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ARTICLE

Reflections on Brazilian Nursing Education from the regulation of the Unified Health System

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Abstract *The paper reflected on the Brazilian Nursing education from the regulation of Unified Health System in a comparative historical perspective of the evolutionary processes of the Anglo-American and French schools, influencing Brazilian nursing education, as well as the guiding aspect of nursing education for the Unified Health System. Thus, nursing training initiatives guided by the National Curriculum Guidelines are developed to provide meaningful experiences in the Unified Health System's daily routine, as well as the transforming movement of Permanent Health Education in the context of the world of work. Therefore, overcoming training challenges must consider the social, political, and cultural path of the profession in order to allow changes that affect pedagogical projects, course offerings, teaching-learning methodologies, and daily work.*
Key words *Nursing, Education, Unified Health System, Work management*

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Introduction

The institutionalization process of the Unified Health System (SUS), with subsequent regulation by the Organic Health Law (LOS) N° 8.080/1990[1] and administrative-financial decentralization, fostered advances and changes due to the need for a health care model that guaranteed access to actions and services for the population, based on the guidelines and principles that strategically established a doctrinal episteme and an organizational rationale. This process strongly influenced the health work market, characterized by the production of services consumed when produced, with the subjectivity of the care provided by each worker, which affects and is affected, with its meanings and feelings.

The public sector health work market has expanded, both from a perspective of scale (number of workers) and scope (expanded field of practice and list of practices and the leading role of the professions). Given the implementation of new health policies, programs, actions, and services, jobs were expanded, and the geographical axis of health work began to shift from the large centers to the inland regions, and the municipalities were consolidated as leading employers in the sector[2]. Thus, the SUS demanded conceptual, technical, and ideological changes, and health education became a tool for the transformation of praxis and the (re) organization of services[3].

As for nursing education, a profession holding the largest number of workers in the health sector, significant transformations have been experienced in order to follow the historical, political, economic, and social context[4] that influences health production and, consequently, the quality of life of the Brazilian population. For this to occur and the nursing work process to be consistent with social demands, the qualification of quality nurses is a *sine qua non* condition for the acquisition of scientific knowledge, technical skills, critical-reflexive reasoning and attitudes[5], essential to the development of holistic and humanized care focused on the demands of individual and community health. Thus, this essay aims to reflect on the Brazilian Nursing education from the regulation of SUS.

Health Education and Nursing

Health education in Brazil has gained special attention in recent decades due to the need to meet the demands of the SUS and follow changes in demographic and epidemiological profiles of the population. Professional education for the Health Sector, as outlined by Machado et al.[6], should involve a set of variables that allow coupling technical mastery with the ability to act, ensuring the strengthening of SUS principles and guidelines, in order to consider the milestones of social rights and comprehensive health care, with equity and universality. Thus, the training of professionals is essential for the development and maintenance of the public health system[7].

The concern with health education in Brazil stems from the period of the Health Reform Movement. The Annals of the Eighth National Health Conference (VIII CNS), held in 1986, pointed out that the undergraduate and postgraduate training policy should be reformulated, concerning the expanded offer of vacancies and the opening of new courses, the qualification of political and pedagogical projects, overcoming dichotomies between basic and clinical cycles/ theory and practice and structured curricula based on different levels of health care, seeking teaching-service integration[8].

Similar to the Eighth CNS, the First National Conference of Human Resources in Health, also held in 1986, pointed out that professionals did not meet the real needs of the Health Sector due to distorted and out-of-line training[9].

With the re-democratization process of the country, the 1988 Federal Constitution[10] sets out in its Article 200 the regulation of health education, so that this SUS responsibility was later substantiated in LOS N° 8.080/1990[1] and the Basic Operational Standard on Human Resources of the SUS (NOB/RH-SUS)[11], ratified through the establishment of the Secretariat of Labor Management and Health Education (SGTES)[12] in the Ministry of Health.

From the establishment and regulation of SUS to date, some health education-related issues have not been overcome, such as the inadequacy of professionals to work in the system; the difficulty of developing health-promoting practices and the prevention of risks, illnesses and diseases; the gap between teaching and reality and pedagogical aspects; also including the significant expansion of private education[2,5,6].

