCO, Elaine Cristina Dias; SOARES, Amanda Nathale; GAZZINELLI, Maria Flávia. Macro and micropolitics recontextualization of an integrated curriculum: experienced itinerary in nursing undergraduate. **Escola Anna Nery**, Rio de Janeiro, v. 22, n. 4, p. 1-9, jul. 2018. Disponível em: https://www.scielo.br/j/ean/a/9HrFwnPJmCsfNNCgR7fKCrR/?lang=en. Acesso em: 15 set. 2022.

FREIRE, Renata Pascoal *et al.* O currículo integrado da faculdade de enfermagem UERJ: uma reflexão sobre a formação de recursos humanos para o sus. **Revista Brasileira de Enfermagem**, Brasília, v. 56, n. 4, p. 381-384, ago. 2003. Disponível em: https://www.scielo.br/j/reben/a/fWJDwkWC4yn8BvfxqjgXkNN/abstract/?lang=pt. Acesso em: 17 set. 2022.

GODOY, Christine Baccarat de. O curso de enfermagem da Universidade Estadual de Londrina na construção de uma nova proposta pedagógica. **Revista Latino-Americana de Enfermagem,** Ribeirão Preto, v. 10, n. 4, p. 596-603, jul. 2002. Disponível em:www.scielo.br/j/rlae/a/q4DsmD44K6rNgHMZgXjgsVd/?lang=pt. Acesso em: 17 set. 2022.

GODOY, Christine Baccarat de; SOUZA, Nadia Aparecida de. Dificuldades e facilidades vividas pelos docentes no processo de implantação do currículo integrado no curso de Enfermagem da Universidade Estadual de Londrina. **Semina**: Ciências Biológicas e da Saúde, Londrina, v. 22, n. 1, p. 33, jul. 2001a. Disponível em: ojs.uel.br/revistas/uel/index.php/seminabio/article/view/3722. Acesso em: 17 set. 2022.

GODOY, Christine Baccarat de; SOUZA, Nádia Aparecida de. Enfermagem: o currículo integrado na avaliação e percepção dos docentes. **Revista Brasileira de Enfermagem**, Brasília, v. 54, n. 3, p. 427-434, set. 2001b. Disponível em: https://www.scielo.br/j/reben/a/xQGZMPB5nV56dWCDqbJyb3C/?lang=pt. Acesso em: 17 set. 2022.

HARDEN, Ronald M.; SOWDEN, Susan; DUNN, William R. Educational strategies in curriculum development: the spices model. **Medical Education**, Oxford, v. 18, n. 4, p. 284-297, jul. 1984. Disponível em: https://pubmed.ncbi.nlm.nih.gov/6738402/. Acesso em: 22 set. 2022.

HEINZLE, Marcia Regina Selpa; BAGNATO, Maria Helena Salgado. Recontextualização do currículo integrado na formação médica. **Pro-Posições**, Campinas, v. 26, n. 3, p. 225-238, dez. 2015. Disponível em: https://www.scielo.br/j/pp/a/Yhy6V4VqMQJtNJkhshcRSTC/?format=pdf&lang=pt. Acesso em: 22 set. 2022.

IDE, Cilene Aparecida Costardi *et al.* Avaliação da implantação do currículo integrado no programa de graduação em enfermagem. **Acta Paulista de Enfermagem**, São Paulo, v. 27, n. 4, p. 340-347, ago. 2014. Disponível em: https://www.scielo.br/j/ape/a/snVj4ZwW7pvzFbnqdfTWHsx/?format=pdf&lang=pt. Acesso em: 17 set. 2022.

LALUNA, Maria Cristina M. Capel; FERRAZ, Clarice Aparecida. Compreensão das bases teóricas do planejamento participativo no currículo integrado de um curso de enfermagem. **Revista Latino-Americana de Enfermagem**, Ribeirão Preto, v. 24, 2003. Disponível em: www.scielo.br/j/rlae/a/t6yPYPF6pCXBxfs9hLpLgch/?lang=pt. Acesso em: 17 set. 2022.

LALUNA, Martinez Capel; FERRAZ, Clarice Aparecida. Currículo integrado: analisando o desempenho do planejamento participativo. **Revista Gaúcha de Enfermagem**, Porto Alegre, v. 27, n. 2, p. 230, 2006. Disponível em: https://www.scielo.br/j/rlae/a/t6yPYPF6pCXBxfs9hLpLgch/?lang=pt&format=pdf. Acesso em: 17 set. 2022.

LAMERS, Juliana Maciel de Souza *et al.* Mudanças curriculares na educação superior em Odontologia: inovações, resistências e avanços conquistados. **Revista da Abeno,** Porto Alegre, v. 16, n. 4, 2016. Disponível em: http://revodonto.bvsalud.org/scielo.php?script=sci_abstract&pid=S1679-59542016000400002&lng=pt&nrm=iso&tlng=pt. Acesso em: 17 set. 2022.

