Social representation on the learning of Dentistry students from the Federal University of Maranhão included in the curricular internship in Primary Health Care

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ABSTRACT

This study aimed to identify the social representation on the learning of students of the Dentistry course at the Federal University of Maranhão, at the end of a curricular internship in Primary Health Care, and compare the results with the current National Curricular Guidelines. A qualitative study was carried out using a questionnaire, an instrument used to assess the internship, and only the first question was of interest to this study. In this question, students were asked to evoke five words that demonstrated their learning at the end of the internship in increasing order of importance. The questionnaire was completed by graduates from the 5th period between 2016 and 2019, totaling 100 evaluations. A structural approach and Prototypical Analysis were adopted, considering the frequency and order of words, composing a central and peripheral core. Software OpenEVOC® identified 500 evoked terms and 10 that established a social representation. The central core consisted of the following terms: planning, knowledge, and management; the first periphery: organization; the contrast zone: territorialization and humanization; and the second periphery: commitment, reality, patience, and goals. Evocations suggested that the internship consisted of activities that equipped the professionals with the necessary skills and abilities for the new professional profile. The social representation of students in the Dentistry course included in an environmental internship in Primary Health Care is marked by terms typical of implementing knowledge in the Brazilian public health system and shows the course’s curricular programs’ contents.

1 INTRODUCTION

There is a strong tendency for renewal in the health sciences curricula to keep up with emerging social needs and educational practices and avoid stagnation1. In Brazil, studies in the southern region have evaluated students’ perception regarding changes in the pedagogical projects of the Dentistry course through qualitative or quantitative techniques, and a great appreciation of internships in the Unified Health System was observed (SUS)²,³.

In 2002, the Ministry of Education⁴ implemented the first National Curriculum Guidelines (DCN) for undergraduate courses in Dentistry, which were revised in 2019⁵, per the Law of Guidelines and Bases of National Education (LDB)⁶. According to the DCN, the dentist’s profile must be that of a general practitioner, with principles that prepare him for work reflected in the incorporated environment’s social reality and include the social determinants of health (SDH) with a focus on the SUS⁴,⁷.

Aiming at a path in response to this proposed challenge, the national Dentistry courses adapted to the new profile by changing the curricula, adjusting the lectured content and evaluating the proposed changes²,⁷,⁸. In this sense, in 2011, the Dentistry course of the Federal University of Maranhão (UFMA) implemented a new pedagogical project proposing the inclusion of students in integrated teaching-service-community practices⁹.

However, the concern is whether these changes have brought an effective advance in the reality of teaching, which means transcending the reorganization of content, subjects, workloads, and course duration. It is necessary to review the true meaning of Dentistry courses within the pedagogical project, which is influenced by the DCN¹⁰, and how to assess changes under different perspectives, such as the students’ views¹¹.

When evaluating one of the tools for curricular changes, namely, the curricular internship in the context of Primary Health Care (PHC), this study aims to contribute with evidence for learning in the practice setting and support decision-making in pedagogical management. The evaluation should correspond to the content, which was practical. Thus, social representation, a way of thinking linked to action according to Moscovici (1988)¹², allows understanding potentialities and limitations in the setting to be evaluated. The Social Representation Theory (SRT)¹³ has been widely used in health studies¹⁴–¹⁷. It has a great diversity of analysis methods and techniques¹³, and one of them is Prototypical Analysis, in which the frequency and order of evoked words are considered¹⁸.

In light of this scenario, this work aimed to identify the social representation about the learning of the Dentistry course students of the Federal University of Maranhão at the end of a curricular internship contextualized in the PHC and compare the results with the current DCN.

2 METHODS

The research team and reflexivity

The evocations were collected using an instrument for evaluating the internship applied by the teachers at the end of the school semester. Students could not be identified.

Study design

A qualitative study was conducted based on social representations and a structural approach. Minayo (2012) 19 shows that qualitative research enables exploring reality through the in-depth analysis of meanings, attitudes, beliefs, values, and human relationships, which would not be possible through a purely quantitative study. Moscovici
(1988)\textsuperscript{12} understands social representation as a way of thinking associated with action, in which cognitive categories and meaning relationships are created from what is experienced. The structural approach presupposes the existence of a structure in the representations, elaborated by social groups and structured by a central core, resistant to changes; peripheries close to the cores, which protect it from changes; and the more distant periphery that reveals what is different or not shared by the majority\textsuperscript{20}.

The population consisted of all graduates of the supervised curricular internship (ECS) II, from the 5\textsuperscript{th} period, during the semesters from 2016 to 2019. All students who completed the internship were included, and all those who withdrew from the course or did not reach the end were excluded. One hundred students from the UFMA Dentistry course were accounted for. There were no losses due to absence, totally on-site internship, or students’ refusal, as they all understood their essential role in developing the internship evaluation.

