BRAZILIAN JOURNAL OF DENTAL EDUCATION
ASSOCIAÇÃO BRASILEIRA DE ENSINO ODONTOLÓGICO

Evaluation of dental caries teaching in the Dentistry Program at the FAO-UFAM

Angela Christina Virgílio Pinheiro[1]
0009-0000-9705-5531

Flávia Cohen-Carneiro[1]
0000-0002-5497-6514

Larissa Neves Quadros[1]
0000-0003-2828-5450

Maria Augusta Bessa Rebelo[1]
0000-0002-0099-9868

[1]Faculdade de Odontologia da Universidade Federal do Amazonas (FAO-UFAM), Manaus, Amazonas, Brasil.

Correspondence:
Flávia Cohen-Carneiro.
E-mail: flaviacohen@ufam.edu.br

Received: Feb 10, 2025
Approved: Aug 19. 2025
Last revision: Nov 22, 2025

Evaluation of dental caries teaching in the Dentistry Program at the FAO-UFAM

Abstract This study describes the teaching of dental caries in the undergraduate Dentistry program at the School of Dentistry of the Federal University of Amazonas (FAO-UFAM) following curricular integration, and provides a comparative analysis with the recommendations of the Consensus for the Teaching of Dental Caries in Brazil (CTDCB). The documentary research included the analysis of course syllabi and the pedagogical project of the program. The contents taught, workload, and teaching modalities were identified based on the CTDCB, as well as the courses and structuring axes of the pedagogical project involved. Dental caries teaching is present in 17 courses throughout the program, totaling 324 hours (8.47% of the total workload), distributed across theoretical (33%), laboratory (6.8%), clinical (49.1%), and field practice (11.1%) activities. The comparison with the consensus revealed that 66.2% of the topics follow the recommended sequencing and that 100% of the essential content is addressed in the program. Furthermore, within the axis of dental sciences, the contents are taught in an integrated manner and progressively increase in complexity. It is concluded that dental caries teaching in the analyzed program shows strong alignment with the CTDCB.

Descriptors: Education, Dental. Dental Caries. Interdisciplinary Placement.

Evaluación de la enseñanza de la caries dental en el Curso de Odontología de la FAO-UFAM

Resumen Este estudio describe la enseñanza de la caries dental en el curso de grado en Odontología de la Facultad de Odontología de la Universidad Federal de Amazonas (FAO-UFAM) tras la integración curricular, y realiza un análisis comparativo con las recomendaciones del Consenso para la Enseñanza de la Caries Dental en Brasil (CECDB). La investigación documental incluyó el análisis de los planes de enseñanza y del proyecto pedagógico del curso. Se identificaron los contenidos impartidos, la carga horaria y las modalidades de enseñanza, con base en el CECDB, además de las asignaturas y de los ejes estructurantes del proyecto pedagógico involucrados. La enseñanza de la caries dental está presente en 17 asignaturas a lo largo de la carrera, totalizando 324 horas (8,47% de la carga horaria total del curso), distribuidas en actividades teóricas (33%), de laboratorio (6,8%), clínicas (49,1%) y de prácticas de campo (11,1%). La comparación con el consenso reveló que el 66,2% de los temas siguen la periodización recomendada y que el 100% de los contenidos esenciales se abordan en el curso. Además, en el eje de las ciencias odontológicas, los contenidos se imparten de forma integrada y con progresiva complejidad. Se concluye que la enseñanza de la caries dental en el curso analizado presenta una fuerte alineación con el CECDB.

Descriptores: Educación en Odontología. Caries Dental. Prácticas Interdisciplinarias.

Avaliação do ensino de cárie dentária no Curso de Odontologia da FAO-UFAM

Resumo Este estudo descreve o ensino da cárie dentária no curso de graduação em Odontologia da Faculdade de Odontologia da Universidade Federal do Amazonas (FAO-UFAM) após a integração curricular, e faz uma análise comparativa com as recomendações do Consenso para o Ensino de Cárie Dentária no Brasil (CECDB). A pesquisa documental incluiu a análise dos planos de ensino e do projeto pedagógico do curso. Foram identificados os conteúdos ministrados, carga horária e modalidades de ensino, com base no CECDB, além das disciplinas e dos eixos estruturantes do projeto pedagógico envolvidos. O ensino da cárie dentária está presente em 17 disciplinas ao longo da graduação, totalizando 324 horas (8,47% da carga horária total do curso), distribuídas em atividades teóricas (33%), laboratoriais (6,8%), clínicas (49,1%) e práticas de campo (11,1%). A comparação com o consenso

revelou que 66,2% dos temas seguem a periodização recomendada e que 100% dos conteúdos essenciais são abordados no curso. Além disso, no eixo das ciências odontológicas, os conteúdos são ministrados de forma integrada e progressiva em complexidade. Conclui-se que o ensino de cárie dentária no curso analisado apresenta forte alinhamento com o CECDB.
Descritores: Educação em Odontologia. Cárie Dentária. Práticas Interdisciplinares.

