REVISTA CEFAC
SPEECH, LANGUAGE, HEARING SCIENCES AND EDUCATION JOURNAL
Rev. CEFAC. 2022;24(1):e11921 https://doi.org/10.1590/1982-0216/202224111921

Original articles

Citations of Brazilian manuscripts published in the journal *Dysphagia* from 2001 to 2020

Roberto Oliveira Dantas[1]
https://orcid.org/0000-0003-2183-0815

Weslania Viviane Nascimento[2]
https://orcid.org/0000-0003-1267-3475

[1] Universidade de São Paulo, Faculdade de Medicina de Ribeirão Preto – FMRP/USP, Ribeirão Preto, São Paulo, Brasil.

[2] Universidade Autônoma de Barcelona, Laboratório de Fisiologia Gastrointestinal, Hospital de Mataró, Mataró, Espanha.

Study conducted at the Medical School of Ribeirão Preto, of the Universidade de São Paulo, Ribeirão Preto, São Paulo, Brazil.

Conflict of interests: Nonexistent

Received on: December 21, 2021
Accepted on: April 26, 2022

Corresponding address:
Roberto Oliveira Dantas
Faculdade de Medicina de Ribeirão Preto - Universidade de São Paulo
Avenida Bandeirantes, 3900 - Campus da USP
CEP: 14049-900 - Ribeirão Preto, São Paulo, Brasil
E-mail: rodantas@fmrp.usp.br

ABSTRACT

Purpose: to compare the number of citations in papers conducted in Brazil and published in the journal *Dysphagia* between 2001 and 2020 with that of papers conducted in other countries and published in the same number, volume, and year.

Methods: in September 2021, the study assessed the number of citations received by Brazilian papers (n = 34) and reference group papers – which counted two for every Brazilian one (n = 68), published in the same number, volume, and year, between 2001 and 2020.

Results: Brazilian papers published in the period had a lower mean number of citations (14.6) than those in the reference group (23.1, $p = 0.01$). From 2001 to 2010, the mean number of citations in the reference group (31.1) was greater than that of the Brazilian papers (16.7, $p = 0.03$), though not between 2011 and 2020 (Brazilians: 13.1, reference group: 17.5, $p = 0.23$). Two Brazilian papers (5.9%) and 18 from other countries (26.5%) received more than 30 citations between 2001 and 2020.

Conclusion: the results suggest that the number of citations received by Brazilian papers is not influenced by the time since they have been published, unlike the papers in the reference group.

Keywords: Bibliometrics; Research; Science; Swallowing Disorders

INTRODUCTION

Given the current rapid increase in knowledge, it is essential to have good diagnosis and treatment practices for the various situations that impair health and well-being. Research is important to develop evidence-based practices.

Dysphagia is the manifestation of difficulties in swallowing or changes in swallowing safety and efficiency – an increasingly prevalent situation in the population[1-3]. Over the last decades, methods to ensure better diagnosis and treatment have been developed[4,5], greatly stimulating research to validate them and significantly increasing publications on the topic[6]. In Brazil, the postgraduation system has considerably contributed to such an increase.

Brazil is the largest country in South America, where a large portion of the continent's population lives. Hence, Brazilian health researchers are expected to help clarify the problems that most afflict this population.

The increasing importance given to research on dysphagia is mainly due to the growing number of older people, greater survival of patients with neurological diseases, and better recovery of those submitted to head and neck surgeries. Accordingly, such specialized research is expected to grow in number and importance.

Two indicators, possibly not the only ones, portray this importance: 1) the number of published papers on dysphagia and 2) the frequency with which these papers are cited in the specialized literature. There is a meaningful amount of research published by Brazilians in the literature on dysphagia[7,8], although its impact in terms of citations has not been properly studied yet.

Dysphagia is an international, high-prestige, multidisciplinary journal specializing in dysphagia. It is an official organ of the Dysphagia Research Society (DRS), European Society for Swallowing Disorders (ESSD), and Japanese Society of Dysphagia Rehabilitation (JSDR), with an impact factor of 3.438 in 2021.

This investigation aimed to assess how many times papers conducted in Brazil and published between 2001 and 2020 in the journal *Dysphagia* were cited in the literature over the first 20 years of the 21st century (2001-2020), comparing the results with the number of citations in papers conducted in other countries and published in the same number, volume, and year. Considering abstracts presented in congresses held by the Dysphagia Research Society between 2001 and 2011[9], which show the growing participation of Brazilians, the hypothesis is that there is a significant number of citations received by Brazilian research published in the journal *Dysphagia*.

