

Research Article

Evaluation of the Pediatric Dentistry themes most chosen by students for poster and oral communication presentations at the CESPUScientific Conferences – a serial cross-sectional study

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Abstract: The CESPUS Scientific Conferences of Dental Sciences are organized every year and are notable for the presentation of scientific papers prepared by the students. The main aim of this study was to assess which themes, in the Children’s Oral Health and Prevention Service (SOIP), are of most interest to students for the presentation of posters and oral communications. For the analysis, we collected all the papers from the service that were presented at the Scientific Conferences between 2013 and 2023. Subsequently, the changes that occurred over the years were assessed through statistical analysis using SPSS Statistics for Windows, version 29.0. After the evaluation, it was concluded that Orthodontics is the theme most chosen by the students, followed by Systemic Diseases and Specific Needs. In turn, Sports Dentistry came in last place, having never been selected for any work. As for the Major Groups, the focus was on Craniofacial Development and Orthodontics, followed by Oral Medicine.

Keywords: pediatric dentistry; bibliometric analysis; evidence-based research; trends

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Introduction

The teaching of Dental Medicine began independently in Portugal in 1976, with the course at CESPUS being pioneer in private education. Currently part of an Integrated Master’s program, the Dental Medicine course, with a total of 300 ECTS, has a normal duration of 10 semesters, ending with the submission and defense of a dissertation.

Nowadays, Dentistry is divided into several specialties [1]. The Guideline Dental Council (GDC) defines Pediatric Dentistry as “the practice, teaching, and research of comprehensive therapeutic oral health care for children from birth to adolescence, including care for those who demonstrate intellectual, medical, physical, psychological and/or emotional problems” [2]. In turn, Preventive and Community Dentistry is classified as the “sum of all efforts to prevent dental diseases and disorders, or to prevent the sequelae of an individual’s dental diseases and disorders”, while Orthodontics is defined by its fundamental role in improving oral health and facial aesthetics, enabling the diagnosis and treatment of malocclusions and other dental and functional anomalies [3,4].

Since 1992, CESPUS has been organizing the Scientific Conferences of Dental Sciences every year. The aim of this event is to transmit knowledge and share experiences between dentists and students of the

Integrated Master's Degree in Dental Medicine. Until 2023, the thirty-one editions were distinguished by speeches given by honorable national and international speakers, but also by the challenge imposed on all students to present a paper in the form of a poster or oral communication. The work conducted by the students is distributed between the four services in the Dental Sciences department. Pediatric Dentistry, Orthodontics and Preventive and Community Dentistry integrate the Children's Oral Health and Prevention Service (SOIP). In contrast to the dissertations, in which the work is submitted within the respective department and divided according to the corresponding scientific area, when submitting to the Scientific Conferences, the work is only divided by the four services of the department.

Over the last few decades, there has been a significant increase in scientific production, doubling every 9 years and currently producing more than 2.5 million articles, whereby most health professionals now use databases such as PubMed to search for and acquire knowledge to increase their clinical skills [1,5].

Since its inception in the 20th century, scientific research in Pediatric Dentistry has passed through a dark period, with a change in the level of publications. Instead of publishing clinical case reports, research aimed at answering specific questions has become more common [6]. The lack of knowledge by other pediatric health professionals about dental treatments generates a problem, due to the late referral of these children to pediatric dentistry [1].

In this way, evaluating the themes most frequently chosen by students helps to understand the approaches that need to be taken to respond to the needs of the Pediatric Dentistry population, as well as to provide an insight into the areas that are most undervalued and for which support measures need to be taken [7]. It also provides a historical perspective on the scientific progress of research for both the clinician and the researcher and helps to guide future research and improve the quantity and quality of scientific production [8,9].

The aim of this study is to assess which themes in the SOIP were the most chosen by CESPU's Integrated Master's Degree in Dental Medicine (MIMD) students for the presentation of posters and oral communications at the Scientific Conferences of Dental Sciences.

