



# An American and Brazilian Perspective on Abstracts Presented in Coloproctology Conferences Converted into Published Manuscripts

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## Abstract

**Introduction** The presentation of abstracts in a congress is an important step for the dissemination of scientific information. The American Congress of Coloproctology is promoted by the American Society of Colon & Rectal Surgeons (ASCRS), and it is the largest in number of participants within the specialty, followed by the Brazilian Congress of Coloproctology. The present study aims to evaluate variables related to the quality of the scientific production of the abstracts presented in these two events and their conversion rate to published manuscripts.

**Materials and Methods** The present bibliometric study assesses secondary data from the review of abstracts presented in these 2 important conferences in 2016, followed by a research of the publications from these congress presentations.

**Results** The total number of abstracts evaluated was 854. The rate of articles containing statistical analyses was of 73.7% in the American congress, and of 34.1% in the Brazilian congress. Multicentric studies were more prevalent in the American congress (23.1%). Regarding study design, the most common were case reports in the Brazilian (44.8%) congress and retrospective studies in the American congress (67.7%). As for the works presented, the rate of conversion into full manuscripts in the American congress was of 24.2% compared with 10.6% in the Brazilian congress. Most papers from the American congress (93.7%) have citations compared with 68.6% of the other event evaluated.

**Conclusion** The scientific performance demonstrated by the conversion rate of abstracts into publications is below ideal, mainly in relation to the Brazilian meeting; yet, there were significant differences between the two events in terms of the profile of the presentations and several variables analyzed.

## Keywords

- ▶ abstracts
- ▶ publications
- ▶ congresses
- ▶ colorectal surgery

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## Introduction

Scientific and medical journals emerged at the end of the seventeenth century with the aim of sharing knowledge and providing the means to record and disseminate information quickly and widely. In recent decades, with the transition from printed to electronic issues, scientific and medical journals have experienced an exponential growth, which has increased the dissemination of information.<sup>1</sup>

Paper presentations, whether oral or in poster format, in national or international medical conferences, are also important for academics, educators, and researchers to share their scientific work in the form of abstracts, offering an opportunity to discuss unpublished topics based on original data. Thus, these papers, when not published, limit the knowledge generated to the participants of the meetings, not reaching their full potential for scientific dissemination.<sup>2</sup>

Among the medical conferences in the area of coloproctology, the American Congress of Coloproctology is promoted annually by the American Society of Colon & Rectal Surgeons (ASCRS), and it is the largest in number of participants within the specialty.<sup>3</sup> The Brazilian Congress of Coloproctology has been held annually since 1951 by the Brazilian Society of Coloproctology (Sociedade Brasileira de Coloproctologia, SBPC, in Portuguese), which is the second society in number of members in the world, just behind the ASCRS.<sup>4</sup> Both are important exponents for the dissemination of scientific works in the field.

The present study aims to evaluate variables related to the quality of the scientific production of the abstracts presented in these two major annual coloproctology conferences, through the compilation and comparison of bibliometric data and the conversion rate of abstracts into full manuscripts.

## Materials and Methods

The present is a descriptive and bibliometric study which assesses secondary data from the review of scientific abstracts presented in the annals of the 2016 Brazilian and American Congresses of Coloproctology, mainly to evaluate their conversion rate into published articles, in addition to several variables related to the quality of the scientific production.

### Collection of Abstracts

The abstracts presented in the Brazilian Congress of Coloproctology were evaluated using the annals available on the SBPC website,<sup>5</sup> which are published in the form of supplements in the *Journal of Coloproctology* (ISSN: 2237-9363; online ISSN: 2317-6423). And The abstracts presented in the American Congress of Coloproctology were assessed through the annals available on the ASCRS website,<sup>6</sup> which are also published in the form of supplements of the journal *Diseases of the Colon & Rectum* (ISSN: 0012-3706; online ISSN: 1530-0358).

Only oral/podium presentations and posters were included, and the exclusion criteria were free-video presentations, incomplete abstracts, titles that did not match the content of the text, and articles with no authorship declared.