INTRODUCTION

The way through which dental caries is taught in undergraduate courses has a direct influence on the healthcare approach that future dentists will offer to the individuals and communities under their care[1]. When this training presents little integration between cariology and other clinical disciplines, with evaluations focused on production and scoring based on the surgical-restorative model, which does not value procedures related to diagnosis, health promotion, and minimal dental intervention, professionals tend to graduate with less potential to improve the oral health of patients, perpetuating epidemiological profiles marked by high disease burden in the assisted populations[1,2].

Additionally, in dental care, there is difficulty in adopting less invasive strategies for caries treatment, despite growing scientific evidence favoring minimal intervention strategies[3-5]. This resistance has been summarized in three barriers[6]: "don't know," "can't do," and "won't change", which reflect internal obstacles dentists face when applying advances in clinical practice. To overcome the "don't know" barrier, several consensus statements on caries treatment have been published in recent years, strengthening evidence-based theoretical support to guide better clinical practice[7-13]. To overcome the "can't do" and "won't change" barriers in the context of student training, teaching on caries must be integrated from the beginning of undergraduate studies through the final stages of clinical and extramural activities. The assessment criteria for approval in disciplines must also emphasize health promotion, not only the performance of operative procedures[1,2].

The still high prevalence of dental caries and edentulism in population groups such as the elderly in developed countries, young adults in low-income countries, and vulnerable and socioeconomically disadvantaged populations[14,15] highlights the need to overcome the traditional dental model. This model, focused primarily on individual treatment demands as perceived by the patients, has failed to significantly reduce the overall rates of disease[16]. The current scenario requires the development of a new profile, able to act on individual and collective behaviors, aligning with the common risk factors approach, to control the risk factors common to other chronic diseases[16,17], and expanding their work beyond the dental office, engaging in the public health agenda, influencing policies, communities, and individuals for health promotion[16].

In this context, comprehensive and strengthened dental caries education, present throughout the undergraduate program, can significantly contribute to prepare this new professional. The recently published Consensus for Dental Caries Education in Brazil (*Consenso para o Ensino de Cárie Dentária no Brasil – CECDB*)[18] offers clear guidelines for effectively valuing and developing the topic in undergraduate programs in the country. Among other characteristics, the consensus presents a comprehensive set of competencies and skills to be achieved by students, describes the essential content for teaching dental caries, and presents a perspective of cumulative development throughout the training. Therefore, in each undergraduate program, it is important to evaluate how dental caries education has been offered, for validation or adjustments to the current curricular structure. Therefore, the objective of this study was to describe the teaching of dental caries throughout the undergraduate Dentistry course at the School of Dentistry of the Federal University of Amazonas (FAO-UFAM), addressing the content taught, teaching modalities, and structural axes involved, in a comparative analysis with the recommendations established by CECDB[18].

METHOD

This study was based on documentary, exploratory and explanatory research, using as data sources the teaching plans for all disciplines in the FAO-UFAM Dentistry program and the Course Pedagogical Project (CPP)[19], obtained from the Course Coordination. The analysis aimed to identify the disciplines that address dental caries education, detailing the content taught, methodologies employed, and their curricular distribution.

The teaching plans, documents that structure the disciplines throughout the school years, were examined to identify the workload, syllabus, objectives, methodologies, and assessments related to caries education. The CPP, in turn, was analyzed to understand the curriculum organization and its interrelationships among disciplines, since it presents the structuring axes, periodization of disciplines, the timeline of training, and possibilities for integration between contents and disciplines.

Data collection was conducted by two researchers, in a consensual manner, by systematic reading of documents, organized and cataloged to facilitate the extraction of information. The classification of topics related to dental caries education followed the content groups proposed in CECDB[18], categorized according to the teaching modality (theoretical, laboratory, clinical, or field practice), recording the workload and periodization. Data were organized into spreadsheets and analyzed descriptively, allowing achievement of the sums and proportions presented in the results.