Such deficiencies in the training of different categories of health professionals, especially Nursing, weaken the process of implantation and implementation of public policies such as the Family Health Strategy (ESF)/Primary Health Care (PHC), among others, which requires professionals with a sensitive perspective of the health territory, the "the territory used with all

Ciência & Saúde Coletiva, 25(1):37-46, 2020

its symbolism, identity, sense of belonging, society-nature relationships, historicity and local organicity"[13] for the development of a mapped care between desires, feelings, wants and needs of families, subjects and communities in their fullness.

Among the main (political, ideological and cognitive-technological) obstacles to the implementation of PHC, Mendes[14] pointed out that there should ideologically be a change in the health culture to break with the Flexnerian paradigm and attempt to structure a service system, based on the paradigm of social health production, influencing changes in the education of professions, the production and the organization of care.

Health education with current pedagogical bases is still a reflection of the model proposed by Abraham Flexner, who sought to solve the problem of the quality of American medical education in the early twentieth century by standardizing it through the scientific method, which led to its hegemony paradigmatically, with specialism (mechanism, biologism, individualism and the emphasis on curativism) as one of its fundamental elements, as *modus* for the development of health care[7,15].

In nursing, this can be seen by analyzing the fragmented curriculum model of most courses. These curricula are characterized by the existence of a core of basic and professional disciplines, focused on the specialty, as well as practices centered in the hospital clinic and specialized outpatient clinics, prioritizing the treatment of acute conditions and the deterioration of chronic diseases[7,16], leading to a training distant from the market's logic, while one should think and encourage this approach at the undergraduate level, with the incentive of appropriate teaching methods for the development of knowledge, skills, and attitudes[6].

Influential strands of Nursing education in Brazil

From a comparative historical perspective that distinguishes social phenomena in their time-related dimensions in order to unveil the diachronies and expansionist paths around the world, nursing education in Brazil is influenced by the evolutionary processes of the Anglo-American and French schools[17].

The identity construction of Brazilian Nursing education dates back to 1890, in the city of Rio de Janeiro, with the creation of the Nursing Professional School (Alfredo Pinto Nursing School), which aimed to train nurses to work in the psychiatric health care establishments and civil and military hospitals, replacing the charity sisters. Forty French nurses from the *École de la Salpêtrière* were hired. They acted as caregiver trainers in a two-year Nursing course, with biomedical, hospital-centric, and generalist theoretical-practical curriculum components, influenced by the establishment of the predominant faculty of physicians[18,19].

In 1923, a new nursing education trend was introduced with the creation of the Nursing School of the National Public Health Department (DNSP – currently Anna Nery School of Nursing). It was based on the Anglo-American curriculum model[20,21], known as Nightingalean, brought to Brazil by a mission of nurses from the Rockefeller Foundation to collaborate in the implementation of the health reform designed by Carlos Chagas. The model reflected in a modernized profession, in training and the social and political organization of the category, but could not add to the nurse a social and health position, based on professional rationality, a liberal category that produces care for a job market with the addition of health and disease[22].

The French training model was premised on feminization, with the profession's evident position in the social stratification and the interprofessional functionalist and hierarchical predominance, where Nursing holds a position submitted and subordinated to medical hegemony. In contrast, the Anglo-American training model fits praxis with essential components for the aligned construction of Science and Nursing Profession, with theoretical and practical scientific knowledge being the essential and compulsory curriculum components for training. These two hegemonic models are reflected both in the pedagogical projects of schools, with systematized school education, and in the nursing care model[23] to this day.

The history of world and Brazilian nursing education points to the path taken by different stages and historical milestones of a profession that continually seeks, in organized and disciplined fashion, to involve different forms of theorizing for the consolidation of clinical, social and anthropological practices, still strongly based on the biologist, hospital-centric and reductionist view of knowledge.

Breaking with this traditional view of teaching requires working in the Graduate Nursing Programs, especially to implement and create

training proposals focused on health sector demands, and to produce specific knowledge to strengthen the science of Nursing, transforming its social practice.