Two different reviewers used the Microsoft Excel 2019 (Microsoft Corp., Redmond, WA, United States) software to collect data using a standard form. To ensure the consistency of the analysis, 15 abstracts from each congress were used as a test and evaluated in a calibration meeting between reviewers. Confidence intervals were not used between different researchers, as all discrepancies and/or conflicts were separated and later discussed in regular meetings until consensus was reached. To assess the consistency of the sample, the main author of the study performed blind/random searches validating fragments collected from the database.

### Variables Studied

The variables were: type of presentation (oral or poster), title, award, place/institution of work, whether the authors were affiliated to a university, total number of authors, study design, level of evidence, number of patients involved, whether the studies were monocentric or multicentric, the performance of statistical analyses, and, finally, if the study had already been published as a full manuscript. By evaluating the performance of statistical analyses, we excluded all case reports.

For the definition of the subjects of the abstracts assessed, we used the same options offered to submit papers to the each congress: benign anorectal diseases; malignant and premalignant diseases of the colon, rectum and anus; inflammatory bowel diseases; pelvic floor diseases; bowel and anorectocolic physiology; experimental studies in coloproctology; sexually transmitted diseases; and hodgepodge.

### Research of Published Manuscripts

Publications in peer-reviewed journals were identified through a standardized search on MEDLINE (PubMed), SciELO and Google Scholar databases from March to November 2021. Publications were identified using combinations of the last name and the first letter of the first name of the first author associated with keywords of the abstract title. If no exact matches were found or if the search yielded no results, the process was repeated using the second and last authors of the abstracts. If the result included no publications or multiple publications by the same author, additional criteria were applied: keywords taken from the title or abstract or the name of another author.<sup>7-10</sup>

For each corresponding abstract/manuscript, the following data were recorded: title, period between abstract submission and publication (< 12 months, 12 to 36 months, > 36 months); journal name; databased in which the journal is indexed (Web of Science, MEDLINE, SciELO, LILACS and Scopus); national or international; form of access (free, access with login, and paid access); journal impact factor at publication date according to the *Scimago Journal & Country Rank* and the *Journal Citation Report*; publication language (English, Portuguese or both); the number of citations of the manuscript according to Google Scholar and/or Web of Science (if indexed in this database).<sup>8-12</sup>

Articles already accepted by journals, with a publication date already set before the presentation in the evaluated congress were also included.

### Data Analysis

For the descriptive analysis, the quantitative variables were expressed as mean values, and the categorical variables, as percentages; for the quantitative data in the comparison between the two congresses, we used averages through the analysis of variance (ANOVA) test. The conversion rate was defined as the ratio between the number of manuscripts published in peer-reviewed journals and the total number of abstracts presented in the conferences. In the statistical comparison, we applied ANOVA, equality of two proportions, the Student paired *t*-test, the Chi-squared test, and confidence intervals for the mean. All analyzes were performed using the IBM SPSS Statistics for Windows (IBM Corp., Armonk, NY,

United States) software, version 20.0. Values were considered significant for a 95% confidence interval (95%CI;  $p < 0.05$ ).<sup>8,13</sup>

### Result

The total number of abstracts evaluated was 524 (ASCRS) and 330 (SBCP); the comparison of the variables is shown in ► **Table 1**. There was a difference in the presentation category of the American congress with 87.2% of the abstracts presented as posters compared with 54.2% in the Brazilian congress ( $p < 0.001$ ). The performance of statistical analysis was significantly higher in the American event, of 73.7%, compared with 34.1% for the Brazilian congress ( $p < 0.001$ ).