According to UFMA’s\textsuperscript{9} pedagogical project, the supervised curricular internship II consists of a total workload of 45 hours, 3 hours a week. It is offered to the Department of Dentistry by the Department of Public Health and is set in the PHC. It usually consists of four doctoral professors in Collective Health and an average of 15 students per semester.

It aims to provide Dentistry students with an experience in the SUS, incorporating them into the Family Health Team (ESF), enabling them to solve frequent problems in professional practice in public services, sensitizing them to the Collective Health education work, and including Dentistry in a multiprofessional health care team to provide care to the population. Thus, visits are made to Primary Health Units (UBS), schools in the vicinity and linked to them by the School Health Program (PSE), and health assessment bodies such as health surveillance, besides classes with active methodologies using Problem-Based Learning (PBL) and computer lab practice. Thus, it is centralized in the PHC setting.

The activities developed are related to what is described in the syllabus, whose idealization is to provide the student with skills and competencies in health diagnosis, service evaluation system, concepts of planning and organization of services, theoretical concepts about territorialization, planning of oral health epidemiological survey, research protocol, construction of a collection instrument and database, and human resources in oral health. The evaluation is performed through the students’ frequency, participation, and resourcefulness in the activities developed.

The complete characterization of the stages of the ECS II is described by Pinho et al. (2019)\textsuperscript{21}, teachers and students who collaborated in the elaboration of an activity developed during the internship. The following steps occurred from implantation to implementation: pedagogical design, political/administrative articulation, strategic planning, monitoring, and evaluation.

The pedagogical design refers to the internship planning to carry out interventions based on problems identified in the territory within Primary Care, articulating with the SDH.

The political/administrative articulation consists of contact with management authorities to include students in the SUS. To this end, meetings were held with the Municipal Health Secretariat (SEMUS), which resulted in the formal authorization to perform the activities, agreement on information flows, and regular feedback on results or findings.

Strategic planning includes all stages of this process, focusing on the preparation of activities. The stage related to the monitoring and evaluation of the internship corresponds to the
pedagogical monitoring of students and their perceptions about his learning. In this way, an evaluation instrument was devised and applied on the last day of the internship to identify difficulties experienced and propose pedagogical improvements in its planning.

This study’s data were collected through a questionnaire, an instrument used to evaluate the internship consisting of eight questions. The first question, the one of interest to this study, asked the student to recall five words, in increasing order of importance, to express their learning after the curricular internship II.

These words are the evocations used in this study, written after the trigger (the statement of the question)\textsuperscript{20}. All others asked the student to select the option most relevant to him/her, selecting between “strongly agree”, “agree”, “neither agree nor disagree”, “strongly disagree”, and “disagree” concerning the use of PBL.

No signing of the Informed Consent Form to guarantee anonymity and freedom of evaluation was required, without fear of retaliation. The questionnaire was applied on the last day of the internship, allowing the whole experience to be evaluated. Five minutes were allowed for completion since the first question was not seeking well-prepared answers but spontaneity\textsuperscript{20}.

**Analysis and discovery**

The answers to the first question were analyzed using the structural approach and the Prototypical Analysis, which results in the central core and peripheral systems. Both systems are composed of the frequency and order of evocations in the corpus of social representation\textsuperscript{20}.

The data were entered in a spreadsheet and analyzed using the OpenEVOC\textsuperscript{®} software, following steps per Wachelke and Wolter (2011)\textsuperscript{18}. The entire analysis was performed after the end of the activities of the 2019 first semester class.

The first step, which occurred during entry in the spreadsheet, was that of lemmatization. It consists of standardizing words sharing the same root and, in practice, have the same meaning (e.g., humanized and humanization = humanization).

The second was the selection of the cutoff points: the one with the highest frequency was predetermined considering the highest common of the high-frequency zones, 5%; since it is an odd number (5), the evocation order was its median, three (3); and the minimum frequency for inclusion in the quadrants, 2%.

The third, detailed in figure 1, was the description and interpretation of the data obtained, considering the central core and peripheral systems. The analysis was carried out in light of the confrontation between the result, triggered by the evoked words referring to the ECS II and the DCN of the Dentistry course.

**Ethical considerations**

The development of this research followed the requirements of Resolution Nº 466/12 of the National Health Council/Brazilian Ministry of Health and its amendments, which regulate human research, and obtained approval from the UFMA Research Ethics Committee under Opinion Nº 3.658.417.
Central core (+ +): where higher frequency evocations with evocation order lower than the overall mean of evocations are found, which correspond to the elements most likely to belong to the central core.

Peripheral system (+ -): lower frequency evocations with lower evocation order, adding a second crown of the peripheral system where evocations are considered important by a small group of subjects.