Materials and Methods

This investigation focused on assessing the interest of MIMD students in the themes of the SOIP service and how it has changed over the years. For this reason, we collected and analyzed the themes selected by the students for presentation in the format of posters and oral communications, over the last eleven years, at the Scientific Conferences of Dental Sciences.

Study design

This study consisted of serial cross-sectional research.

Data collection

We carried out a census of the study population, namely the students who presented their work at CESPU's Scientific Conferences of Dental Sciences, by collecting all the posters and oral communications from the SOIP service presented at the event between 2013 and 2023. It included a total of 356 posters and oral communications, obtained from the abstract books of the Scientific Conferences, and through tables provided by the organizing committees of the respective editions.

Identification and classification of the study variables

The variables under study were all the themes and Major Groups in which the posters and oral communications were integrated. They were classified as nominal qualitative variables because they were presented in distinct categories without a natural order or hierarchy.

Selection and collection of the data

The selection and collection of data was carried out at the SOIP service, where the posters and oral communications presented at the CESPU Scientific Conferences of Dental Sciences between 2013 and 2023 were sequentially collected.

Data organization

The Microsoft® Excel® 365 platform was used to divide and organize the data. To analyze the data collected, the themes of the SOIP service were divided into twenty-one specific themes: Dental Materials, Orthodontics, Maternal and Child Health, Psychology and Behavior Control, Systemic Diseases and Specific Needs, Occlusion and Temporomandibular Disorders (TMD), Drug Therapy, Preventive Dentistry, Periodontology, Oral Surgery, Diagnosis, Dental Trauma, Dental Alterations and Developmental Anomalies, Nutrition and Eating Disorders, Infectious Diseases and Oral Microbiology, Oral Rehabilitation, Cariology and Conservative Treatments, Pulp Therapy, Others, Growth and Development and Sports Dentistry.

The themes were categorized into Major Groups according to the following criteria: Craniofacial Development and Orthodontics involves all the themes related to orthodontics and dental alterations, as well as

growth and development and the associated anomalies; Conservative Treatments includes all the themes connected with conservative dental procedures and pulp therapies, as well as the materials used; Oral Medicine encompasses all the themes concerning not only the oral component, but also with a large association with the medical one, namely surgery, trauma, drug therapy, infectiology, periodontology, nutrition and diagnostics; Psychology and Prevention is based on all the themes associated with psychology and behavior control, including prevention, as this is often affected by the patient's psychological state; Oral Rehabilitation includes all the themes related to oral rehabilitation, occlusion and temporomandibular dysfunctions. "Miscellaneous" was defined to include all the themes that did not fulfil the criteria defined in the other Major Groups.

The "Others" theme, as well as the "Miscellaneous" Major Group, were created with the aim of including, in the case of the theme, all the papers that did not fulfil any of the themes defined. As previously mentioned, the Major Group was created to include the "Others" theme and, in addition, the "Sports Dentistry" theme, which did not correspond to any of the previously defined Major Groups.

The previously mentioned themes are included in the respective Major Groups, as shown in Table 1.

Table 1. Distribution of the themes among the respective Major Groups.

Major Groups	Themes
Craniofacial Development and Orthodontics	<ul style="list-style-type: none"> • Orthodontics • Dental Alterations and Developmental Anomalies • Systemic Diseases and Specific Needs • Maternal and Child Health • Growth and Development
Conservative Treatments	<ul style="list-style-type: none"> • Dental Materials • Cariology and Conservative Treatments • Pulp Therapy
Oral Medicine	<ul style="list-style-type: none"> • Dental Trauma • Oral Surgery • Periodontology • Drug Therapy • Diagnosis • Nutrition and Eating Disorders • Infectious Diseases and Oral Microbiology
Psychology and Prevention	<ul style="list-style-type: none"> • Psychology and Behavior Control • Preventive Dentistry
Oral Rehabilitation	<ul style="list-style-type: none"> • Oral Rehabilitation • Occlusion and Temporomandibular Disorders (TMD)
Miscellaneous	<ul style="list-style-type: none"> • Sports Dentistry • Others

Hypotheses to be tested

The hypotheses to be tested in this study were:

- I. H₀: There is no theme that is of greater interest to students between 2013-2023;
H_a: There is a theme, in the SOIP, which is of greater interest to MIMD students for the presentation of posters and oral communications at the Dental Sciences Scientific Conferences, between 2013-2023.
- II. H₀: There is no theme that arouses greater interest among students each year;
H_a: Each year, there is a theme in the SOIP that is of greater interest to MIMD students for the presentation of posters and oral communications at the Dental Sciences Scientific Conferences.