Curriculum Guidelines and the Change in Nursing Graduation

The institutionalization of the National Curriculum Guidelines (DCNs), in 2001, by the Ministry of Education, stimulated the undergraduate courses to reformulate their pedagogical projects and curricula, setting a profile of the student/graduate/professional, the educational competences and the description of curricular contents, internships and complementary activities, workload, among others[24], which would be the training line of students.

Besides guiding the Higher Education Institutions (HEIs) for the construction of their pedagogical projects, DCNs contributed to unveiling the philosophical, conceptual, political, and methodological bases of the training process[25], pointing to the improved teaching quality.

The pedagogical projects were now built based on local needs, which has been a breakthrough since they draw education closer to the real problems of the population, as well as add content from the SUS and its sectoral policies.

With all the advances provided by DCNs, health education still keeps the traditional Flexnerian (positivist) model of education, or when adding it to new pedagogies, such as active teaching-learning methods, creates a hybrid model of teaching, without epistemological deepening of the reality of health practices.

Active methodologies are understood in this text as a set of didactic procedures, represented by their teaching methods and techniques, which aim to achieve the teaching and learning objectives with maximum effectiveness[26], through activities that require reflection of ideas and development of the ability to use them[27], focusing on the development of student autonomy[26], considering their singularity and context[28].

In Nursing, the process of implementation of DCNs occurred collectively based on education and health policies to draw training closer to the SUS, which has been inducing and contributing to a paradigmatic change that involves "the recognition of professional practice's (technical/scientific, ethical, social, political) multidimensionality as a way to overcome simplified and fragmented thinking of reality; the adoption of the pluralist view of teaching conceptions, integrating the diverse fields of knowledge and a global view of reality; stimulating indissociability between the biological and social bases of health care/nursing; fostering the articulation of research with teaching and extension, considering the integration of theory and practice; fostering the production of own and innovative knowledge, focused on quality care; diversification of health/nursing practice's scenarios; adoption of active teaching-learning methodologies, with the student as the subject of their training process; adoption of curriculum flexibility, avoiding rigid prerequisites and mandatory content"[29](p.99).

The impact produced by the DCNs has some aggravating challenges: the expansion of courses, either classroom or distance (distance learning) mode, generating the school boom; how nursing can "control" the possibility of access to education, while this is a worldwide need due to the lack of nurses in remote locations; to be a transformative teaching that encourages nurses to propose changes or lead the implementation of health policies and the strengthening of the principles of integrality, universality, and equity.

Nursing education is based on a competency curriculum, in the meaningful and student-centered learning, as well as on faculty as facilitator of learning, and aims to prepare, motivate and empower nurses to spearhead health policies, strengthening the guarantee of population's access to universal systems and the production of global care, with a level of transformational leadership, in an interprofessional context.

We understand that meaningful learning encourages students to acquire new information that is significantly related and anchored to the knowledge that already belongs to them naturally, without arbitrariness[30]. This conception dialogues with the thinking of other contemporary educators, such as Paulo Freire, in the perspective that no learner should be treated as an empty receptacle, so that foreknowledge should be considered and explored[31].

Finally, we corroborate the Pan American Health Organization (PAHO) / World Health Organization (WHO) Strategic Directive for Nursing in the Americas by pointing out that "investing in nursing means moving towards universal access and coverage of health, which will have a profound effect on overall health and well-being. Also, investing in training professionals who are motivated and committed to the values of equity and solidarity can contribute to closing the current gaps in people's access to health services"[32](p.viii).

Ciência & Saúde Coletiva, 25(1):37-46, 2020

Health Education and Nursing Management

Health work management points out as essential challenges the strengthening of the articulation between the HEIs and the SUS, as well as the expansion of the processes of change in the undergraduate course, in order to ensure a training coherent to the needs of the population and the SUS[33].

Concerning the formulation of training guiding policies, in 2003, the Ministry of Health leads on, from the establishment of SGTES, and, in 2004, presented the document "Education and Development Policy for the SUS: Paths for Permanent Health Education: Hubs of Permanent Health Education", which proposes the adoption of permanent education as a strategy for the recomposition of training, care, management, policy formulation and social control practices in the health sector[12].

