



ORIGINAL ARTICLE

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State of accreditation of undergraduate dental programs in Chile, 2015.

Abstract: Aim: To describe the accreditation of undergraduate dental programs in Chile according to the 2015 assessment procedures of the National Accreditation Commission. Methodology: Descriptive study. The unit of analysis are the resolutions on accreditation of dental programs in Chile by the National Accreditation Commission (CNA-Chile), accessed from the advanced search engine at the CNA-Chile website. From the resolutions the following information was obtained: Effective date, Years of accreditation, Accrediting agency and the Strengths and Weaknesses of the 3 dimensions assessed in undergraduate programs: Graduate profile and results, Operating conditions and Self-regulation. Universities that belonged to the Council of Rectors of Chilean Universities (CRUCH) and to the Chilean Association for Dental Education (ACHEO) were considered in the study. Results: Fourteen universities have a history of accreditation of dental programs. They all belong to ACHEO and half of them are members of CRUCH. The range of accreditation was 2-7 years. The average years of accreditation in private universities was 4.57 ± 1.72 , while in CRUCH it was 6 ± 1 , with an overall average of 5.29 ± 1.54 . The programs have been accredited by CNA-Chile and 4 other accrediting agencies. Conclusion: There is significant variability in the quality of dental programs in Chile according to CNA-Chile accreditations. Programs from CRUCH universities have a better and more consistent quality than those of private institutions.

Keywords: Accreditation, Dentistry, Chile, Quality, Dental education.

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INTRODUCTION.

The Chilean higher education system has undergone a remarkable transformation in the last 35 years. This transformation can be summarized in the diversification of available programs (due to the emergence of private universities, vocational and technical training centers and other type of higher education institutions), the division of public universities into regional campuses and privatization of the educational system¹.

In addition, the transformation of the system has

allowed an exponential growth in the number of students entering higher education^{1,2} in the last 12 years³, increase that is particularly evident in dental programs. In order to ensure the quality of education of this growing number of programs and institutions, licensing and accreditation mechanisms have been implemented by state agencies with the participation of private organizations^{1,4}.

Unfortunately, the National Accreditation Commission, in charge of the accreditation system in Chile, has been deeply questioned after corruption char-

ges were brought against it².

Besides the above, accreditation is optional for the institutions and their programs, with the exception of pedagogy⁵ and medicine⁶. Probably for this reason, most research regarding evaluation and improvement of educational quality is related to these two specific programs^{5,6}. Consequently, little research has been done to assess the quality of dental programs in Chile. In recent years, the only concern regarding available dental programs has been their unregulated exponential growth^{3,7}.

Undoubtedly, the lack of diagnostic information hinders the implementation of policies for improvement. The latter seems urgent considering the scarce contribution the new programs have made in relation to research⁸ and to the future implementation of a National Examination for Dental Students⁹.

A first approximation to this diagnosis is to describe what has been made in the process of accreditation of dental programs.

The aim of this study is to describe the results of the accreditation of undergraduate dental programs in Chile according to the 2015 assessment procedures established by the National Accreditation Commission.

MATERIALS AND METHODS.

This is a descriptive study. The units of analysis are the resolutions on accreditation of undergraduate dental programs in Chile by the National Accreditation Commission (CNA-Chile).

Resolutions were accessed using the search engine on the CNA-Chile website (available at <https://www.cna-chile.cl/Paginas/buscador-avanzado.aspx>) on January 4, 2016. If the last resolution was not available at CNA-Chile, the search was done on the website of the respective accrediting agency. All resolutions were downloaded in PDF format for further analysis.

From the resolutions the following information was

obtained: Effective date, Years of accreditation, Accrediting agency and the Strengths and Weaknesses of the 3 dimensions assessed in undergraduate programs: Graduate profile and Results, Operating conditions and Self-regulation. These last 3 variables were summarized pointing out the most relevant strengths and weaknesses of each program.

The following step was to confirm that the programs included in this study had a history of accreditation by CNA-Chile and belonged to the Council of Rectors of Chilean Universities (CRUCH, available at http://www.consejodirectores.cl/web/consejo_rectores_universidades.php), and to the Chilean Association for Dental Education (ACHEO, available at <http://www.acheo.cl/acheo/integrantes/>).