METHODS

This investigation is a bibliometric assessment of articles published in the journal *Dysphagia*.

Identification of Brazilian articles

Issues of *Dysphagia* were searched to identify the papers conducted in Brazil and published in the journal between 2001 (volume 16) and 2020 (volume 35).

Identification of papers from other countries (reference group)

The number of citations (Web of Science) received by each Brazilian paper was recorded; this information is available on the journal's website. The same was done for papers published in the same number, volume, and year – one immediately before and another immediately after the Brazilian paper. Hence, two papers from other countries were included in the investigation for each Brazilian paper. The non-Brazilian group was called the reference group.

Inclusion and exclusion criteria

Only original and review papers were included, while case studies and letters to the editor were excluded.

Number of citations

The number of citations received by each paper (Web of Science) in both the Brazilian and reference groups was assessed based on information available on the journal's website. Data on the number, volume, and year of publication were also recorded. All data were collected on September 8, 2021.

Data comparison

Overall data analysis compared the mean and standard deviation of the number of citations received by Brazilian papers with the mean and standard deviation of those received by the reference group in the 20 years of analysis (2001-2020).

To observe the impact in each decade, the mean number of citations received by the papers in the first 10 years of the 21st century (2001-2010) was compared with such a mean value in the following 10 years (2011-2020).

Moreover, the number of citations per paper in every five volumes was compared in the two groups, as well as the percentage distribution of citations in relation to the total citations in the two groups.

Statistical analysis

The statistical analysis was made with the regression model with a negative binomial distribution, considering two factors (group and period)[10], as the response was an overdispersed count (variance greater than the mean). Differences with $p \leq 0.05$ were considered significant. Results were presented as mean, standard deviation, median, and percentage of total citations.

RESULTS

A total of 34 papers conducted in Brazil were published between 2001 and 2020. By September 8, 2021, these papers had been cited 496 times (14.6 citations per article). The 14 papers published in the first decade (2001 to 2010) received 234 citations (16.7 citations per article), while the 20 publications of the second decade (2011 to 2020) received 262 citations (13.1 citations per article) (Table 1).

Only one Brazilian paper (published in 2020) had no citations at all. In the reference group, four papers (published in 2001, 2008, 2019, and 2020) had not been cited once (zero citations).

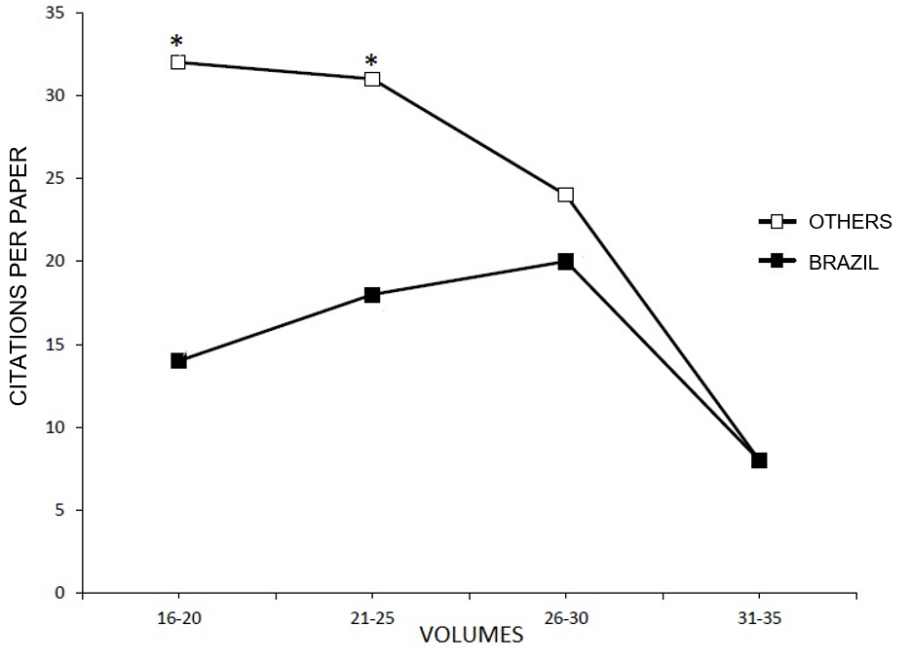
Table 1. Citations received by papers conducted by both Brazilian and non-Brazilian researchers in the reference group, published in the journal *Dysphagia* between 2001 and 2020