Since then, initiatives have been stimulated in the field of training professionals for the SUS. Among them, we highlight the AprenderSUS, the Project "Experiences and Internships in SUS Reality" (VER-SUS), the National Program for the Reorientation of Professional Training in Health (Pró-Saúde), the Health Work Education Program (PET-Saúde)[33-35], among others, which seek to foster change in health undergraduate courses, such as areas such as nursing and medicine. Many of these strategies are shown in Figure 1.

Such programs, projects, and actions contributed to the improvement of education by stimulating the teaching-service-community relationship, as students began to experience the challenges of SUS materializing[36] in real settings, resulting in graduates better prepared to work in public health services.

In the context of health work, to address the shortage of higher education workers, in February 2004, the Ministry of Health launched the National Policy of Permanent Education in Health, a strategy for the transformation of the practices of training, care, management, policy formulation, popular participation and social control in the SUS[37]. Thus, permanent health education would move and transform praxis, so that it represents a teaching-learning practice and a health education policy[38], a permanent education that produces meanings and re-signifies praxis.

We understand that working at different levels of health care, especially in PHC, requires professionals a diversity of knowledge and practices in areas related to health management, family, individual and community care, the management of social determinations and consequences[1], and health conceptions and practices. This is due to the theoretical, organizational, technological, and political advances and the diversity of both the field of care and management in the territory, which imposes new challenging situations[39] daily. Thus, permanent education and interprofessional practice are essential strategies for the development of the health care model.

SUS Professional Demands and the Nursing Training Paths

The process of implantation and implementation of various policies and actions, especially at the PHC level, such as the expanded number of ESF teams, the creation of the Oral Health Teams (ESB), the Dental Specialties Center (CEO), the Family Health Support Center, now the Extended Family Health Center (NASF), demanded the need to train a new workforce and influenced the opening of courses in various areas such as Nursing, Medicine and Dentistry[1]. Thus, the ESF became the first secured job of many professionals, such as Nursing and Medicine, and years later, from the 2000s, those of Dentistry[22] and, currently, the various other categories.

Such policies led to an enlarged Health labor market, and, thus, motivated the current phenomenon of health education commodification[22], so much so that, over twenty years, undergraduate courses in the classroom training modality of the fourteen health professions in the country hiked from 1,032 courses in 1995 to 5,222 in 2015, a growth of 506%[40-42].

The Higher Education Census (CES) evidenced Nursing Courses in 795 HEIs, of which 102 (12.8%) were public and 693 (87.16%) private, offering a total of 990 classroom and distance courses, where 157 (15.9%) were public and 833 (84.1%) private. A total of 285,097 students were enrolled in classroom courses, of which 249,958 in the private sector and 35,139 in the public sector[40-42].

Chart 1 shows data on Nursing education from 1991 (following year of SUS regulation) to 2017. The classroom courses hiked from 123 to 984 from 1997 to 2017, an increase of 800%[38-42], showing a boom in nursing schools, with the predominance of private education[1]. During this period, nursing education in private HEIs jumped from 52 to 827 schools, an increase of 1,590%. Public universities grew from 71 to 157,

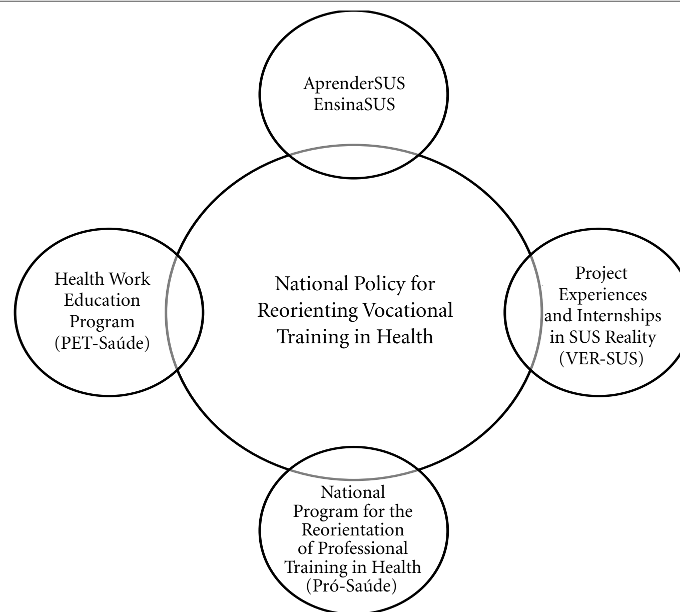

Figure 1. Strategies for reorienting vocational training and strengthening Health Education Management.

an increase of 221%. Nursing education in private HEIs continues to expand, while in public schools reported a slight reduction of 4% from 2016 to 2017[40-42].