RESULTS

All teaching plans of the undergraduate Dentistry program at FAO-UFAM, approved for 2024, were analyzed. Among the 43 teaching plans analyzed, 17 presented topics related to dental caries education. The total workload allocated to dental caries education throughout the undergraduate program, according to teaching modality, is presented in Figure 1. Table 1 details the content taught according to the CECDB[18] classification, the workload by teaching modality, and the disciplines related to dental caries education.

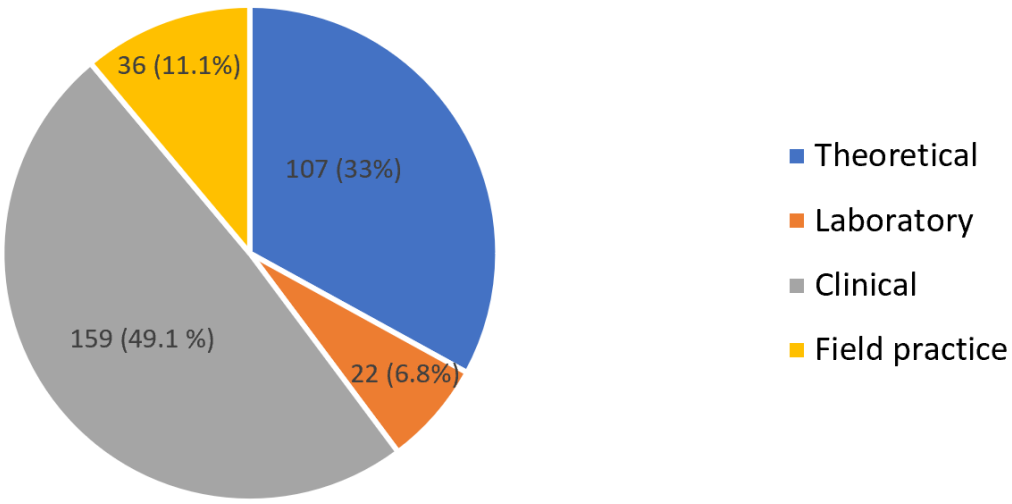

Figure 1. Total course workload focused on dental caries education, by teaching modality, in the Dentistry Program, FAO-UFAM, 2024.
Note: For the field practice, the workload of the curricular internship attended in the 10th semester was excluded.

The mandatory total course workload (excluding the curriculum customization axis and elective courses) is 3,825 hours, from which the estimated workload for dental caries education was 324 hours, or 8.47% of the total course workload. The workload was estimated considering that FAO-UFAM has an integrated curriculum, without an isolated discipline of Cariology, in which dental caries is taught in conjunction with other curricular content, in different courses throughout the undergraduate program. In integrated clinical activities and field practices, the workload allocated to teaching dental caries was computed based on an estimate made from the discipline syllabi. In Table 1, an asterisk shows the estimated workloads. Table 2 defines all estimates made for each discipline.

Table 1. Content related to dental caries education, according to the Consensus classification[18], taught in the Dentistry program, by discipline, periodization, total workload, and teaching modality. Dentistry Program, FAO-UFAM, 2024.

Course term	Discipline	Content offered (according to the Consensus for Dental Caries Education)	Total workload (T; L; Cl; Fp)
1	Community Oral Health I	3.1. Social determinants of health; 3.4 Dental caries control in populations/health promotion/health-disease process; 3.5 Dental public health policies in Brazil;	6h (6T;0L;0Cl;0Fp)
2	Community Oral Health II	3.4 Dental caries control in populations/health promotion/health-disease process; 3.5 Dental public health policies in Brazil;	9h (9T;0L;0Cl;0Fp)
	Microbiology	1.3 Dental caries microbiology;	6h (2T;4L;0Cl;0Fp)
3	Pharmacology	1.3 Dental caries microbiology;	5h (5T;0L;0Cl;0Fp)
4	Clinical Stomatology	1.1 Caries pathology and histology; 1.4 Dental caries development: physico-chemical properties; 1.7 Differential diagnosis: dental caries and development defects of enamel and dentin; 1.8 Differential diagnosis: etiology and pathology of noncarious lesions; 2.2 Dental caries diagnosis; 2.3 Differential diagnosis for dental caries in clinical settings; 2.5 Noninvasive interventions in the treatment of dental caries; 2.10 Conservative pulp therapy; 3.2 Dental caries diagnostic thresholds and dental caries diagnosis criteria;	47h (23T;9L;15Cl;0Fp) * estimated clinical workload.
	Oral Pathology	1.1 Caries pathology and histology;	2h (2T;0L;0Cl;0Fp)
	Psychology applied to Dentistry	3.1. Social determinants of health;	2h (2T;0L;0Cl;0Fp)
5	Preclinical I	1.2 The role of saliva in the development of dental caries; 1.3 Dental caries microbiology; 1.5 Fluoride for dental caries control; 1.6 Dietary practice and the development of dental caries; 2.4 Criteria for therapeutic decisions in the treatment of dental caries: noninvasive, micro-invasive and invasive treatment; 2.5 Noninvasive interventions in the treatment of dental caries; 2.6 Criteria for repair or replacement of restorations; 2.7 Minimally invasive Dentistry; 2.8 Selective removal of carious tissue; 2.9 Atraumatic restorative treatment; 2.10 Conservative pulp therapy; 2.11 Non-carious lesions - differential diagnosis for dental caries;	35h (28T;7L;0Cl;0Fp)