Statistical analysis

For data analysis, SPSS Statistics for Windows, version 29.0 (IBM, Armonk, New York, USA) was used. The descriptive analysis of the eleven years involved absolute (*n*) and relative (%) frequencies, together with the analysis by years, which allowed us to observe the oscillations that occurred for each theme. In addition, the frequencies of the Major Groups were evaluated, and a Chi-square test was applied to ascertain whether there were any statistically significant differences between the frequencies of each Major Group ($p < 0.05$). A non-parametric analysis was used because we worked with nominal qualitative variables.

Results

In the eleven years analyzed, the theme most chosen by students to elaborate posters and oral communications was Orthodontics, with 66 occurrences, representing 18.5% of the total of 356 posters and oral communications. This was followed by Systemic Diseases and Specific Needs ($n = 45$, 12.6%) and Psychology and Behavior Control ($n = 38$, 10.7%). Also noteworthy were some fewer chosen themes, namely

Pulp Therapy ($n = 5$, 1.4%) and Others ($n = 4$, 1.1%), as well as the absence of posters and oral communications on Sports Dentistry. Table 2 and Fig. 1 reveal the themes and their absolute (n) and relative (%) frequencies.

Table 2. Absolute (n) and relative (%) frequencies of each theme.

Themes	n	%
Orthodontics	66	18.5
Systemic Diseases and Specific Needs	45	12.6
Psychology and Behavior Control	38	10.7
Maternal and Child Health	34	9.6
Periodontology	21	5.9
Preventive Dentistry	20	5.6
Dental Changes and Developmental Anomalies	17	4.8
Occlusion and Temporomandibular Disorders (TMD)	15	4.2
Dental Trauma	13	3.7
Cariology and Conservative Treatments	13	3.7
Dental Materials	12	3.4
Oral Surgery	9	2.5
Diagnosis	8	2.2
Oral Rehabilitation	8	2.2
Drug Therapy	7	2.0
Nutrition and Eating Disorders	7	2.0
Infectious Diseases and Oral Microbiology	7	2.0
Growth and Development	7	2.0
Pulp Therapy	5	1.4
Others	4	1.1
Sports Dentistry	0	0.0
Total	356	100.0

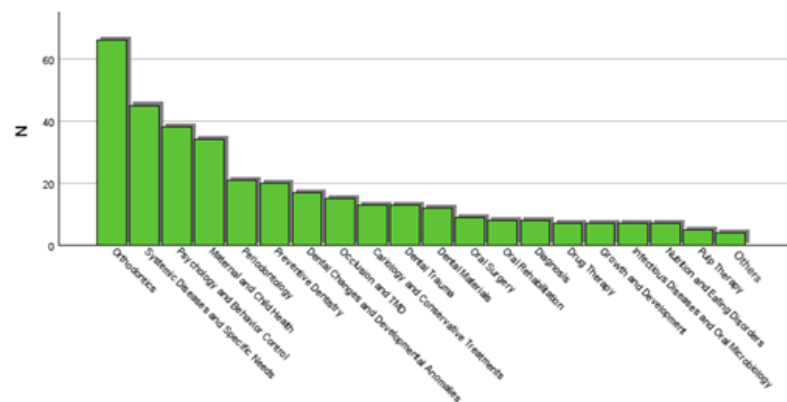


Figure 1. Absolute frequency (n) of each theme throughout the last eleven years.