Given the growing Nursing educational market, the research "Nursing Profile in Brazil" pointed out that 57.4% of nurses were trained in private HEIs; with the significant increase in the number of graduates, the workforce is experiencing a rejuvenation process; despite the volume of existing schools, a nurse shortage is found in specific regions and locations, causing an imbalance between the supply and demand of professionals in the country[43].

Concerning the distribution of classroom and distance nursing courses (research-oriented and teaching-oriented bachelor's degrees), by administrative category (public and private) of HEIs, by Federal Administrative Region, the Southeast region concentrates 41.7% of the courses, 37% of enrolled, and 36.2% of graduates; followed by the Northeast region, with 24.9% of courses, 31% of enrolled and 32.8% of graduates. Although the Southeast has 59.8% more courses than the Northeast, the number of graduates is only 9.4% higher[42].

With distance learning (DL), the liberalization of university education and its expansion in the private initiative, courses such as Social Work, Physiotherapy, Physical Education, Biological Sciences and Nursing started to be offered as distance learning courses, which jeopardizes their quality[1] and, thus, the life of the population to be cared for by professionals who have not lived or experienced a routine of practices during university education.

DL in the health area in Brazil accounts for 341,759 vacancies offered, of which 62,739 (18.36%) in Nursing; 132,895 (38.89%) in Social Work; 118,749 (34.75%) in Physical Education; 19,392 (5.67%) in Nutrition; 3,700 (1.1%) in Pharmacy; and 1,617 (0.47%) in Physiotherapy. Of the 341,759 Health vacancies, 222,264 had candidates, but only 79,264 were admitted. In Nursing, of the 62,739 vacancies offered, 32,490 submitted candidates, with the admission of 9,597 in 2017. The CES also points out 10,029 enrolled students and 127 graduating students[42].

Nursing requires classes and practical experiences that provide a meaningful meeting of the learner with other students, faculty, and the community for the development of knowledge, skills, and attitudes. Thus, seeking to do so in DL modality does not meet the demands of training, as it requires a solid theoretical base and the development of skills acquired through the

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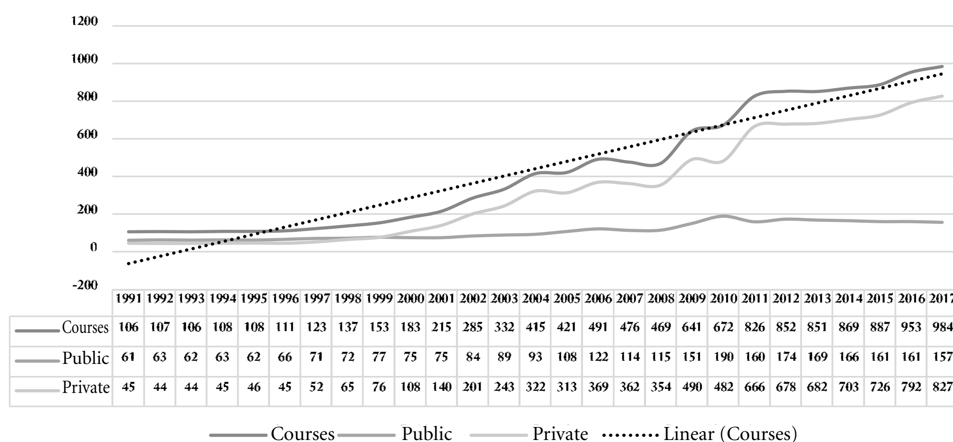

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Courses	106	107	106	108	108	111	123	137	153	183	215	285	332	415	421	491	476	469	641	672	826	852	851	869	887	953	984
Public	61	63	62	63	62	66	71	72	77	75	75	84	89	93	108	122	114	115	151	190	160	174	169	166	161	161	157
Private	45	44	44	45	46	45	52	65	76	108	140	201	243	322	313	369	362	354	490	482	666	678	682	703	726	792	827

Chart 1. Trend of the Number of Nursing Courses, 1991 to 2017.