Data were tabulated in a spreadsheet (MS Excel 2013, Microsoft Corp., Redmond, USA).

RESULTS.

Fourteen universities had a history of accreditation of their dental programs. They all belonged to ACHEO and half of them were members of CRUCH. The shortest accreditation period was 2 years (1 university) and the longest, 7 years (4 universities).

The average length of accreditation in private universities was 4.57 ± 1.72 years, and 6 ± 1 in CRUCH, with an overall average of 5.29 ± 1.54 years. The programs had been accredited by CNA-Chile and 4 other accrediting agencies.

The individual description of the accreditation process of every program, including the strengths and weaknesses in each of the 3 dimensions of accreditation, is shown in Table 1.

The resolutions on the 2015 accreditation process of Universidad de Valparaiso and Universidad San Sebastian were not available on CNA's website nor on the website of the respective accrediting agency, so their strengths and weaknesses were not reported.

Table 1. Information about the accreditation of dental programs provided by CNA-Chile, 2015.

Institution	Effective date In	Effect until	Years	Agency	CRUCH	Graduate Profile and Results	Operating Conditions	Self-regulation capacity
U. Andrés Bello	09-08-2015	09-08-2018	3	ADC	No	S: Profile consistent with institution, defined curriculum and integrated approach, proper management of the educational process, diverse sources of relationship with the community. W: Low diffusion of graduate profile among students, low graduation rate and excessive duration of the program (actual length), management of students' difficulties needs improvement.	S: Adequate infrastructure, meets needs of students, well-structured organization, teachers with experience, presence of collegiate bodies, financial stability. W: poor accessibility for a group of students, insufficient infrastructure in quantity, and library underutilized.	S: Ability to set objectives and goals, sufficient regulation, ongoing self-evaluation, decisions based on formal criteria. W: Lack of communication channels, administrative processes need to be expedited.
U. Austral de Chile	09-15-2014	09-15-2019	5	Akredita QA	Yes	S: Clear graduate profile, consistent with university, curriculum-oriented objectives, clear admission mechanisms, acceptable progression and actual duration of studies, relationship with the community and employers. W: Inflexible curriculum and poor integration of contents, overload of class hours, lack of practice in urgency service, lack of remedial plans, problems with the payments of patients.	S: Appropriate administrative and financial organization, good infrastructure, and collegiate participation in the curriculum. W: Economic dependence, ensuring dignity of students, insufficient clinicalequipment.	S: Consistency of program with the educational model of the university, appropriate self-evaluation. W: Possible overcrowding of students in the program, needs to inform students about support programs, failing to inform-integrate (into) the community.
U. de Antofagasta	01-23-2015	01-23-2021	6	Acreditación	Yes	S: Clear graduate profile; well integrated-curriculum, adequate evaluations. W: Needs to provide more feedback to students, graduation time longer than ideal, lack of relationship with employers.	S: Appropriate administrative and financial organization, academic and administrative staff sufficient in quality and quantity, good infrastructure, good support for students. W: Must improve accessibility for disabled people.	S: Consistent with program-university goals, clear rules, management by objectives, realistic self-assessment. W: Disinformation about graduation process.
U. de Chile	10-24-2013	10-24-2020	7	AACS	Yes	S: Well-defined graduate profile consistent with school and university, adequate curriculum, integrated and participatory studies, proper teaching process, low dropout rate, adjusted length of the program, active participation in research, various diffusion activities in the community, W: Curricular structure needs more consistency.	S: Appropriate administrative structure, financial stability, experience in academic management, adequate regulations, academic staff appropriate in quantity and quality, defined academic career, adequate infrastructure, economic support to students. W: No significant weaknesses are identified.	S: Goals consistent with the Institutional Development Plan, participatory and constant self-evaluation process, active participation of students in improvement plans, good information dissemination, W: No significant weaknesses are identified.

F: Strengths; W: Weaknesses.

Table 1. Cont'd Information about the accreditation of dental programs provided by CNA-Chile, 2015.