Analysis by years

Table 3 presents a detailed analysis of the preferences for the themes chosen by the students for their posters and oral communications and their evolution over the years. The results are expressed in terms of absolute frequency of choices (n) and relative frequency for each year (%).

The Dental Materials theme has been covered over the years, varying between 3.0% and 6.8%, and standing out in 2018 and 2019. Orthodontics emerged as a prominent theme, growing from 3.0% in 2013 to 45.0% in 2023, and becoming the most chosen topic. Although with some oscillations, the Maternal and Child Health theme maintained a consistent presence, varying between 7.4% and 13.6%. Psychology and Behavior Control had a significant impact, with an annual representation that varied between 4.0% in 2020 and 21.2% in 2013. The Systemic Diseases and Specific Needs theme was consistently explored over the years, reaching a peak of 27.8% in 2016.

Some themes had a less significant presence, being represented in fewer years and with lower percentages in relation to the total of posters and oral communications of each year. Highlights include Growth and Development, which was present in 2017, 2018, 2020 and 2021 (2.3% to 6.5%), and Others, which was only chosen in 2013 (6.1%) and 2017 (4.8%).

Table 3. Absolute (*n*) and relative (%) frequency of themes over each year.

Themes	Year											
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Dental Materials	<i>n</i>	1	1	0	0	2	3	1	2	1	1	0
	%	3.0%	3.2%	-	-	4.8%	6.8%	3.7%	4.0%	2.2%	4.5%	-
Orthodontics	<i>n</i>	1	3	0	5	6	8	6	10	11	7	9
	%	3.0%	9.7%	-	27.8%	14.3%	18.2%	22.2%	20.0%	23.9%	31.8%	45.0%
Maternal and Child Health	<i>n</i>	4	3	2	2	4	6	2	4	5	2	0
	%	12.1%	9.7%	8.7%	11.1%	9.5%	13.6%	7.4%	8.0%	10.9%	9.1%	-
Psychology and Behavior Control	<i>n</i>	7	3	4	0	5	6	2	2	3	3	3
	%	21.2%	9.7%	17.4%	-	11.9%	13.6%	7.4%	4.0%	6.5%	13.6%	15.0%
Systemic Diseases and Specific Needs	<i>n</i>	6	3	4	5	7	3	1	5	6	4	1
	%	18.2%	9.7%	17.4%	27.8%	16.7%	6.8%	3.7%	10.0%	13.0%	18.2%	5.0%
Occlusion and TMD	<i>n</i>	1	1	2	0	0	3	0	7	1	0	0
	%	3.0%	3.2%	8.7%	-	-	6.8%	-	14.0%	2.2%	-	-
Drug Therapy	<i>n</i>	0	0	1	0	1	1	2	1	0	1	0
	%	-	-	4.3%	-	2.4%	2.3%	7.4%	2.0%	-	4.5%	-
Preventive Dentistry	<i>n</i>	1	4	2	0	4	3	0	1	2	0	3
	%	3.0%	12.9%	8.7%	-	9.5%	6.8%	-	2.0%	4.3%	-	15.0%
Periodontology	<i>n</i>	0	2	1	1	1	2	1	6	4	1	2
	%	-	6.5%	4.3%	5.6%	2.4%	4.5%	3.7%	12.0%	8.7%	4.5%	10.0%
Oral Surgery	<i>n</i>	1	0	0	1	1	0	1	3	0	1	1
	%	3.0%	-	-	5.6%	2.4%	-	3.7%	6.0%	-	4.5%	5.0%
Diagnosis	<i>n</i>	1	0	1	0	4	0	0	1	1	0	0
	%	3.0%	-	4.3%	-	9.5%	-	-	2.0%	2.2%	-	-
Dental Trauma	<i>n</i>	3	3	1	0	1	2	2	1	0	0	0
	%	9.1%	9.7%	4.3%	-	2.4%	4.5%	7.4%	2.0%	-	-	-
Dental Changes and Developmental Anomalies	<i>n</i>	1	3	3	2	1	1	3	2	0	1	0
	%	3.0%	9.7%	13.0%	11.1%	2.4%	2.3%	11.1%	4.0%	-	4.5%	-
Nutrition and Eating Disorders	<i>n</i>	2	0	1	1	0	2	0	0	1	0	0
	%	6.1%	-	4.3%	5.6%	-	4.5%	-	-	2.2%	-	-
Infectious Diseases and Oral Microbiology	<i>n</i>	0	1	1	0	1	1	0	0	3	0	0
	%	-	3.2%	4.3%	-	2.4%	2.3%	-	-	6.5%	-	-
Oral Rehabilitation	<i>n</i>	0	2	0	0	0	0	2	1	1	1	1
	%	-	6.5%	-	-	-	-	7.4%	2.0%	2.2%	4.5%	5.0%
Cariology and Conservative Treatments	<i>n</i>	2	1	0	0	1	1	3	1	4	0	0
	%	6.1%	3.2%	-	-	2.4%	2.3%	11.1%	2.0%	8.7%	-	-
Pulp Therapy	<i>n</i>	0	1	0	1	0	1	1	1	0	0	0
	%	-	3.2%	-	5.6%	-	2.3%	3.7%	2.0%	-	-	-
Others	<i>n</i>	2	0	0	0	2	0	0	0	0	0	0
	%	6.1%	-	-	-	4.8%	-	-	-	-	-	-
Growth and Development	<i>n</i>	0	0	0	0	1	1	0	2	3	0	0
	%	-	-	-	-	2.4%	2.3%	-	4.0%	6.5%	-	-
Total	<i>n</i>	33	31	23	18	42	44	27	50	46	22	20
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Major Groups