**Table 1** Comparative analysis of the variables of the ASCRS and SBCP congresses

Variables		ASCRS		SBCP		p-value
		N	%	N	%	
Category	Oral	67	12.8%	151	45.8%	< 0.001
	Poster	457	87.2%	179	54.2%	< 0.001
Subject (described in the journal)	Colonoscopy	7	1.3%	26	7.9%	< 0.001
	Benign anorectal diseases	33	6.3%	34	10.3%	0.034
	Pelvic floor diseases/intestinal and anorectocolic physiology	26	5.0%	32	9.7%	0.007
	Inflammatory bowel diseases	51	9.7%	45	13.6%	0.079
	Malignant and premalignant diseases of the colon/rectum and anus	240	45.8%	114	34.5%	0.001
	Sexually transmitted disease	1	0.2%	5	1.5%	0.024
	Experimental studies in coloproctology	3	0.6%	3	0.9%	0.566
	Miscellaneous	163	31.1%	71	21.5%	0.002
University-affiliated authors	Not specified	10	1.9%	0	0.0%	0.012
	No	234	44.7%	161	48.8%	0.238
	Yes	280	53.4%	169	51.2%	0.526
Number of authors	1–3	124	23.7%	10	3.0%	< 0.001
	4–5	146	27.9%	34	10.3%	< 0.001
	≥ 6	254	48.5%	286	86.7%	< 0.001
Study design	Randomized clinical trial	5	1.0%	0	0.0%	0.075
	Experimental Studies	19	3.6%	6	1.8%	0.127
	Others	8	1.5%	3	0.9%	0.436
	Prospective	118	22.5%	60	18.2%	0.129
	Case report	7	1.3%	148	44.8%	< 0.001
	Retrospective	355	67.7%	96	29.1%	< 0.001
	Literature review without systematic review	4	0.8%	1	0.3%	0.391
	Systematic review	5	1.0%	6	1.8%	0.276
	Case series	3	0.6%	10	3.0%	0.004
Multicentric	No	403	76.9%	325	98.5%	< 0.001
	Yes	121	23.1%	5	1.5%	< 0.001
Performance of statistical analysis	No	136	26.3%	120	65.9%	< 0.001
	Yes	381	73.7%	62	34.1%	< 0.001

Abbreviations: ASCRS, American Society of Colon & Rectal Surgeons; SBCP, Sociedade Brasileira de Coloproctologia (Brazilian Society of Coloproctology).

Note: Analysis performed using the test for the equality of two proportions.

There were more multicenter studies in the American congress (23.1% versus 1.5% for the Brazilian congress;  $p < 0.001$ ), and a lower prevalence of case reports (1.3%) compared to the Brazilian congress (44.8%;  $p < 0.001$ ). In Brazil, more retrospective papers were presented ( $p < 0.001$ ).

The distribution of the groups of authors was more uniform in the American event, with a lower prevalence of groups of fewer authors (1 to 3: 23.7%; 4 to 5: 27.9%); in Brazil, the groups of  $\geq 6$  authors were more prevalent (86.7%).

The conversion rate was of 24.2% in the ASCRS congress compared with the rate of 10.6% for the SBCP event.

The number of works presented and that had already been published before the conferences in question was significantly lower in the American event (7.9%; Brazil: 31.4%).

The number of databases in which the publications were indexed was  $\geq 6$  in 89.8% of the American articles, while in Brazil 62.9% of the articles were indexed on 4 to 5 databases. The differences between each of the analyzed databases are described in **Table 2**. Almost all (93.7%) of the papers from the American congress have citations, while only 68.6% of the Brazilian papers have them.

**Table 2** Comparative analysis of the abstracts presented in the ASCRS and SBCP congresses that were published as full articles

Variables		ASCRS		SBCP		p-value
		N	%	N	%	
Published	No	397	75.8%	295	89.4%	< 0.001
	Yes	127	24.2%	35	10.6%	< 0.001
Time between presentation and publication (months)	Previous	10	7.9%	11	31.4%	< 0.001
	< 12	64	50.4%	10	28.6%	0.022
	12–24	29	22.9%	12	34.3%	0.111
	$\geq 25$	24	18.9%	2	5.7%	0.06
Indexation databases (n)	1–3	7	5.5%	2	5.7%	0.963
	4–5	6	4.7%	22	62.9%	< 0.001
	$\geq 6$	114	89.8%	10	28.6%	< 0.001
MEDLINE	No	18	14.2%	20	57.1%	< 0.001
	Yes	109	85.9%	15	42.9%	< 0.001
LILACS	No	126	99.3%	14	40.0%	< 0.001
	Yes	1	0.8%	21	60.0%	< 0.001
SciELO	No	124	97.7%	15	42.9%	< 0.001
	Yes	3	2.4%	20	57.1%	< 0.001
Web of Science	No	37	29.3%	26	74.3%	< 0.001
	Yes	90	70.9%	9	25.7%	< 0.001
Scopus	No	20	15.8%	3	8.6%	0.443
	Yes	107	84.3%	32	91.4%	0.281
Study design	Randomized clinical trial	2	1.6%	0	0.0%	0.455
	Experimental Studies	6	4.7%	3	8.6%	0.379
	Others	2	1.6%	0	0.0%	0.455
	Prospective	28	22.0%	9	25.7%	0.647
	Case report	3	2.4%	10	28.6%	< 0.001
	Retrospective	83	65.4%	12	34.3%	< 0.001
	Systematic review	2	1.6%	0	0.0%	0.455
	Case series	1	0.8%	1	2.9%	0.326
Performance of statistical analysis	No	13	11.8%	6	24.0%	< 0.001
	Yes	109	89.3%	19	76.0%	< 0.001
Citations	No	8	6.3%	11	31.4%	< 0.001
	Yes	119	93.7%	24	68.6%	< 0.001