U. de Concepción	07-31-2012	07-31-2019	7	Akredita Qa	Yes	S: Profile consistent with institution, clearly defined goals, curriculum structure consistent with profile, good teaching management, permanent training of teachers. W: Profile deficiencies in extension and research, deficiencies in student participation and knowledge of internal processes, curriculum inconsistent with coherent comprehensive clinical studies.	S: financial stability, academic staff sufficient in quantity and quality, institutional support, good infrastructure, low dropout rate. W: Low participation of graduates, poor development in clinical research	S: Clear purpose and mission, good institutional support. W: No significant weaknesses are identified.
U. de la Frontera	08-22-2012	08-22-2017	5	AACS	Yes	S: Profile consistent with institution and CNA assessment criteria, profile well known by academic community, good teaching management, student support, good development in research. W: Curriculum with some problems of organization, deficiency in surgical training, does not consider academic career, poor contact with employers and former employees.	S: Qualified and motivated academic staff, participatory management, financial stability, economic support to students, adequate infrastructure, permanent teachers' training, W: Some teachers have little experience, problems of access to library.	S: Goals and objectives consistent with institution and Development Plan, known standards, participatory self-assessment, W: Poor participation of employers, needs to ponder the threat posed by other programs in the region.
U. de Antofagasta	01-23-2015	01-23-2021	6	Acreditación	Yes	S: Clear graduate profile; well integrated-curriculum, adequate evaluations. W: Needs to provide more feedback to students, graduation time longer than ideal, lack of relationship with employers.	S: Appropriate administrative and financial organization, academic and administrative staff sufficient in quality and quantity, good infrastructure, good support for students. W: Must improve accessibility for disabled people.	S: Consistent with program-university goals, clear rules, management by objectives, realistic self-assessment. W: Disinformation about graduation process.
U. de los Andes	10-23-2012	10-23-2018	6	AACS	No	S: Consistency with mission-vision of the university and the graduate profile, teaching methodologies and curriculum with an integrated approach, monitoring and support during the program and after completion of studies, varied activities of relationship with the community, adequate infrastructure, student exchange agreements, division into semesters and estimation of ECTS in courses, ongoing evaluation, various agreements in the clinical field. W: High dropout rates, poor relationship with community, poor management and computer skills.	S: Appropriate administrative staff, financial stability, clear and well-known rules, structured academic career, prestigious and adequate academic staff, good infrastructure, adequate services. W: Distant clinical centers, low extracurricular participation and poor contact with other programs	S: Consistent with university-program objectives, updated development plan, regulations and collective bodies that ensure self-regulation, participatory self-evaluation process, appropriate improvement plan, information to the community via the web. W: No significant weaknesses are identified.
U. de Talca	08-01-2012	08-01-2017	5	CNA Chile	Yes	S: Competency-based training, appropriate teaching strategies. W: Overload of students, unbalanced training between course subjects, lacking support tutorials, graduation rates are decreasing.	S: Adequate organizational structure, adequate academic staff, financial stability, good infrastructure. W: Difficulties in interaction between people with different positions, lack of research and extension units in the program, needs to improve management of academic staff.	S: Institutional support, appropriate regulations, participatory self-evaluation. W: Needs to improve standards of academic career, self-evaluation does not report several weaknesses; the improvement plan must contain indicators and not focus on a few teachers.

F: Strengths; W: Weaknesses.

Table 1. Cont'd Information about the accreditation of dental programs provided by CNA-Chile, 2015.