Furthermore, Major Groups of themes were formed, and their frequencies during the period in question were analyzed. According to Table 4, it is possible to notice the predominance of the Craniofacial Development and Orthodontics Major Group ($n = 169$), followed by Oral Medicine ($n = 72$). In order to check if there were statistically significant differences between the frequencies of each Major Group of themes, the Chi-Square test was applied, and its results demonstrate the existence of such differences ($\chi^2 (5) = 293.787, p < 0.001$).

Table 4. Analysis of the frequencies of each Major Group.

Major Groups	<i>n</i> observed	<i>n</i> expected	Residual
Craniofacial Development and Orthodontics	169	59.3	109.7
Conservative Treatments	30	59.3	-29.3
Oral Medicine	72	59.3	12.7
Psychology and Prevention	58	59.3	-1.3
Oral Rehabilitation	23	59.3	-36.3
Miscellaneous	4	59.3	-55.3
Total	356		

Fig. 2 provides an overview of the absolute frequencies (n) of each Major Group of themes throughout the years.

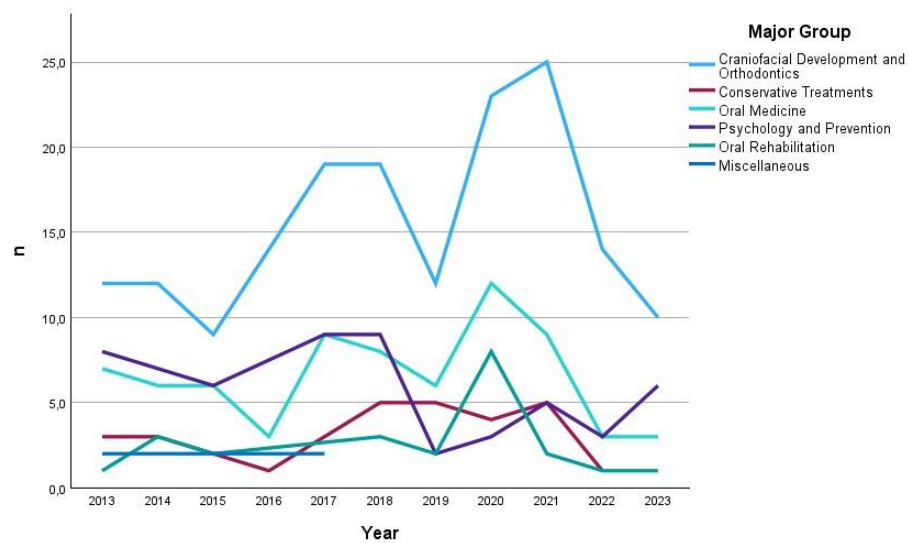


Figure 2. Absolute frequency (n) of each Major Group of themes throughout the years.