Source: Adapted from the Anísio Teixeira National Institute for Educational Studies and Research (INEP)[40,42]. Haddad et al.[44]; Pierantoni et al.[33]. Data from classroom courses.

practice of techniques[41], in increasing complexity of content and hierarchization of services where practices should be developed. Therefore, it is understood that DL in health is a risk to the professions and, especially, the Brazilian population that is vulnerable, assisted by professionals with questionable training, in courses that do not have minimum quality criteria.

Thus, despite the regulation of the "training of human resources in the health area"[10] is constitutionally foreseen as the responsibility of the SUS, there has been a massive growth of undergraduate courses, mostly in the private sector. The increasing phenomenon of the privatization of higher education in health, with the commodification of education, is favoring the market over the real need of the population and its epidemiological profile, contrary to the health legislation and the norms of the National Health Council[2].

This growth is mainly due to the expansion of higher education, stimulated by the Law of National Education Guidelines and Bases (N° 9.394/1996)[45], which allowed the increased number of vacancies in large urban centers and the internalization of education, the creation of institutions, besides encouraging the accelerated education privatization process and its consequent commodification[2]. This process was also enhanced by the National Education Plans (PNE) from 2001 to 2010 and from 2014 to 2024.

It is worth noting that the educational market, taking advantage of the flexibility/liberalization provided by the LDB, led to the rapid implementation of countless undergraduate courses in different regions of the country that sometimes did not support them.

Some Considerations

Health and Nursing education shows a growing trend of private education and DL, without the corresponding state control and regulation, which contributes to the maintenance of the Brazilian regional unequal offer of vacancies, which directly affects the availability and distribution of professionals in the various branches of the RAS, from large urban conglomerates, such as metropolitan regions, to small municipalities, rural areas and the Legal Amazon, which have greater difficulty in establishing professionals.

Despite the various policies, the advances provided by the implementation of the DCNs and the Health Education Management strategies established in recent decades, nursing education is still a significant challenge, experiencing historical and contemporary problems and

difficulties, such as the structural weaknesses in university curricula, which insist on maintaining the Flexnerian logic; teaching practice focused on the teacher's expertise and not on meaningful learning and the demands of the health system and the population; the decontextualization of pedagogical projects with the daily work world and with social, economic, political, cultural and environmental contexts; the quality of the questionable education due to the predominance of excess theoretical content, to the detriment of practical experiences in health territories; single-profession training that does not consider the process of development and collaborative and interprofessional learning; and the fragmentation between theoretical teaching, extension and research.

It can be inferred that although we have significant advances in Health and Nursing education, we still face substantial challenges, such as curricula with restricted content in the field of Social and Human Sciences, to equip professionals in the management of political, social, cultural and economic issues in the health territory; weak qualification of the development of a humanized, ethical, critical, active and comprehensive praxis for SUS users, seeking integration of the university with PHC, and the latter with the entire service system underpinning the RAS; little encouragement to faculty development as a humanizing social practice, besides not valuing and experimenting with new dialogic and participatory teaching-learning methodologies and the use of Information and Communication Technologies (ICT), among others.

Significant questions are posed to Nursing, primarily in Nursing education, which needs to experience a solid knowledge base, such as the insertion of a more meaningful, transformative approach that enhances the construction of innovative and excellence practices to society, transcending the established, to consolidate itself as a care profession and science and take a leading role in health systems and policies, with competent leadership, and, thus, gain due social recognition.

Collaborations

FRG Ximenes Neto participated in the conception and design of the study, drafting, and review of intellectual content until the final version of the manuscript. D Lopes Neto, ICKO Cunha, MA Ribeiro, NP Freire, CE Kalinowski, EN Oliveira, and IMN Albuquerque participated in the drafting and review of intellectual content until the final version of the manuscript.

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