U. de	12-03-2015	12-03-2022	7	Acreditación	Yes	Resolution unavailable.	Resolution unavailable.	Resolution unavailable.
Valparaíso								
U. del Desarrollo	09-15-2015	09-15-2020	5	ADC	no	S: Clearly defined purposes, defined graduate profile, consistent with the institution, adequate educational management, adequate regulations, good relationship with the community. W: Poor inter-campus collaboration, lack of monitoring global learning process, poor relationship with employers, modest development in R&D, poor diffusion of extension activities.	S: Defined and coherent organizational structure, good infrastructure, qualified and motivated academic staff, financial stability. W: Low participation in university life in campus Santiago.	S: Satisfaction with profile and goals, profile well-known among the academic community, curriculum articulated and coherent with profile, adequate regulation. W: Lack of collaborative work between campuses.
U. Diego Portales	12-20-2012	12-20-2016	4	AACS	No	S: Profile consistent with institution, CNA criteria and curriculum, constant self-evaluation, adequate infrastructure, adequate academic staff, academic support to students, low graduation rate, alumni participation. W: Lack of involvement of external actors in profile definition, inconsistent educational innovation, few incentives for research, lack of relationship with the community.	S: Adequate organizational structure with support from the university, presence of collegiate bodies, student participation in decisions, pedagogical improvement, and good quality of infrastructure with support services to students. W: Must improve academic career and infrastructure.	S: Consistency of goals and plans, clearly defined academic requirements, self-evaluation supported by the educational community, adequate regulation involving collegiate bodies. W: Needs to improve information transmission to different levels, needs to implement improvement plans with short-term indicators.
U. Finis Terrae	01-14-2015	01-14-2017	2	CNA Chile	No	S: Well defined profile, consistent with institution, well-organized plan of studies, various external agreements. W: Needs to improve academic evaluation, lack of consistency in the names of specialties, poor research, low graduation rate that has not been improved, poor relationship with alumni and employers.	S: Adequate organizational structure, financial stability, adequate infrastructure, improvement of the library. W: Serious deficiencies in academic career, poor communication mechanisms, lack of diffusion of training opportunities for teachers, infrastructure problems in campus Pedro de Valdivia.	S: Clear and consistent objectives with institution, constant self-evaluation. W: Inconsistency between the name of specialization and profile, self-evaluation has weaknesses.
U. Mayor	12-19-2013	12-19-2018	5	Akredita QA	No	S: Defined graduate profile, curriculum structured according to objectives, performance-based assessment. W: Needs to improve integration among campuses, lack of academic career, lack of evaluation of curriculum renovation, needs to improve evaluation mechanisms, must improve extension and research.	S: Defined management staff, financial and staff stability, good infrastructure. W: Reduced number of full-time teachers, resources are underutilized.	S: Consistency with framework and institutional support, adequate self-assessment. W: Lack of mechanisms to reduce students' dropout rate.
U. San Sebastián	12-10-2015	12-10-2022	7	ADC	No	Resolution unavailable.	Resolution unavailable.	Resolution unavailable.

F: Strengths; W: Weaknesses.

DISCUSSION.

Taking into account the years of accreditation, quality indicator *per se*, it is possible to conclude that the quality of dental programs in Chile varies noticeably among the different institutions. Despite this, the overall average accreditation period is approximately an 80% of the maximum possible length, and about half of the institutions are accredited for 6 or 7 years. These values are higher than those obtained by other health programs¹⁰ or in the higher educational system as a whole¹¹.

Despite the scandals that affected CNA² and the weaknesses identified in the accreditation process¹², there is evidence of a positive correlation between accreditation and quality of graduates¹³ of pedagogy programs and the training provided by private universities¹⁴.

Regarding the differences between traditional universities (CRUCH) and private institutions, it was observed that the former exceeded the latter by about one and a half years of accreditation. This is consistent with what is observed in the overall educational system¹¹. Another important fact is that in private universities a greater dispersion of the years of accreditation can be observed in comparison with traditional institutions. This means that traditional universities have a good homogeneous level, while private institutions show a lower and more heterogeneous level.

In relation to the strengths and weaknesses, it was possible to see that all programs have a high degree of consistency with the mission and vision of their respective universities. In line with this, the administrative and financial aspects, as well as infrastructure and the quality of teachers, were generally assessed as positive.

On the other hand, the most common weaknesses were communication and participation problems among the various mechanisms involved in the training of future dentists. However, in general, these problems apparently had little impact on reducing the years of accreditation granted to each program. This would be inconsistent with the further democratization process pursued by universities.

When analyzing the programs with shorter periods of

accreditation is possible to see that their problems are related to quantitative indicators, such as the actual duration of the program, retention and graduation rates, and the number of teachers with permanent contracts. However, this was not always the case, as some universities with some of the abovementioned deficiencies were accredited for 5 or more years.