Discussion

The evaluation of the most interesting themes to students is extremely important, allowing an analysis of the existing knowledge, a determination of the quality of scientific production, as well as a perception of the areas of lesser focus and research [10,11]. Scientific research is a fundamental tool in students' training and learning during the course, contributing to a greater development of knowledge, which is essential for professional life [12].

The CESPU Scientific Conferences of Dental Sciences are organized annually with the aim of promoting teaching, supporting the acquisition of new competencies, and stimulating research and production of scientific papers by students. The papers produced by students for presentation at the Scientific Conferences are distributed among the four services within the Dental Sciences department, including the SOIP, used in this study to evaluate the themes of greatest interest. The choice of themes for the works presented is the sole responsibility of the students and is therefore related to their interest and involvement in the area [12].

In this way, when analyzing the papers presented at the CESPU Scientific Conferences between 2013 and 2023, it is possible to envision a historical perspective of scientific progress in Pediatric Dentistry, together with the trends and gaps in its development [7]. Considering that no evaluation of SOIP posters and oral communications has been conducted at CESPU until now, this study provides a perspective for the educational institution about the students' knowledge, as well as about their possible interests during their professional careers.

In the present study, to facilitate the measurement of the themes of greatest interest to students in the SOIP service, they were divided into twenty-one specific themes, which were distributed into six Major Groups. In line with the study by Asgary *et al.*, we created a theme named "Others" and a Major Group named "Miscellaneous", which included all the works that could not be categorized into a specific theme or Major Group [10].

Millones-Gómez *et al.* and Tarazona-Álvarez *et al.*, in their studies evaluating the temporal evolution of scientific production, observed an increase in it over the years [11,13]. In the current study, by observing the total number of posters and oral communications produced each year, we can verify an increase in scientific production between 2013 and 2021, although in 2022 and 2023 there was a decrease, when compared to previous years. From a more detailed perspective, we can observe that the peak in scientific production over the eleven years occurred in 2020, with a total of 50 posters/oral communications presented by CESPU students. In contrast, there was a significant decrease in 2016, with a total of 18 posters/oral communications, making it the year with the lowest number of papers presented.

After statistical analysis of the data collected, it was found that the theme most chosen by the students over the eleven years was Orthodontics, with 66 papers presented out of a total of 356, which represents around 18.5% of the total number of posters and oral communications at the SOIP service. Asgary *et al.* and Batyrbekova *et al.*, in their studies, also found an elevated level of student's interest in the theme of Orthodontics, with a 11.13% and 61.4% choice, respectively [10,14]. In one study, which included a

survey of final-year students, it was observed that 42.3% of them had difficulty in managing malocclusion cases, which demonstrates the lack of knowledge about the fundamental bases of Orthodontics [15]. Similarly, Kumar *et al.* found, in their study, that approximately half of the participants (49.5%) often had difficulty in applying orthodontic techniques, while 28.9% always experienced some level of difficulty in the field of Orthodontics [4]. The challenges faced by students in Orthodontics may be one of the factors behind the prominent level of research and scientific production in this area, to clarify doubts and retain knowledge.

Contrarily, Cagetti *et al.* reported that the areas of greatest interest in Pediatric Dentistry were Caries and Public Health, particularly Caries Prevention [1]. According to Daryakenari *et al.*, the most selected themes extend from Public Health to Adhesive Dentistry and Implantology [9].

In their study, García *et al.* concluded that Oral Surgery was the most common theme, accounting for 23.4% of all articles. This finding was not verified in our study, with Oral Surgery occupying the eleventh place in terms of students' choice, presenting only 9 papers out of a total of 356, which represents 2.5% of the total number of posters and oral communications analyzed [16].