Course term	Discipline	Content offered (according to the Consensus for Dental Caries Education)	Total workload (T; L; Cl; Fp)
	Integrated Clinics I	2.2 Dental caries diagnosis; 2.3 Differential diagnosis for dental caries in clinical settings; 2.4 Criteria for therapeutic decisions in the treatment of dental caries: noninvasive, micro-invasive and invasive treatment; 2.5 Noninvasive interventions in the treatment of dental caries; 2.6 Criteria for repair or replacement of restorations; 2.7 Minimally invasive Dentistry; 2.8 Selective removal of carious tissue; 2.9 Atraumatic restorative treatment; 2.10 Conservative pulp therapy; 2.11 Non-carious lesions - differential diagnosis for dental caries;	52h (2T;0L;50Cl;0Fp) * estimated clinical workload.
	Community Oral Health III	3.6 Concepts: efficacy and effectiveness;	4h (4T;0L;0Cl;0Fp)
7	Integrated Clinics III	2.10 Conservative pulp therapy;	4h (4T;0L;0Cl;0Fp)
	Pediatric Dental Clinics I	2.1 Lifecourse approach and individual control of dental caries; 2.12 Dental caries diagnosis and control in pediatric patients;	30h (4T;0L;26Cl;0Fp) * estimated clinical workload.
8	Pediatric Dental Clinics II	2.1 Lifecourse approach and individual control of dental caries; 2.10 Conservative pulp therapy; 2.12 Dental caries diagnosis and control in pediatric patients;	58h (4T;0L;54Cl;0Fp) * estimated clinical workload.
	Preclinical IV	2.13 Dental caries diagnosis and control in disabled persons;	2h (2T;0L;0Cl;0Fp)
9	Integrated Clinics IV B	2.13 Dental caries diagnosis and control in disabled persons;	14h (0T;0L;14Cl;0Fp) * estimated clinical workload.
	Community Oral Health V	2.3 Differential diagnosis for dental caries in clinical settings; 3.2. Dental caries diagnostic thresholds and dental caries diagnosis criteria; 3.3 Dental caries epidemiology; 3.4 Dental caries control in populations/health promotion/health-disease process;	48h (10T;2L;0Cl;36Fp)
10	Community Oral Health VI	3.4. Dental caries control in populations/health promotion/health-disease process; 3.7. Micro-invasive and invasive strategies for dental caries control in fieldwork situations;	* It was not possible to estimate the workload of this field practice.

Table 2. Estimated clinical workload allocated to teaching dental caries in integrated disciplines of the Dentistry Course. FAO-UFAM, 2024.

Discipline	Weekly clinical workload of the discipline	Estimated weekly workload of dental caries education	Estimated semester workload of dental caries education
Clinical Stomatology[1]	4h	1h	15h
Integrated Clinics I[2]	12h	4h	50h
Pediatric Dental Clinics I[3]	4h	2h	26h
Pediatric Dental Clinics II[3]	8h	4h	54h
Integrated Clinics IVB-Patients with special needs[4]	4h	1h	14h

[1]Considering the caries diagnosis and recording on dental chart performed for all patients treated in the discipline.
[2]Considering that the discipline involves the practice of three specialties – cariology, periodontics, and oral surgery, focused on oral health adequacy – one-third of the total clinical workload was estimated for caries teaching. The discipline's requirement for care involving the diagnosis, treatment, and discharge of at least two caries-active patients per student throughout the semester was also considered.
[3]Considering that the discipline focuses on health promotion for pediatric patients, involving diagnosis, prevention, and treatment of caries, combined with other curricular components as interceptive orthodontics, half of the clinical workload was considered for practice related to caries teaching.
[4]Integrated Clinics focused on the care of patients with special needs, encompassing all complexity levels and specialties. One quarter of the clinical workload was considered as dedicated to health promotion and caries control of treated patients.

