

DENTAL RESEARCH PRODUCTIVITY IN ARGENTINA (1993 TO 2003)

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ABSTRACT

The scientific presentations at the annual meetings of the Argentine Division of the I.A.D.R. (S.A.I.O.) are proof of the scientific production of this country in dental research.

Our annual meetings provide a forum for the rapid communication and discussion of research. However, only peer-reviewed articles, published in journals indexed in worldwide-accepted databases such as MEDLINE are permanent records of the research work and can reach out to a global audience. A useful indicator of quality and publication efficiency of research work is the rate of publication (RP), i.e. relationship between the quantity of presentations and subsequent publications in peer-reviewed journals. Previous works analyzed the two periods: 1980-1989 and 1990-1995 (*Acta Odont. Latinoamer* 7(2):39-46, 1993 and *Acta Odont. Latinoamer* 10(1):63-69, 1997).

The aim of this work was to update the information and study the publication rate of national Dental research works.

The 1669 works produced by national research centers presented at the Annual Meetings of the S.A.I.O. from 1993 to 2003

were evaluated. Employing the authors' index of the programs of the Annual Meetings of the S.A.I.O. we searched for possible publications in MEDLINE. The references obtained were compared with the presentations (title and authors) disregarding those that had not been communicated previously at our Division meeting. Presentations and the corresponding publications were grouped according to research center and within each center according to subject area. The following parameters were obtained: PR, time between Presentation and publication and language of publication.

PR increased in 1993-2003 (1/4.8, 20.79%) when compared to the periods studied previously (1/8, 12%). Most of the publications were in English and had been published within 4 years after presentation.

The increase in the number of S.A.I.O. presentations published in peer-reviewed journals shows an improvement in terms of research productivity in dental research in Argentina.

Key Words: dental research, scientific meetings.

PRODUCCIÓN CIENTÍFICA EN LA INVESTIGACIÓN ODONTOLÓGICA EN ARGENTINA (1993 - 2003)

RESUMEN

La investigación odontológica del país esta representada por los trabajos presentados en la Reunión Anual de la División Argentina de la I.A.D.R.. La presentación de trabajos de investigación en reuniones científicas permite la comunicación rápida y su discusión entre pares. Sin embargo, la divulgación global efectiva y útil para toda la comunidad médico-odontológica sólo se obtiene mediante la publicación de los trabajos en revistas científicas indizadas en bases de datos bibliográficas especializadas como el MEDLINE de la Biblioteca Nacional de Medicina de los Estados Unidos. Los resúmenes de presentaciones generalmente no incluyen información suficiente para juzgar la calidad y validez de un trabajo a diferencia de las publicaciones en forma completa en revistas con referato. Un indicador útil para estimar la calidad y efectividad de divulgación de la producción científica es la Tasa de publicación (relación entre la cantidad de presentaciones y las publicaciones posteriores) en revistas con referato. En trabajos anteriores se evaluaron los períodos comprendidos entre 1980-1989 y 1990-1995 (*Acta Odont Latinoamer* 7(2) :39-46, 1993 y *Acta Odont Latinoamer* 10(1):63-69, 1997).

El objetivo de este trabajo ha sido actualizar dicha información y evaluar la evolución de la tasa de publicación en el área de investigación odontológica argentina. Con ese fin se consideraron los 1669 trabajos de centros de investigación nacionales presentados en las reuniones anuales de la S.A.I.O. en el período 1993-2003. A partir del listado de autores se rastrearon mediante PubMed las posibles publicaciones. Se compararon las citas obtenidas con los datos de las presentaciones, se agruparon según Centro de investigación y área de desarrollo. Se obtuvo la TP, se calculó el tiempo transcurrido entre la presentación y la publicación de los trabajos y se consideró el idioma de publicación.

Se observó un marcado aumento de TP con respecto a los períodos anteriormente analizados. La mayoría de las publicaciones se hicieron en inglés y dentro de los 4 años post presentación.

El aumento en el número de publicaciones sometidas a juicio de expertos de los trabajos presentados en las reuniones de la S.A.I.O. evidencia una mejora en la producción científica de la investigación odontológica argentina.

Palabras Clave: investigación odontológica, reuniones científicas.