In our study, we noticed that the theme that occupied the second place in terms of students' interest and choice was Systemic Diseases and Specific Needs, with 45 posters/oral communications, out of a total of 356, representing 12.6% of all works presented by the students. This can be explained by the students' lack of knowledge of the various systemic diseases. A study about diabetes mellitus and hypertension reported that 44.3% of the students revealed a lack of further study of the systemic diseases mentioned above [17]. Regarding Specific Needs, another study found that, out of a total of 100 students, only 29% had contact with patients with these needs, and 34.48% said that they were not prepared to deal with these patients in their professional career, with this lack of preparation possibly being one of the factors contributing to the students' high interest in this theme [18].

Perazzo *et al.* reported that Growth and Development was the second most prevalent theme, with a prevalence of 23% compared to the other themes, which contradicts our results, where this theme only showed 2.0% interest [7]. Similarly, Garcovich *et al.* and Batyrbekova *et al.* also opposed the results of the present study, indicating that the second most frequent theme was Pulp Therapy and Maxillofacial Surgery, respectively [8,14].

Inversely to what was observed in our study, where Dental Materials only corresponded to 3.4% of the total number of posters and oral communications, in the study of Poletto *et al.* it was the second most prevalent theme, with a 10.8% choice [19].

From the analysis of themes over the eleven years, Psychology and Behavior Control was the third most interesting topic for students, representing 10.7% of the total number of papers, corresponding to 38 posters/oral communications, out of a total of 356. In one study, with the aim of understanding the influence of children's behavior on dental care, 100% of the students reported that the children's attitude interfered with the quality of the dental procedures performed [20]. The students' interest in this theme may be related to the difficulty imposed on the dental procedure when dealing with an uncooperative child and the need to know and adopt methods for controlling the behavior of these patients.

In their study, Perazzo *et al.* reported that the third most frequent topic was Behavioral and Epidemiological Sciences, with a prevalence of around 16%, demonstrating interest in an adequate behavioral management [7]. In turn, Batyrbekova *et al.* reported that Prosthodontics was the third most common topic of interest, with 34.8%. This was not observed in our study, where Oral Rehabilitation only had 8 posters/oral communications, representing 2.2% of the total number of papers [14].

After evaluating the topics of greatest interest over the eleven years, we can verify that, in the present study, the 3 themes least chosen by the students were: Pulp Therapy (1.4%), Others (1.1%) and Sports Dentistry (0.0%). The low prevalence of Pulp Therapy can be explained, according to Kaur *et al.*, by the students' lack of confidence in this area, caused by the fact that these are the least observed procedures and, consequently, those that are least learned. In contrast, Asgary *et al.* found a high prevalence of the Endodontics topic, being the most frequent in their study [10]. In relation to Sports Dentistry, this result demonstrates, in line with those of Simões *et al.*, a discrediting of Dentistry as a fundamental contributor to athletes' sports performance [21].

When analyzed by year, it is possible to notice the development of the Orthodontics theme choice from 2013 to 2023, rising from 3.0% to 45.0%, respectively, making it the most chosen theme. Almotairy *et al.* also found a proliferation of orthodontic studies in recent years [22]. This significant increase reflects students' growing interest in the theme and their desire to obtain more knowledge in this area. It may also be related to the current and growing trend towards the collaboration between Pediatric Dentistry and Orthodontics, which is aimed to provide early diagnosis and simpler treatment, with a good prognosis [16].

We can also verify that the Infectious Diseases and Oral Microbiology theme reached its peak in 2021. The increase in this theme choice can be explained by the appearance of coronavirus disease 2019 (COVID-19), and by the crucial involvement of the oral cavity in the infection caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus, as observed in the study by Alrajhi *et al.*, in

which the oral mucosa was determined as a means of contagion for the virus, being considered highly susceptible to infection. In addition, considering the various oral manifestations of this virus, such as xerostomia, dysgeusia and gingival inflammation, the increase in students' interest in the year 2021 demonstrates their concern to understand how the virus acts and its repercussions in terms of Dentistry [23].