Analysis of Table 1 shows that dental caries education is provided throughout the FAO-UFAM Dentistry program, with greater emphasis in the 4th and 5th semesters of the undergraduate program, with theoretical, laboratory, and clinical content; and later, in the 7th, 8th, and 9th semesters, with clinical and field practices. The 10th semester presents the largest workload related to extramural internship activities, developed in the Community Oral Health VI discipline (240 hours). However, it was not possible to estimate the workload allocated to dental caries education in these field practice activities, since the insertion of each student in the field is complex and variable, which could lead to under- or overestimates.

Regarding the proportion of hours dedicated to dental caries education in each curricular axis of the course's CPP, 11 hours are related to CPP Axis I – Biological Sciences (7h T; 4h L), 69 hours to CPP Axis II – Humanities and Social Sciences (31h T; 2h L; 36h Fp); and 244 hours to CPP Axis III – Dental Sciences (69h T; 16h L; 159h Cl).

In the classification of the Consensus content groups, it was possible to observe that 29 hours (9%) of teaching are part of G1 (dental caries: initial approach), 224 hours (69%) are part of G2 (dental caries: health promotion and disease control in individuals); and 71 hours (22%) are part of G3 (dental caries: health promotion and disease control in populations).

Regarding the disciplines and their specific contents, a total of 17 disciplines address the teaching of dental caries, with largest theoretical workload in Clinical Stomatology (23h) and Preclinical I (28h), offered in the 4th and 5th terms, respectively. The disciplines with the largest clinical workload on this topic are Integrated Clinics I (50h) and Pediatric Dental Clinics II (54h), attended during the 5th and 8th periods, respectively. Finally, the discipline with the largest workload of field practice related to dental caries education is Community Oral Health V (36h), taught in the 9th period of the undergraduate course (Table 1). It was possible to observe that the disciplines that most address the teaching of dental caries are, in decreasing order of total course length (sum of all modalities), Pediatric Dental Clinics II (58h), Integrated Dental Clinics I (52h), Community Oral Health V (48h), Clinical Stomatology (47h), Preclinical I (35h), and Pediatric Dental Clinics I (30h).

After descriptive analysis of the content, it was possible to observe that all topics (100%) listed in the Consensus[18] are taught throughout the undergraduate dentistry program at FAO-UFAM (Table 1). Regarding the periodization suggested by the Consensus for teaching this essential content, from a total of 71 topics, 66.2% of the content taught follows the periodization recommended by the consensus; 12.7% of the content is taught earlier than suggested (e.g., Dental public health policies in Brazil); while 21.1% is taught later in the undergraduate program than foreseen in the Consensus (e.g.,

Noninvasive intervention; saliva; diet; fluoride; conservative pulp therapy; and content related to diagnosis and intervention of dental caries in field practices).

Using the titles of lectures related to dental caries education in the disciplines' teaching plans, a word cloud illustration was created to illustrate the most frequently used words (Figure 2). This illustration was obtained using the *World cloud* software (https://mentimeter.com/app/home) and is interpreted with the most frequent words appearing in larger font size, highlighting, for example, the words: "health", "caries", "dental", "clinical", "care", "attention" and "control", among others. The word cloud is shown in Portuguese because this is the language adopted in the disciplines' syllabi.

Figure 2. Word cloud obtained from lecture topics related to dental caries education, extracted from the teaching plans. Dentistry Course, FAO-UFAM, 2024.

DISCUSSION

The National Curricular Guidelines for Dentistry Courses (*Diretrizes Curriculares Nacionais do Curso de Graduação em Odontologia - DCN*)[20], as well as the CECDB[18], published in recent years, are important guidelines for Dentistry courses in Brazil to adopt training based on the teaching of the main health problems, structured in integrated curricular components, and developed throughout the undergraduate course. To date, this is the first study to correlate the teaching of dental caries in a Dentistry course in Brazil with the Consensus recommendations. Therefore, other Dentistry schools should be encouraged to investigate their teaching methods, especially considering the increase in the number of Dentistry courses in Brazil. This will allow to assess whether dental caries teaching is being addressed with quality and in accordance with the DCN and the Consensus suggestions.