Peripheral system (- +): higher frequency evocations with greater evocation order. It begins as a first crown of the peripheral system, where evocations are often mentioned but are of no importance to the subjects.

Peripheral system (- -): lower frequency evocations with greater evocation order, considered the last crown of the peripheral system, where evocations irrelevant for representation are found.

Figure 1. Distribution of the results of the prototypical analysis. Source: Pereira (2001)¹²

### 3 RESULTS

The OpenEVOC® software identified 500 (five hundred) terms evoked from the question of interest in the 100 questionnaires answered, of which 129 were distinct. After applying the cutoff points, ten (10) evocations were responsible for establishing the central core and peripheral systems.

The combined analysis of the frequency and order of evocations enabled the construction and identification of the central core and peripheral systems that give meaning to the social representation of the learning acquired by the students of the Dentistry course after the supervised internship in the context of PHC (table 1).

Table 1. Social representation of the learning of dentistry students after the supervised internship in the context of Primary Health Care

<table>
<thead>
<tr>
<th>(+) Central Core</th>
<th>(-) Peripheral System (first periphery)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency (%) ≥ 5</td>
<td>Term evoked</td>
</tr>
<tr>
<td>11.2</td>
<td>Planning</td>
</tr>
<tr>
<td>5.6</td>
<td>Knowledge</td>
</tr>
<tr>
<td>5.4</td>
<td>Management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(-) Peripheral System (contrast zone)</th>
<th>(-- ) Peripheral System (second periphery)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency (%) &lt; 5</td>
<td>Term evoked</td>
</tr>
<tr>
<td>3.2</td>
<td>Territorialization</td>
</tr>
<tr>
<td>2.4</td>
<td>Humanization</td>
</tr>
<tr>
<td></td>
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In the formation of the central core are the terms evoked (planning, knowledge, and management) more frequently and in a lower order of evocation. They were those with a common basis to students. However, in the first periphery (organization), those with a higher frequency were more evoked among the last terms, which may be irrelevant compared to those of the central core (table 1).

The contrast zone includes terms evoked (territorialization and humanization) with lower frequency and order of evocation. It is named this way because it is opposite to the central core and is relevant only for a small group of students. In the second periphery, the terms with a lower frequency and higher evocation order


5
(commitment, reality, patience, and goals) also have little relevance for representation. However, they are necessary to confront the central core (Table 1).

4 DISCUSSION

The evocations that promptly represented the students’ learning at the end of the internship were: planning, knowledge, and management. These and the others from the peripheries are per the objectives of the DCN of the Dentistry course to provide the dental surgeons with knowledge surrounding health care, decision-making, communication, leadership, health management, and continuing education.

The term “planning” is conceptualized as a rationalization process to solve problems and meet individual and collective needs. As described in the DCN as a content reference to be worked on in theory and practice and is included in one of the competencies of a graduated professional, health management.

The term “knowledge” can be understood as a stimulating term that expands the space for plurality in times of solving problems, as in the ESF, whose health care must be multidisciplinary and, despite some obstacles, oral health has been incorporated into it. It reflects one of the competencies of the DCN – continuing education – in which knowledge must be continually refreshed.

The term “management” can fit into positive results by improving the articulation of several variables in health networks, including oral health, and reinforcing that the general dental surgeon must be competent to manage and administer physical and human resources with the ability to become a manager. This is opposed to the previous training model centered on technical sciences and highlights the new training, corroborating expected results with the new model.

These evocations suggest that the planning of the internship activities in question was based on a new profile of the dental surgeon. Although the terms have broad concepts and understandings, all are included in the pedagogical project, and this was elaborated based on the DCN.

Peripheral systems ensure concretization, regulation, and defense, allowing the presentation of materialization, mobility, and evolution of social representation. In practice, it is a complement to the central core, helping in its understanding.

In the first periphery, the word evoked (organization) is not considered relevant. While it is evoked with the same frequency as the central core, it was remembered among the last. It can be understood as a term rooted among students to monitor changes and make it more appropriate.

It is suggested that students may have developed and practiced the organization during the planning of these activities when participating in activities together with the PSE team. During the internship, Dentistry students should perform the situational diagnosis to understand the territory to plan and carry out oral health actions for that population.

The contrast zone has this nomenclature because it contrasts with the frequency of the central core. The terms are also presented in a lower order of evocation but less frequently, characterizing a group of words that stood out for a small group of students. They are evocations (territorialization and humanization) in line with what is expected from the new course graduates, so that they have a strong relationship with the public health system, expanding the fields of practice in the SUS with the potential to qualify different extensions of the professional profile to be established in the country.

The term “territorialization” reflects a tool
for the transition from the technicist and biologist model to a reorientation within the public health system in a fluid and functional way. Its importance is related to identifying environmental, demographic, economic, spiritual, and social aspects and the most evident issues in a particular area so that the SDH can be identified and considered.