Abbreviations: ASCRS, American Society of Colon & Rectal Surgeons; SBCP, Sociedade Brasileira de Coloproctologia (Brazilian Society of Coloproctology).

Note: Analysis performed using the test for the equality of two proportions.

## Discussion

Both societies evaluated in the present study are among the largest in number of affiliated members in the world, and promote two congresses of great importance for the growth of professionals in the field, as well as resident and undergraduate physicians. The presence of international authors is much higher in the ASCRS event than in the SBPC event.

However, a comparative evaluation of the events is unprecedented in both countries and in the literature. The only two published studies appraising meetings in the field of coloproctology (none of which compares two colorectal societies) refer to the United Kingdom society, with a conversion rate of 24.3% when evaluating a single edition of the congress (2001), and the Turkish society, with a conversion rate of 22.6% regarding the evaluated abstracts from four editions of the congress, held between 2003 and 2011.<sup>14,15</sup>

In the current analysis, of the 524 abstracts presented in the American Congress, 127 (24.2%) were published, which is a rate 2.5 times higher than that of the Brazilian Congress (35/330; 10.6%). These data show that much of the scientific content produced in coloproctology is restricted, never reaching the international scientific community.

The conversion rate is an important tool to evaluate the quality and scientific level of the congress in question and varies substantially according to each specialty, but it is not the only indicator of those characteristics, for those events also involve seminars, lectures and other educational and scientific activities that can also serve as indicators.<sup>16,17</sup>

In Brazil, studies that evaluated scientific events involving surgery found different conversion rates: oncology – 16.9%;<sup>18</sup> vascular surgery – 6.3%;<sup>19</sup> orthopedics – 26.6%;<sup>20</sup> general surgery – 2.6%;<sup>21</sup> urology – from 39% to 51.3%;<sup>11,22</sup> and trauma – 2.9%.<sup>23</sup> In other countries, the conversion rate in the field of surgery is higher, and one of these evaluations<sup>24</sup> found that 44% of the papers selected for oral presentation at a Canadian congress of vascular surgery were published in journals with an average impact factor of 2.7. Another recent analysis<sup>25</sup> demonstrated, in different medical specialties, abstract conversion rates ranging from 11% to 78%.

Both congresses assessed are below average regarding the conversion rate. Two Cochrane database systematic reviews<sup>9,17</sup> consistently evaluated conversion rates. The first one<sup>9</sup> (2007) evaluated 29,729 international abstracts from different medical areas, 44.5% of which were published.<sup>9</sup> In the other analysis,<sup>17</sup> published in 2018 307,028 abstracts were evaluated, and the authors reported a drop in the overall conversion rate to 37.3%. Previous papers<sup>9,18,26</sup> have extensively studied the many reasons that explain the low conversion rate, such as difficulties to publish involving costs, lack of time, problems with co-authors, incomplete studies, and lack of resources and financial support by national governments or the specialty societies themselves. That said, and observing the conversion rate in other studies including coloproctology congresses, we can hypothesize that publishing is not the aim of most coloproctology society members and it is not part of the culture of the participants of these specialty meetings.<sup>14,15</sup>