The results of this study revealed that the total workload dedicated to dental caries in the Dentistry course at the UFAM School of Dentistry corresponds to 8.47% of the total course workload, with predominance of clinical teaching (49.1%) and a smaller proportion of laboratory teaching (6.8%). Also, 66.2% of the content taught follows the periodization recommended by the Consensus. However, there is divergence in the timing of some content delivery, with 12.7% of the content being delivered earlier and 21.1% later than recommended in the Consensus. Although the Consensus's recommended periodization is not rigid, some adjustments may be beneficial for better teaching. Additionally, there was strong adherence to the recommendations proposed by the Consensus, highlighting the teaching of dental caries as a health problem, which is addressed throughout the undergraduate program in integrated courses involving theoretical,

laboratory, clinical, and field training. Also, all essential content recommended by the Consensus is taught in the program, demonstrating a complete and comprehensive approach.

In this sense, the curricular integration that took place in the Dentistry program at FAO-UFAM after 2012, following the guidelines of the 2002 DCN, contributed to dental caries education being integrated into other curricular components and offered throughout the undergraduate program. Before this curricular restructuring, dental caries education at FAO-UFAM was concentrated primarily in the Cariology course in the fifth semester of the undergraduate program, involving theory, laboratory work, and clinical practice. Later, it was concentrated in the disciplines of Pediatric Dentistry, with isolated content also included in the disciplines of Microbiology, Oral Pathology, Oral Diagnosis, and Community Oral Health. This curricular integration fostered an academic education that values comprehensive patient care, guiding the clinical development of students by clinical sessions of increasing complexity. This organization aims to overcome the limitations of a previous model based on clinics segmented by dental specialties, fragmenting patient care, leading to low resolution and inefficient healthcare[21,22]. In other words, this model, *per se*, contradicted dental caries education and its health promotion objective.

It is important to note that the initial clinical disciplines at FAO-UFAM do not focus on performing specific procedures as a goal for approval in the discipline. The Integrated Clinics I, for example, whose main objective is health promotion and oral health adequacy of patients, requires comprehensive care for patients with active caries and/or periodontal disease, focusing on clinical discharge, within the degree of treatment complexity appropriate to this discipline. This scoring system and criteria for approval in disciplines have been advocated for fostering student commitment to health promotion and patient treatment resolution[1,2].

Regarding the number and distribution of curricular components involved in dental caries education, there is widespread support in the literature that more effective education, capable of training healthcare professionals competent in health promotion and disease control in individuals and populations, should be taught in more than one curricular component throughout the undergraduate program, and should not be restricted to one or two isolated courses at the beginning of the undergraduate program[18,23,24]. A survey on dental caries education in Brazil, involving only public universities in 2014, showed that in almost all institutions that have a specific discipline, this is isolated from the beginning to the middle of the course, thus with a marginalized content throughout the student's education; except for two institutions that have more than one specific discipline distributed across more than one stage of the course[24]. Another more comprehensive survey, involving 125 public and private teaching institutions in Brazil, showed that 32.0% of schools had a specific cariology course, while other disciplines that address dental caries education in Brazil include operative dentistry (49.6%), pediatric dentistry (49.6%), and community oral health (44.8%)[25].

The methodology used in this study allowed an in-depth and detailed analysis of dental caries education in the Dentistry program at FAO-UFAM, since the documental analysis included not only the syllabi of disciplines available in the program's Pedagogical Project, but also the teaching plans of all disciplines taught during the undergraduate course in the reference year 2024, enabling the recording of lectures that addressed topics related to dental caries education. The Consensus[18] was used to define these topics. This methodology allowed for a more reliable analysis of the workload allocated to dental caries education in integrated courses, since estimating the workload in integrated disciplines is more challenging than in specific disciplines. For example, in a discipline of cariology, one could compute the entire discipline workload for dental caries education, but this might not be reliable in integrated disciplines, in which dental caries content is taught in conjunction with other contents and diseases. This more refined analysis would not be possible by observing only the syllabi available in the CPP. Extracting data from the teaching plans, observing the content taught, workload, and methodologies, allowed for an estimate as close to reality as possible in the case of integrated clinical practices. Conversely, a limitation to the accuracy of this workload estimate is the natural variations in the personal experience of each student in integrated clinical courses and field practices.

This study may support the development of future studies on dental caries education in other institutions, broadening the national scenario regarding the implementation of the National Curricular Guidelines (DCNs) and adoption of Consensus suggestions[18]. Also, conducting research to evaluate the impact of this education on the clinical practice of graduates would help to understand how academic training influences their professional approaches. Furthermore, including students' and faculty's perceptions on the effectiveness of dental caries education by an integrated and comprehensive

curriculum could identify the strengths and areas in need of enhancement, significantly contributing to the continuous improvement of dental caries education in undergraduate Dentistry programs in Brazil.