LEITE, Maisa Tavares de Souza *et al.* Unidade teórico-prática na práxis de um currículo integrado: percepção de docentes de enfermagem na saúde da criança e do adolescente. **Revista Brasileira de Enfermagem**, Brasília, v. 64, n. 4, 2011. Disponível em: https://pesquisa.bvsalud.org/portal/resource/pt/bde-22841. Acesso em: 18 set. 2022.

LIMA, Ana Glaucia Paulino *et al.* Comunicação clínica no internato: habilidade em interface com o currículo integrado e orientado por competência. **Revista Brasileira de Educação Médica**, Brasília, v. 45, n. 3, 2021. Disponível em: https://www.scielo.br/j/rbem/a/g3zr3JTFHdMmhW6sjxP8xDv/abstract/?lang=pt. Acesso em: 17 set. 2022.

MACHADO, Maria Helena; XIMENES NETO, Francisco Rosemiro Guimarães. Gestão da Educação e do Trabalho em Saúde no SUS: trinta anos de avanços e desafios. **Ciência & Saúde Coletiva**, Rio de Janeiro, v. 23, n. 6, 2018. Disponível em: https://www.scielo.br/j/csc/a/yxKZJcmCrSHnHRMYLNtFYmP/?lang=pt. Acesso em: 26 fev. 2023.

MATTA, Gustavo Corrêa; LIMA, Júlio Cézar França (org.). **Estado, sociedade e formação profissional em saúde**. Rio de Janeiro: FIOCRUZ, EPJV, 2008. Disponível em: https://books.scielo.org/id/v4fx5/pdf/matta-9788575415054.pdf. Acesso em: 23 jan. 2023.

NORO, Luiz. Como estruturar um currículo integrado num curso de Odontologia? **Revista Ciência Plural**, Natal, RN, v. 5, n. 1, p. 1-17, 5 jun. 2019. Disponível em: https://pesquisa.bvsalud.org/portal/resource/pt/biblio-1007332. Acesso em: 18 set. 2022.

OPITZ, Simone Perufo *et al.* O currículo integrado na graduação em enfermagem: entre o ethos tradicional e o de ruptura. **Revista Gaúcha de Enfermagem**, Porto Alegre, v. 29, n. 2, p. 314, 2008. Disponível em: https://pesquisa.bvsalud.org/portal/resource/pt/lil-539201 Acesso em: 22 set 2022.

PAIM, Jairnilson Silva. Sistema Único de Saúde (SUS) aos 30 anos. **Ciência & Saúde Coletiva,** Rio de Janeiro, v. 23, n. 6, p. 1723-1728, 2018. Disponível em: https://www.scielo.br/j/csc/a/Qg7SJFjWPjvdQjvnRzxS6Mg/abstract/?lang=pt. Acesso em: 23 jan. 2023.

PAIM, Jairnilson Silva *et al.* The Brazilian health system: history, advances, and challenges. **The Lancet**, v. 21, n. 377, p. 1778-1797, May, 2011. Disponível em: https://www.arca.fiocruz.br/handle/icict/18316. Acesso em: 23 jan. 2023.

PEDUZZI, Marina *et al.* Educação interprofissional: formação de profissionais de saúde para o trabalho em equipe com foco nos usuários. **Revista da Escola de Enfermagem da USP**, São Paulo, v. 47, n. 4, p 977-83, ago. 2013. Disponível em: https://www.scielo.br/j/reeusp/a/JwHsjBzBgrs9BCLXr856tzD/abstract/?lang=pt. Acesso em: 22 jan. 2023.

RAYMUNDO, Camila Sotello *et al.* A implantação do currículo baseado em competência na graduação de fisioterapia: a integralidade como eixo condutor. **Abcs Health Sciences**, [S.L.], v. 40, n. 3, p. 220-228, 21 dez. 2015. Disponível em: https://pesquisa.bvsalud.org/portal/resource/pt/lil-771400 Acesso em: 22 set. 2022.

REZENDE, Kátia Terezinha Alves *et al.* Aprendizagem baseada em problemas em um curso de medicina: desafios na sua implementação. **Revista Brasileira de Educação Médica**, Brasília, v. 44, n. 4, p. 2-7, 2020. Disponível em: https://www.scielo.br/j/rbem/a/L75nj9QhmLcQ7mGXzvgJszx/?format=pdf&lang=pt Acesso em: 22 set. 2022.

ROCHA, Marcelo Dourado. **Educação superior em saúde no Brasil**: tendências e perspectivas da graduação em saúde no século XXI. 2014. Tese (Doutorado) - Instituto de Saúde Coletiva da UFBA, 2014. Disponível em: https://repositorio.ufba.br/handle/ri/16327 Acesso em: 08 fev. 2023.

ROMANO, Regina Aurora Trino; PAPA, Luiza Maria Piazzi; LOPES, Gertrudes Teixeira. Construção de um currículo integrado de enfermagem. **Revista Brasileira de Enfermagem**, Brasília, v. 50, n. 3, p. 407-424, set. 1997. Disponível em: https://www.scielo.br/j/reben/a/WzF4whLMGScKsdftN9DWvYx/?lang=pt Acesso em: 22 set. 2022.