Humanization was an evoked word with a fundamental meaning and application to the health production process because it represents a softening in reality, creating harmonious and respectful bonds and lightness in the service as a return for users. The two evocations of the contrast zone are directly related to the context of the Family Health Strategy since the work process of the eSF involves defining the territory of activity and population under the responsibility of the UBS and the teams (territorialization), besides performing a reception with qualified listening, risk classification, health need assessment and vulnerability analysis (humanization).

In the second periphery, we find evoked words of lower frequency and greater order, and, therefore, the most irrelevant because they were hardly remembered, and when they were, they were in the last positions. However, they are terms (commitment, reality, patience, and goals) complementary to what one longs for new training and proximity to the SUS, evidencing that they were developed at some point during the internship and were more striking individually.

Furthermore, the social representation of the learning of UFMA Dentistry students parallels a large part of the duties of dental surgeons working in PHC. Among them are: i) perform a diagnosis to obtain an epidemiological profile for oral health planning and programming; ii) coordinate and participate in collective actions to promote health and prevent oral diseases; iii) monitor, support, and develop oral health-related activities with the other team members, seeking to approach and integrate health actions in a multidisciplinary way; iv) perform technical supervision of the oral health assistant and technician; and v) participate in the management of the necessary supplies for the proper functioning of the UBS.

While studies still point out weaknesses in the pedagogical projects of Dentistry courses, such as, for example, the notoriety of clinical disciplines to the detriment of practices in the SUS, whether due to a more extended workload or more organization, and the limited workload available for internships, this study showed that such concerns might be minimized through the elaboration of a pedagogical project according to the DCN.

The terms evoked by the students, facing reality after an internship in the public health system, were favorable and corroborated extended learning.

There is a need to move forward in the consolidation of the integrated curriculum and the use of active methodologies in the pedagogical process, from the preparation to the evaluation of activities. Although studies with this methodology are not easily found in Dentistry, the qualitative analysis contributes to discussions and raises new investigations about social representations in oral health training.

Furthermore, the positive aspects of this study reveal different views from the perception of real situations and experiences passed by each student; they provide the evaluation of the internship from a different perspective, considering the training of a general dental surgeon; the corroboration of what was provided for in the planning to be developed; and enhancing student learning.

The need to expand research in this sense...
for evaluation beyond the Supervised Curricular Internship (SCI) is pointed out. There are only a few studies with a similar methodological design evaluating an object of analogous study, hindering more outgoing discussion, considering research similarities and differences, which can be considered a limitation for the study since it was discussed in the light of the DCN. However, it could be enriched by comparing it with other experiences.

5 CONCLUSIONS

After completing an internship under the SUS, the social representation of learning by students of the Dentistry course at the Federal University of Maranhão is marked by terms typical of the implementation of PHC knowledge in the Brazilian public health system. From the students’ perspective, the internship learning revealed evocations that reflect coherence with what was proposed in the current DCN for general training and focusing on the SUS.

RESUMO

Representação social sobre o aprendizado de estudantes de Odontologia da Universidade Federal do Maranhão inseridos em Estágio Curricular na Atenção Primária à Saúde

O objetivo deste estudo foi identificar a representação social sobre o aprendizado de estudantes do curso de Odontologia da Universidade Federal do Maranhão, ao final de um estágio curricular no contexto da Atenção Primária à Saúde, e comparar os resultados com as Diretrizes Curriculares Nacionais vigentes. Foi realizado um estudo de natureza qualitativa, por meio de um questionário, instrumento utilizado para avaliar o estágio, do qual somente a primeira questão era de interesse para este estudo. Nessa questão era solicitado ao aluno que evocasse, em ordem crescente de importância, cinco palavras que demonstrassem seu aprendizado ao fim do estágio. O questionário foi preenchido pelos egressos do 5º período entre 2016 e 2019, totalizando 100 avaliações. Foi considerada uma abordagem estrutural e Análise Prototípica, na qual se considera a frequência e a ordem das palavras, compondo um núcleo central e periferias. O software utilizado, o OpenEVOC®, identificou 500 termos evocados e 10 que formaram a representação social. O núcleo central foi composto pelos termos: planejamento, conhecimento e gestão; a primeira periferia: organização; na zona de contraste: territorialização e humanização; e segunda periferia: comprometimento, realidade, paciência e metas. As evocações sugerem que o estágio foi composto por atividades que dotassem os profissionais de competências e habilidades necessárias do novo perfil de profissional. A representação social dos estudantes do curso de Odontologia, inseridos em um estágio ambientado na Atenção Primária à Saúde, é marcada por termos característicos da implementação de conhecimentos do sistema público de saúde brasileiro e reflete conteúdos conexos com as diretrizes curriculares do curso.


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