CONCLUSION

The results of this study revealed that dental caries teaching in the FAO-UFAM Dentistry program closely aligns with the recommendations proposed by the Consensus for Dental Caries Teaching in Undergraduate Dentistry Programs in Brazil[18]. This includes 100% of the essential content recommended by the consensus and involves all planned teaching modalities: theoretical, laboratory training, clinical practice, and field practice. Teaching is developed throughout the undergraduate program and is delivered in integrated disciplines with increasing degrees of complexity, demonstrating significant alignment with the National Curricular Guidelines (DCNs).

REFERENCES

1. Kidd E, Van Amerogen JP, Van Amerogen WE. O que está acontecendo na faculdade de Odontologia?. In: Fejerskov O, Kidd E. Cárie Dentária: A doença e seu tratamento clínico. 2 ed. São Paulo: Santos Editora; 2011. p. 356.
2. Baelum V, Helderman WVP, Hugoson A, Yee R, Fejerskov O. "Na riqueza, na pobreza, na saúde e na doença..." O papel da Odontologia no controle global de cárie dentária e doença periodontal. In: Fejerskov O, Kidd E. Cárie Dentária: A doença e seu tratamento clínico. 2 ed. São Paulo: Santos Editora, 2011. p. 599-600. doi: https://doi.org/10.47749/t/unicamp.2011.812465
3. Schwendicke F, Göstemeyer G. Understanding dentists' management of deep carious lesions in permanent teeth: a systematic review and meta-analysis. Implement Sci [Internet]. 2016;11(1):1-11. doi: https://doi.org/10.1186/s13012-016-0505-4
4. Innes N, Schwendicke F. Restorative thresholds for carious lesions: systematic review and meta-analysis. J Dent Res [Internet]. 2017;96(5):501-508. doi: https://doi.org/10.1177/0022034517693605
5. Schwendicke F, Page LAF, Smith LA, Fontana M, Thomson WM, Baker SR. To fill or not to fill: a qualitative cross-country study on dentists' decisions in managing non-cavitated proximal caries lesions. Implement Sci [Internet]. 2018;13(1):1-14. doi: https://doi.org/10.1186/s13012-018-0744-7
6. Innes N, Frencken JE, Schwendicke F. Don't Know, Can't Do, Won't Change: Barries to Moving Knowledge to Action in Managing the Carious Lesion. J Dent Res [Internet]. 2016; 95(5): 485-486. doi: https://doi.org/10.1177/0022034516638512
7. Banerjee A, Splieth C, Breschi L, Fontana M, Paris S, Burrow M, et al. When to intervene in the caries process? A Delphi consensus statement. Br Dent J [Internet]. 2020;229(7):474-482. doi: https://doi.org/10.1038/s41415-020-2220-4
8. Frencken J, Innes NPT, Schwendicke F. Managing Carious Lesions: Why Do WE Need Consensus on Terminology and Clinical Recommendations on Carious Tissue Removal? Adv Dent Res [Internet]. 2016;28(2):46-48. doi: https://doi.org/10.1177/0022034516639272
9. Machiulskiene V, Campus G, Carvalho JC, Dige I, Ekstrand KR, Jablonski-Momeni A, et al. Terminology of dental caries and dental caries management: consensus report of a workshop organized by ORCA and Cariology Research Group of IADR. Caries Res [Internet]. 2020;54(1):7-14. doi: https://doi.org/10.1159/000503309
10. Schwendicke F, Frencken JE, Bjørndal L, Maltz M, Manton DJ, Ricketts D, et al. Managing carious lesions: consensus recommendations on carious tissue removal. Adv Dent Res [Internet]. 2016;28(2):58-67. doi: https://doi.org/10.1177/0022034516639271
11. Schwendicke F, Splieth C, Breschi L, Banerjee A, Fontana M, Paris S, et al. When to intervene in the caries process? An expert Delphi consensus statement. Clin Oral Investig [Internet]. 2019;23(10):3691-3703. doi: https://doi.org/10.1007/s00784-019-03058-w
12. Schwendicke F, Splieth CH, Bottenberg P, Breschi L, Campus G, Doméjean S, et al. How to intervene in the caries process in adults: proximal and secondary caries? An EFCD-ORCA-DGZ expert Delphi consensus statement. Clin Oral Investig [Internet]. 2020;24(9):3315-3321. doi: https://doi.org/10.1007/s00784-020-03431-0
13. Splieth CH, Banerjee A, Bottenberg P, Breschi L, Campus G, Ekstrand KR, et al. How to intervene in the caries process in children: a joint ORCA and EFCD expert Delphi consensus statement. Caries Res [Internet]. 2020;54(4):297-305. doi: https://doi.org/10.1159/000507692
14. Kassebaum NJ, Bernabé E, Dahiya M, Bhandari B, Murray CJL, Marcenes W. Global burden of untreated caries: a systematic review and metaregression. J Dent Res [Internet]. 2015;94(5):650-8. doi: https://doi.org/10.1177/0022034515573272