In Brazil, it is known that most scientific papers presented in medical conferences are not published in indexed journals.<sup>27</sup> Fernandes et al.<sup>21</sup> showed that the low rate of indexation of Brazilian publications compared with congresses abroad may be related to: publication of papers not indexed, mainly at the national level; presentation of the most relevant works in international and more important congresses; less rigor in accepting abstracts; works by authors not affiliated to universities; presentation of preliminary results. Other issues pertaining to lower-income countries, such as financial constraints, lack of institutional incentive, and lack of technical support, can also hinder the scientific publication of recently completed research.<sup>28</sup>

The present study also demonstrates that the level of evidence of the papers presented in the SBPC congress is low, with a predominance of case reports and retrospective papers when compared with the American event. The reasons to accept more papers with a certain study design than others are not explicit on the annals or submission process of either congress. We could hypothesize that the organizers of these events wish to attract as many participants as possible. Since low-evidence studies do not require actual research experience and knowledge and are less time-consuming than those with a high level of evidence, they could be performed and presented by academics and residents, inflating the number of conference attendants. Additionally, they can be easily presented as posters, which demands occupying less time, physical space and conference structure, as well as available reviewers, which, in turn, reduce the costs and increase the profits with the event.

However, these factors could also directly affect the conversion rate, as case reports are not welcome in reputable international journals indexed in international databases and with a high impact factor. There are journals specialized in publishing this type of study, most of them involving fees and with low impact factor.

In addition, although, as part of our methodological analysis, case reports were not included in the evaluation of the performance of statistical analyses, the rate of abstracts containing statistical analyses in the Brazilian congress was significantly lower (34.1%) compared with that of the American congress (73.7%), which could contribute to lower the scientific value of their presentations.<sup>29</sup>

Among the published studies, papers from the American congress were more cited (119 citations; 93.7%) in the literature compared with those from the Brazilian Congress (24 citations; 68.6%). The quantification of the number of citations to a scientific article has been a crucial criterion to determine its impact factor and resulting estimated influence within the scientific community.<sup>30</sup>

Furthermore, most journals with a high impact factor charge a fee (often prohibitive) to publish full articles. Regarding the different economic contexts, with the exchange rate disparity between Brazil and developed countries such as the United States, these values become even more absurd. Thus, most articles presented in the Brazilian Congress are published in national journals that have a lower



impact factor. We believe that these costs can directly impact not just the publication rate, but also the number of citations.

The present study contributes to the evaluation and diagnosis of the scientific quality of these important events of Brazilian scientific societies in comparison with events held by international societies. The findings go beyond the field of coloproctology, as they propose a reflection on the evaluation criteria of abstracts presented in conferences and the purpose of these papers. It is important to evaluate and compare events in other medical fields, to better estimate the problem. Moreover, efforts are needed to understand the barriers to publication and, therefore, facilitate the rapid dissemination of new knowledge, thus increasing the quality and volume of Brazilian publications. Promoting wider dissemination of the knowledge presented in these two important coloproctology conferences will benefit not only researchers but patients as well.

## Limitations

When describing the scientific performance of these congresses, the comparative analysis with the American event included only the abstracts presented in 2016, therefore, it is a sample view of the situation.

Both congresses have their own characteristics, such as different types of participants, and the fact that the ASCRS event counts with the involvement of the entire international community, while the Brazilian congress has with fewer international participants. These differences could call into question the purpose of a comparison between both meetings, even though they are the two largest congresses in the field of coloproctology worldwide.

Also, none of the events show specific criteria to approve or disapprove an abstract, accept or refuse certain study designs, and both provide scarce information on the peer review process at the submission platform. Assuming they could follow different criteria or objectives to select abstracts, that could affect the comparison of the conversion rates; however, this still does not mitigate the low conversion rate compared to that of other specialties, as shows the literature cited in the present study.

## Conclusion

The present study showed that the scientific performance is below ideal, mainly in relation to the Brazilian congress. Among the factors that contribute to this are the fact that the American congress, studies with a higher level of evidence and the performance of statistical analysis are more prevalent.

### Conflict of Interests

The authors have no conflict of interests to declare.

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