Another important aspect associated with shorter periods of accreditation is the persistence of problems identified in previous accreditation processes. This situation is worrying, because it means that many universities do not solve problems diagnosed more than two years before by outside agencies. On the other hand, correcting problems in the last accreditation process was associated with longer periods of accreditation.

There is little international literature assessing the quality of dental programs, and the most studied topics are curriculum and learning process¹⁵. Despite the abovementioned difficulties, it is possible to make comparisons with China¹⁶ and the United States¹⁷. In China, the accreditation system is done by a state agency, similar to CNA-Chile. The agency assesses and grants accreditations for university programs in general, but there is a particular procedure to assess dentistry. Besides the Society of Dental Education (China) and the Chinese Stomatological Association established accreditation standards for their programs¹⁶. In the United States the participation of professional associations is even more relevant, with the Commission on Dental Accreditation of the American Dental Association as the only agency recognized by the U.S. Department of Education to grant accreditation to dental programs¹⁷.

In Chile the situation is very different from the United States and China, as there is little involvement of professional associations. ACHEO, the organization responsible for assessing the quality of the training of future Chilean dentists, was created only a few years ago. However, ACHEO's participation in the processes of accreditation of dental programs is nonexistent, and it seems to focus exclusively on the creation of a National

Examination of Dental Students⁹.

It is necessary to mention some limitations, and among them we find: accredited programs do not represent all of the available dental programs in Chile; and most programs were not accredited this year, so do they not necessarily represent the current state of affairs. Although there are standards set by CNA, accreditation was carried out by various agencies, so there may be differences in the assessment; the length (years) of accreditation is a quantitative indicator that does not necessarily represent the overall quality of a program.

Future research in this area could help determine the

relationship between length of accreditation and several other variables, such as admission scores^{18,19}, scientific productivity⁸, training in research²⁰, participation in student²¹ or professional²² conferences, accreditation of postgraduate programs, and fees³, among others.

CONCLUSION.

There is significant variability in the quality of dental programs in Chile according to accreditations granted by CNA. Programs from universities that belong to CRUCH have a better and more consistent quality than those of private institutions.

Estado de la acreditación de las carreras de Odontología en Chile, 2015.

Resumen: Objetivo: Describir la acreditación de las carreras de Odontología en Chile según los procedimientos de evaluación de la Comisión Nacional de Acreditación, actualizado al año 2015. Metodología: Estudio descriptivo. La unidad de análisis corresponde a las resoluciones de acreditación de las carreras de Odontología en Chile según la Comisión Nacional de Acreditación (CNA-Chile), accedidas desde el buscador avanzado del sitio web de CNA-Chile. Desde las resoluciones se obtuvo la siguiente información: Fecha de vigencia, Años de acreditación, Agencia acreditadora, así como las Fortalezas y Debilidades de las 3 dimensiones evaluadas en las carreras de pregrado: Perfil de Egreso y Resultados, Condiciones de Operación y Capacidad de Autorregulación. Se consideró además la pertenencia al Consejo de Rectores de las Universidades

Chilenas (CRUCH) y a la Asociación Chilena de Enseñanza de la Odontología (ACHEO). Resultados: Catorce universidades tienen historial de acreditación para la carrera de Odontología. Todas ellas forman parte de ACHEO y la mitad de ellas son miembros del CRUCH. El rango de acreditación fue 2 a 7 años. El promedio de años de acreditación en las universidades privadas fue de $4,57 \pm 1,72$, mientras que en las del CRUCH fue de 6 ± 1 , con un promedio general de $5,29 \pm 1,54$. Las carreras han sido acreditadas por CNA-Chile y otras 4 agencias acreditadoras. Conclusión: Existe una considerable variabilidad en la calidad de las carreras de odontología en Chile según las acreditaciones de CNA. Las carreras de universidades del CRUCH presentan una mejor y más homogénea calidad que sus contrapartes privadas.

Palabras clave: *Acreditación, Odontología, Chile, Calidad, Educación dental.*

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