INTRODUCTION

The scientific presentations at the Annual Meetings of the Argentine Division of the International Association for Dental Research (S.A.I.O.) are proof of the scientific production of this country in dental research. These meetings provide an excellent forum for the rapid communication and discussion of the results of current dental research.

However, the global dissemination of this information, which makes it useful for the whole medical community only becomes effective after publication in peer-reviewed journals indexed in worldwide-accepted databases such as MEDLINE.

Also, presentations and abstracts on their own may not provide enough information to judge the quality and validity of a study, unlike the full text of a published article (1).

A useful indicator of quality and publication efficiency of research work is the rate of publication (PR), i.e. relationship between the quantity of presentations and subsequent publications in peer-reviewed journals. Previous works analyzed the two periods: 1980-1989 and 1990-1995 (2,3).

The aim of this work was to update the information and study the publication rate of Argentine dental research works.

MATERIAL AND METHODS

The 1671 research works produced by national research centers presented at the Annual Meetings of the Argentine Division of the International Association for Dental Research (S.A.I.O.) from 1993 to 2003 were evaluated. Employing the authors' index of the programs of the Annual Meetings of the S.A.I.O. we searched for possible publications in MEDLINE by means of the PUBMED search engine. The obtained references were compared with the presentations (title and authors) disregarding those that had not been communicated previously at our Division meeting. When discrepancies were detected, the contents of the abstract of the journal article were compared with the abstract of the presentations published in the program of the annual meeting.

Presentations and the corresponding publications were grouped according to research center and within each center according to subject area.

The following parameters were studied: Publication Rate (PR = publication/presentation), time between presentation and publication and language of publication.

RESULTS

A total 1671 research works were presented by national research groups at the Annual Meetings of the S.A.I.O. held between 1993 and 2003, 489 of which were published, yielding an overall PR of 1/3 (29%). Considering each center individually, the PR was 1/3 (39%) for the University of Buenos Aires (UBA), 1/4 (28%) for the National University of Cordoba (UNC), 1/4 (22%) for the National University of Tucuman (UNT), 1/6 (17%) for the National University of Rosario (UNR), 1/10 (9%) for the National University of La Plata (UNLP) and 1/4 (10%) for the National University of the North-East (UNNE). Table I shows the distribution of PR according to research center and subject. PR increased in 1993-2003 when compared to the periods studied previously (1/8, 12%). The preponderant language of publication was English (98%) (Fig. 1). Most of the articles were published within 4 years after presentation, 82% within 2 years and 47% within 1 year after presentation (Fig. 2).

DISCUSSION

Scientific research is recognized as one of the cornerstones of economic growth and development in the developed world and appears to be gaining momentum for the economic development in other less developed areas. The recognized goal of scientific research is either the improvement of human well-being *via* advancement of knowledge or the mere satisfaction of the human "need to know". Unless the information generated by such research activity is available for critical review and further refinement, this goal cannot be reached (4).

The scientific community operates within an overarching paradigm, which places a significant weight on peer reviewed journals indexed in worldwide-accepted databases.

Analysis of scientific research in biomedical fields is a complex process and no methodology that fully satisfies the needs of researchers, institutions and administrators has been developed to date. Publication analysis is one of the most widespread approaches but has also drawn the most criticism because it does not cover the entirety of scientific production (5). It is worth mentioning that there are some reports in the area of Epidemiology and Prevention, of importance to dental and medical practitioners which are not indexed in MEDLINE and have therefore been excluded from this study

TABLE I: Presentations and publications grouped according to research center and subject (1993 - 2003).