Although there were slight fluctuations, the theme of Maternal and Child Health was consistently present throughout the years, varying between 7.4% and 13.6%. According to one study, in the last few decades there has been greater concern about improving Maternal and Child Health, which has consequently led to an increase in research and attempts to understand and adopt effective methods to intervene in this area [24].

The Nutrition and Eating Disorders theme showed a decline in students' interest, with 6.3% choosing it in 2013, falling to 2.2% in 2021. In addition, it was not selected by students for their work in 2014, 2017, 2019, 2020, 2022 and 2023. In a 2017 study, which analyzed the knowledge of oral health professionals about eating disorders, 94% of the professionals admitted to having little knowledge [25]. Cagetti *et al.* observed a low prevalence of studies on childhood obesity, which supports the results found in our study [1].

A detailed analysis of each year reveals that, in 2013, the theme of greatest interest to students was Psychology and Behavior Control, with 21.2% of choices. In 2014, Preventive Dentistry stood out, with 12.9% of all choices and, in 2015, we can detect an equal choice between Psychology and Behavior Control and Systemic Diseases and Specific Needs, with 17.4%. Similarly, in 2016 we also saw a tie between Orthodontics and Systemic Diseases and Specific Needs, with values of approximately 27.8%. In the following year (2017), Systemic Diseases and Specific Needs was the theme of choice, with 16.7%. Between 2018 and 2023, the focus was on Orthodontics, with a level of choice ranging from 18.2% to 45.0%, respectively.

Subsequently, the analysis of the Major Groups was carried out. From the six Major Groups defined, only Craniofacial Development and Orthodontics and Oral Medicine exhibited an observed n higher than the expected n , with values of 169 and 72, respectively, which resulted in a positive residual value for these two Major Groups. The remaining four were below the expected n of 59.3, with Miscellaneous having the lowest value, with an observed n of 4. The high prevalence observed in the Craniofacial Development and Orthodontics group can be easily explained by the fact that it includes, among others, the two subjects that have aroused most interest among students over the eleven years, specifically Orthodontics and Systemic Diseases and Specific Needs. This last analysis made it possible to verify the presence of statistically significant differences between the frequencies of each Major Group, which was confirmed by the Chi-Square test ($\chi^2(5) = 293.787, p < 0.001$).

Assessing student preferences plays a crucial role in achieving an education that corresponds to their concerns, as well as in providing a positive educational and clinical environment.

A limitation of our study was the data, which only included posters and oral communications from the SOIP service. In addition, all the papers collected were elaborated as part of the CESPU Scientific Conferences of Dental Sciences, which once again limits our data and, consequently, our study. Furthermore, another limitation is the period considered for paper collection, which only covers the last eleven years.

Based on the results obtained in this study, we can conclude that, in the eleven years analyzed, Orthodontics stands out as the theme of greatest interest to students, followed by Systemic Diseases and Specific Needs and Psychology and Behavior Control. On the other hand, Pulp Therapy, Others and Sports Dentistry were the themes least selected by students to present posters and oral communications over the eleven years evaluated. The number of posters and oral communications presented has varied, with 2020 being the year with the highest number of papers submitted for presentation. With regard to the yearly selection of themes, there have been several changes, with Orthodontics once again being the most prominent theme, with a significant increase from 3.0% to 45.0% between 2013 and 2023. When evaluating the Major Groups, we concluded that the one of greatest interest was Craniofacial Development and Orthodontics, followed by Oral Medicine. There were also statistically significant differences between the frequencies of each Major Group of topics.

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Author Contributions

MJF planned the overall design and conception of the work, acquired, analyzed, interpreted the data, and drafted the present manuscript. MA, CQ, JC, APL and PSS revised the manuscript. TV conceived and designed the work, drafted, and substantially revised the manuscript. All authors read and approved the final manuscript.

Conflicts of interest

The authors declare no competing interests.

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