	BRAZIL		REFERENCE		p
	Mean (SD)	Median	Mean (SD)	Median	
2001-2020	14.6 (9.8)	14.0	23.1 (20.3)	20.5	0.01
2001-2010	16.7 (7.2)	14.0	31.1 (21.5)*	28.0	0.03
2011-2020	13.1 (11.2)	12.5	17.5 (17.7)	14.5	0.23

SD – standard deviation
* p = 0.02 vs. 2011-2020
Regression model with a negative binomial distribution[10]

The papers used as a reference (n = 68) were from the United States of America (n = 24), Canada (n = 7), the United Kingdom (n = 7), Japan (n = 6), France (n = 4), Australia (n = 4), Iran (n = 2), the Netherlands (n = 2), Singapore (n = 2), and Ireland, Germany, Taiwan, Belgium, Poland, China, Egypt, Turkey, Slovakia, and Thailand (with one paper each).

The mean number of citations received by the reference papers was higher than that of Brazilian papers ($p = 0.01$, Table 1). Comparison results indicate a difference between 2001-2010 and 2011-2020 between papers in the reference group ($p = 0.02$), though not between the Brazilian papers ($p = 0.45$, Table 1 and Figure 1).



Regression model with a negative binomial distribution[10].

Figure 1. Number of citations per paper published in the journal *Dysphagia* in every five volumes, from volume 16 (2001) to volume 35 (2020), conducted by researchers from Brazil (■) and other countries (□). *p < 0.05 vs. Brazil

The number of citations per paper in every five volumes is shown in Figure 1, demonstrating that the reference group received more citations than the Brazilian group between 2001 (volume 16) and 2010 (volume 25) ($p = 0.03$). On the other hand, there was no difference between 2011 (volume 26) and 2020 (volume 35) ($p = 0.23$).

The percentage distribution of citations is presented in Figure 2. The most cited Brazilian paper received 41 citations. Two Brazilian papers (5.9%) and 18 papers in the reference group (26.5%) received more than 30 citations. Of the Brazilian papers, 62% received 10 or more citations, similar to the result obtained by the reference group (66%).

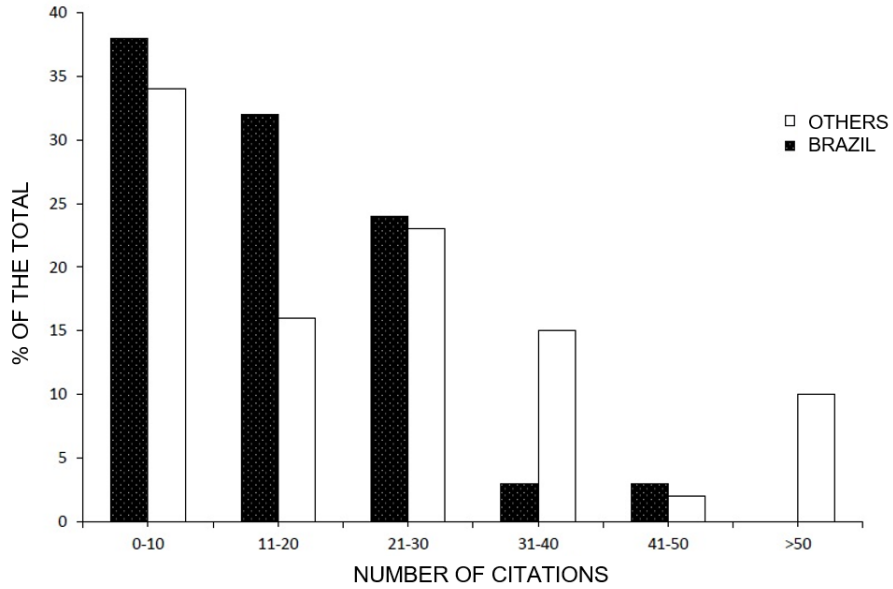


Figure 2. Percentage distribution of the number of citations received by papers published in the journal *Dysphagia*, from volume 16 (2001) to volume 35 (2020), conducted by researchers from Brazil (■) and other countries (□)

DISCUSSION

Comparison results between the two groups show that papers conducted in other countries received more citations in the study period. On the other hand, the percentage distribution is not quite different between more recent papers in the two groups. One fact that stands out is that 10% of papers from other countries received more than 50 citations, whereas up to then no Brazilian paper had received as many. Some non-Brazilian papers reached a rather high number of citations, even above 100, which did not happen to Brazilian ones, whose maximum number of citations received by a single paper up to the day of the analysis was 41.