15. Wen PYF, Chen MX, Zhong YJ, Dong QQ, Wong HM. Global burden and inequality of dental caries, 1990 to 2019. J Dent Res [Internet]. 2022;101(4):392-9. doi: https://doi.org/10.1177/00220345211056247
16. Baelum V, Sheimam A, Burt B. Qual o papel do clínico geral? Necessidade de um novo profissionalismo. In: Fejerskov O, Kidd E. Cárie Dentária: A doença e seu tratamento clínico. 2 ed. São Paulo: Santos Editora, 2011. p. 521-23.
17. Sheiham A, Alexander D, Cohen L, Marinho V, Moysés S, Petersen PE, et al. Global oral health inequalities: task group — Implementation and delivery of oral health strategies. Adv Dent Res [Internet]. 2011;23(2):259-67. doi: https://doi.org/10.1177/0022034511402084
18. Sampaio FC, Bonecker M, Paiva SM, Arthur RA, Cohen-Carneiro F, Ditterich R, et al. Consensus for teaching dental caries in the Portuguese Language at Brazilian dental schools. Braz Oral Res [Internet]. 2023;37(Suppl 1):e120. doi: https://doi.org/10.1590/1807-3107bor-2023.vol37.0120
19. PROEG UFAM. PPC do Curso de Odontologia [cited 2024 Jul 12]. doi: https://doi.org/10.24873/j.rpemd.2019.08.449
20. Brasil. Ministério da Educação. Conselho Nacional de Educação. Câmara de Educação Superior. Resolução N°3, de 21 de junho de 2021. Institui as Diretrizes Curriculares Nacionais do curso de graduação em Odontologia. Brasília: CNE; 2021 [cited 2025 Feb 6 e]. doi: https://doi.org/10.14393/ufu.di.2016.301
21. Finkler M, Caeteano JC, Ramos FRS. Integração "ensino-serviço" no processo de mudança na formação do profissional em Odontologia. Interface [Internet]. 2011;15(39):1053-70. doi: https://doi.org/10.1590/S1414-32832011005000023
22. Herkrath APCQ, Vieira JMR. Estágio curricular supervisionado em odontologia: uma proposta de integração ensino-serviço através da inserção de acadêmicos de odontologia nas Unidades Básicas de Saúde da Secretária Municipal de Manaus. 2017. Projeto Estágio Curricular FAO-UFAM. Manaus: UFAM; 2017. doi: https://doi.org/10.18310/2446-4813.2017v3n4p410-424
23. Schulte AG, Buchalla W, Huysmans MC, Amaechi BT, Sampaio F, Vougiouklakis G, et al. A survey on education in cariology for undergraduate dental students in Europe. Eur J Dent Educ [Internet]. 2011;15(Suppl 1):3-8. doi: https://doi.org/10.1111/j.1600-0579.2011.00708.x
24. Ferreira-Nóbilo NP, Souza MLR, Cury JA. Cariology in Curriculum of Brazilian Dental Schools. Braz Dent J [Internet]. 2014;25(4):265-70. doi: https://doi.org/10.1590/0103-6440201300149
25. Gouvea DB, Groisman S, Bonecker MJS, Sampaio F, Paiva SM, Kriger L, et al. Cariology education for undergraduate Brazilian dental students. Rev Gau Odont [Internet]. 2018;66(3):239-44. doi: https://doi.org/10.1590/1981-86372018000300073428

Conflct of interest: The authors declare no conflict of interest.

Funding: No funding to declare.

Authors' contributions: Study design and planning: FCC, LNQ and MABR. Data collection, analysis and interpretation: ACVP and FCC. Manuscript preparation or revision: ACVP, FCC, LNQ and MABR. Approval of final version: ACVP, FCC, LNQ and MABR. Public responsibility for the manuscript content: ACVP, FCC, LNQ and MABR.