SCARAMAL, Dayane Aparecida *et al.* Satisfação de docentes do currículo integrado de enfermagem de uma universidade estadual. **Revista Enfermagem Uerj**, Rio de Janeiro, v. 25, p. 1-6, 20 dez. 2017. Disponível em: https://www.e-publicacoes.uerj.br/index.php/enfermagemuerj/article/viewFile/11630/25922. Acesso em: 22 set. 2022.

SILVA, L.; SOUTIER, J.; MAZURONI, M. B. Projeto de currículo integrado para o curso de graduação em enfermagem. **Revista Gaúcha de Enfermagem**, Porto Alegre, v. 1, n. 3, p. 165, 1976. Disponível em: https://www.seer.ufrgs.br/index.php/rgenf/article/view/74776. Acesso em: 20 set. 2022.

SOUZA, P. A.; ZEFERINO, A. M. B.; DA ROS, M. A. Currículo integrado: entre o discurso e a prática. **Revista Brasileira de Educação Médica**, Brasília, v. 35, n. 1, p. 20-25, mar. 2011. Disponível em: https://www.escolasmedicas.com.br/news-detalhe.php?blog=2355. Acesso em: 20 set. 2022.

TEIXEIRA, Carmen Fontes Souza *et al*. Sistema Único de Saúde (SUS): a difícil construção de um sistema universal na sociedade brasileira. *In*: PAIM, J. S.; ALMEIDA FILHO, N. (org.). **Saúde coletiva**: teoria e prática. 2. ed. Rio de Janeiro: Medbook, 2022. v. 1, p. 124-142.

TEIXEIRA, Carmen Fontes Souza; SANTOS, Liliana; ROCHA, Marcelo Dourado. Desafios da formação profissional em saúde. *In*: FARIA, L. *et al*. (org.). **Educação em saúde na atenção primária**: história e memória. São Paulo: HUCITEC, 2022. v. 1, p. 19-40.

TOASSI, Ramona Fernanda Ceriotti *et al.* Currículo integrado no ensino de odontologia: novos sentidos para a formação na área da saúde. **Interface - Comunicação, Saúde, Educação,** Botucatu, v. 16, n. 41, p. 529-544, 19 abr. 2012. Disponível em: https://www.scielo.br/j/icse/a/bp3q9vRNdRnNvgkKJ8pmfZv/?format=pdf&lang=pt Acesso em: 22 set. 2022.

VARGAS, Lúcia Helena Mendonça *et al.* Inserção das ciências básicas no currículo integrado do curso de Medicina da Universidade Estadual de Londrina. **Revista Brasileira de Educação Médica**, Brasília, v. 32, n. 2, p. 174-179, jun. 2008. Disponível em: https://www.scielo.br/j/rbem/a/NP5B4SgBTWxkBVLvDHVTP8q/?lang=pt Acesso em : 22 set. 2022.

VERAS, Renata *et al*. Formação em regime de ciclo do Bacharelado Interdisciplinar em saúde da UFBA e a proposta de Educação Interprofissional. **Avaliação**, Campinas, Sorocaba, SP, v. 23, n. 2, p. 294-311, jul. 2018. Disponível em: https://www.scielo.br/j/aval/a/hKdgjcxTv8h7537PFkG9KnG/abstract/?lang=pt Acesso em: 05 set. 2023.

ZEFERINO, Angélica Maria Bicudo; ZANOLLI, Maria de Lurdes; ANTONIO, Maria Angela Reis de Góes Monteiro. Experiência da atenção integral à saúde individual e familiar com enfoque na responsabilização, vínculo médico-paciente, ética e profissionalismo no Currículo Médico Integrado. **Revista Brasileira de Educação Médica**, Brasília, v. 36, n. 12, p. 141-146, mar. 2012. Disponível em: https://www.scielo.br/j/rbem/a/SRXwrdkq3jHvM9dRCbC388k/abstract/?lang=en Acesso em: 10 out. 2022.

ZEM-MASCARENHAS, Silvia Helena; BERETTA, Maria Isabel Ruiz. Participando da construção de um projeto pedagógico de enfermagem. **Revista da Escola de Enfermagem da USP**, São Paulo, v. 39, n. 4, p. 437-442, dez. 2005 Disponível em: https://www.scielo.br/j/reeusp/a/knYfZsnXmPfj8Zjfxr965Vw/?lang=pt Acesso em: 10 out. 2022.

Authors' contributions

Odonilton Lima Lemos – Preparation of research objectives and question, searching for studies in databases, tabulation and analysis of data, writing of the article.

Carmen Fontes Teixeira – Provided guidance on developing objectives, research question, and searching for studies in databases. Additionally, contributed to data analysis and writing of the article.

Renata Meira Veras – Provided guidance on developing research objectives and searching for studies in databases. Also contributed to grammatical review, translation, and writing of the article.

Declaration of conflicts of interest

The authors declare that there are no conflicts of interest related to the article "Integrated curriculum and health training in Brazil: an integrative review".

Data availability

The data underlying this research are contained within the article.

Revisado por: Sonia Maria Strong
E-mail: strongsm@gmail.com