Figure 1 also shows that non-Brazilian papers in volumes 16 to 25 of the journal received more citations, whereas since volume 26 (2011) this number is pretty similar between the two groups. This indicates that older papers conducted in other countries are more likely to be recurrently cited over the years, while the Brazilian ones receive a fairly stable number of citations for some time after publication, which however does not increase in the long run. If this hypothesis is true, it would point to the possibility that Brazilian papers published quite some years ago are no longer cited as often as papers from other countries – which could be clarified by assessing the papers in two moments, verifying the growth in the number of citations in the two groups over a time interval.

It is possible and desirable that Brazilian papers published more than 5 years ago continue to be cited, thus demonstrating their importance. The number of citations per article (14.6) is quite good, possibly greater than various countries that were included in the reference group if they had been individually analyzed. Another good indicator is that 62% of the Brazilian papers received 10 or more citations.

The Brazilian papers included in this study represent almost the totality of those published in the journal *Dysphagia*. Only one had been published before 2001[8]; all others were published in the 21st century.

This paper has limitations. As previously mentioned[8], only one journal was consulted. Even though it is a high-prestige journal, specializing in dysphagia, it is not the only one that publishes papers on this topic. The results represent the moment of assessment (September 2021) and can change with time – though they are not expected to be different in the short run. Brazilian research may have a greater impact over a longer period. Another limitation is that self-citations were not assessed, which may significantly impact the interpretation of the number of citations.

It is important to contribute to the acquisition of new scientific knowledge[11], more specifically that on dysphagia. Accepted papers awaiting publication, as well as others that may be accepted in the future, can accomplish this task.

Had the reference group been assessed per country, rather than approached as a group, the number of citations received by Brazilian papers might have surpassed that of countries more developed than Brazil. The understanding is that Brazil occupies a prominent place in dysphagia research, as 62% of the papers published in the period received 10 or more citations – which is similar to that of other countries (66%). Reaching further ambitious goals would require commitment, determination, and resources. Certainly, commitment and determination to play such a prominent role characterize the behavior of Brazilian researchers.

CONCLUSION

The results suggest that the number of citations received by Brazilian papers on dysphagia is not influenced by the time since they have been published, unlike the papers in the reference group.

REFERENCES

1. Takizawa C, Gemmell E, Kenworthy J, Speyer R. A systematic review of the prevalence of oropharyngeal dysphagia in stroke, Parkinson's disease, Alzheimer's disease, head injury, and pneumonia. Dysphagia. 2016;31(3):434-41.
2. Leslie P, Smithard DG. Is dysphagia under diagnosed or is normal swallowing more variable than we think? Reported swallowing problems in people aged 18-65 years. Dysphagia. 2021;36(5):910-8.
3. Dziewas R, Beck AM, Clave P, Hamdy S, Heppner HJ, Langmore S et al. Recognizing the importance of dysphagia: stumbling blocks and stepping stones in the twenty-first century. Dysphagia. 2017;32(1):78-82.
4. O'Horo JC, Rogus-Pulia N, Garcia-Arguello L, Robbins J, Safdar N. Bedside diagnosis of dysphagia: a systematic review. J Hosp Med. 2015;10(4):256-65.

5. Soar N, Birns J, Sommerville P, Lang A, Archer S. Approaches to eating and drinking with acknowledged risk: a systematic review. Dysphagia. 2021;36(1):54-66.
6. Dantas RO. Research on dysphagia in the 21st century. Front Gastroenterol Hepatol. 2021;1(1):101.
7. Rodrigues LKV, Pernambuco L. Scientific production on oropharyngeal dysphagia in elderly in Brazilian journals: a bibliometric analysis. Disturb. Comum. 2017;29(3):529-38.
8. Dantas RO, Nascimento WV. Brazilian manuscripts published in the Dysphagia journal. Rev. CEFAC. 2021;23(2):e0821.
9. Plowman EK, Mehdizadeh O, Leder SB, Martino R, Belafsky PC. A bibliometric review of published abstracts presented at the Dysphagia Research Society: 2001-2011. Dysphagia. 2013;28(2):123-30.
10. Cameron AC, Trivedi PK. Regression analysis of count data. New York, Cambridge Press, 1998.
11. Adams J, Pendlebury D, Potter R, Szomszor M. Global Research Report – América Latina: América do Sul e Central, México e Caribe. Clarivate: Institute for Scientific Information, 2020.