AREA	U.B.A.			U.N.C.			U.N.T.			U.N.R.			U.N.L.P.			U.N.N.E.			Others		
	Pres.	Pub.	PR	Pres.	Pub.	PR	Pres.	Pub.	PR	Pres.	Pub.	PR	Pres.	Pub.	PR	Pres.	Pub.	PR	Pres.	Pub.	PR
Dental Materials/ Restorative Dentistry	119	25	1/5	60	1	1/60	11	3	1/4	0	0	0	8	0	0	0	0	0	8	0	0
Endodontics/ Periodontics/ Surgery / Radiology	59	16	1/4	61	17	1/4	44	20	1/2	9	4	1/2	20	0	0	3	0	0	9	0	0
Microbiology	48	26	1/2	20	11	1/2	67	15	1/4	13	4	1/3	6	1	1/6	1	0	0	3	0	0
Pharmacology	27	21	1/1	3	1	1/3	2	0	0	13	3	1/4	3	0	0	1	0	0	2	0	0
Physiology / Biochemistry/ Biophysics	102	62	1/2	24	16	1/2	40	11	1/4	1	0	0	1	1	1/1	11	5	1/2	5	3	1/2
Pathology	145	86	1/2	41	9	1/5	16	4	1/4	1	0	0	11	0	0	0	0	0	5	1	1/5
Clinical Pathology	52	15	1/3	25	14	1/2	4	0	0	0	0	0	12	6	1/2	3	0	0	3	1	1/3
Histology	51	23	1/2	54	18	1/3	19	8	1/2	4	0	0	15	3	1/5	0	0	0	1	0	0
Epidemiology/ Prevention/ Dental Education	97	10	1/10	33	7	1/14	83	6	1/14	11	0	0	54	1	1/54	5	1	1/5	17	1	1/17
Orthodontics/ Prosthetics	12	2	1/6	10	0	0	16	1	1/16	12	0	0	8	1	1/8	0	0	0	0	0	0
Pediatric dentistry	34	5	1/7	3	0	0	6	0	0	0	0	0	0	0	1	0	0	3	0	0	
TOTAL	746	291	1/3	334	94	1/4	308	68	1/4	64	11	1/6	138	13	1/10	25	6	1/4	56	6	1/9

Pres.= Presentations, Pub.= Publications., U.B.A.= University of Buenos Aires, U.N.C.= National University of Córdoba, U.N.L.P.= National University of La Plata, U.N.N.E.= National North-East University, U.N.T.= National University of Tucumán, U.N.R.= National University of Rosario. Others= include private universities and private research groups.

but/even though they undergo international reviews by severely critical committees such as those from the World Health Organization and the Pan-American Health Organization.

Previous reports on the evaluation of dental research in Argentina (2-3) showed that the PR was acceptable, particularly in the area of basic research, yet

lower than that reported by other international research centers. Comparing the results shown in the latter to those presented in this study, there has been a significant increase in the rate of conversion of presentation abstracts to full publications in peer-

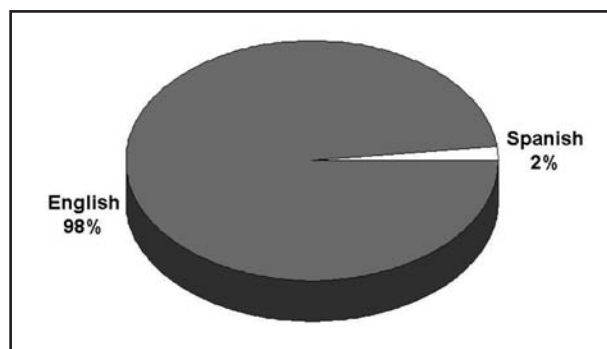


Fig. 1: Overall distribution of publications Language English /Spanish.

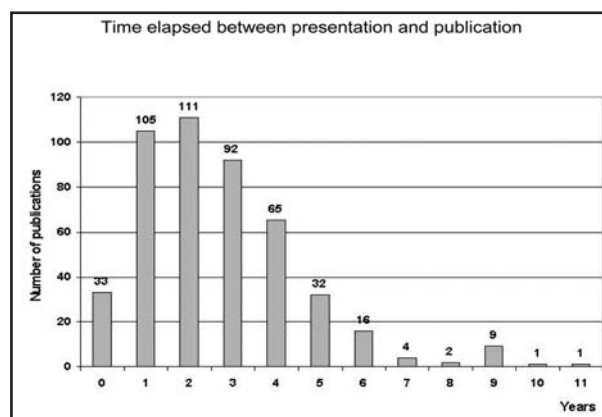


Fig. 2: Time elapsed between presentation and publication.

reviewed journals in both Basic and Clinical and Applied research areas.

Technological advances in computer science, communication, the growth of biotechnology, the spread of computerized information, and the availability of personal computers in combination with the development of the world wide web, constitute a few important factors that have offered new opportunities in recent years and

facilitate the performance of biomedical research by individuals or networks of scientists. It is of remarkable interest that almost all the papers were published in English thus allowing for global diffusion.

The increase in the number of S.A.I.O. presentations published in peer-reviewed journals shows an improvement in terms of research productivity in dental research in Argentina.

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