

# Dental Journals Evaluated by Selection of the Institute for Scientific Information (ISI) in the Period 2001 - 2003

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## Summary

*The object of the study was to identify dental journals which are "evaluated" by selection of the Institute for Scientific Information, Philadelphia, USA (ISI). They are listed in a special edition of ISI - Science Edition (SE) which is published in the Journal Citation Reports (JCR) of the aforementioned institute in the USA. Of the available indicators of "evaluation" of journals only Impact Factor (IF) was analysed - impact factor for dental journals from 2001 to 2003 (49 titles in 2001, 48 titles in 2002 and 46 titles in 2003). Reference of dental journals in the most important secondary sources for biomedicine was determined, and all titles are referred to in Current Contents and SCI. The data obtained can be used by scientists (publishing articles in "evaluated" journals) and libraries (building up a fund of scientific periodicals).*

**Key words:** *dental journals - ISI selection, dental journals - Impact factor, secondary databases.*

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## Introduction

Journals are considered the most important form of primary scientific periodicals and they play a decisive role in scientific activity, particularly in natural and applied sciences. They are the place for presentation of scientific information and an active factor in the conveyance and spreading of new knowledge. Journals, as primary scientific publications, are a reflection of the state of certain scientific disciplines, and scientific articles in journals are basic indicators of scientific and professional activity and a measure of the results achieved in a particular field of science (1).

Secondary publications enable easier orientation in the vast amount of scientific and professional

information. They are arranged according to the needs of the user, and differ according to the way in which primary sources are presented - bibliographic entry or bibliographic entry with abstract. The specificity of the cited databases is that with the bibliographic entry they give a list of all references referred to by the authors of articles (2).

First of all, some basic terms should be explained regarding the sources from which the data for this study were taken. Namely, the following secondary databases are important in the field of biomedicine: *Biological Abstracts* (BIOSIS), *Chemical Abstracts*, *Current Contents*, *Excerpta Medica*, *Abstracts Journals*, *Index Medicus/MEDLINE*, *Science Citation Index*, and for the field of dental science *Dental Abstracts* (3).

*Biological Abstracts*, BIOSIS, USA is the leading secondary source of scientific and professional literature for a wide area of biological science. It annually follows around 6000 journals from the whole world.

*Chemical Abstracts*, *Chemical Abstracts Service* (CAS), USA - give indexes and abstracts of journals and other relevant publications from that scientific discipline.

*Current Contents* (CC), ISI, USA - is published in seven sections of which the most important in the field of biomedicine are: CC/Life Sciences and CC/Clinical Medicine. It is published weekly and is characterised by high selectivity (evaluated by professionals for each field). Thus publishing a study in a CC covered journal is used as one of the criteria in scientific and/or teaching advancement. It is available in printed version (without abstracts) and online version (with abstracts) (4).

*Excerpta Medica*, *Excerpta Medica Communications* BV, The Netherlands - consists of 41 sections of which each covers one or more medical disciplines.

*Index Medicus*, National Library of Medicine, USA, from 1960 known as MEDLARS with the possibility of individual searching of MEDLINE database and other bases which form the National Library of Medicine.

MEDLINE is the bibliographic database produced by the National Library of Medicine (NLM). It contains over 8.5 million documents from more than 3600 journals, and 67% of the documents include an abstract. The time period of availability of a document is from 1966 up to today, with weekly updating.

*Dental Abstracts*, Mosby, Inc., USA. Gives abstracts of articles from more than 100 journals in the field of dentistry and medicine.

*Science Citation Index* (SCI) published by ISI, USA, and selection is based, with other factors, primarily on the citation of the journal, i.e. its IF.

ISI (*Institute for Scientific Information*, Philadelphia, USA) (3) provides citation indexes of scientific journals and publishes them in several forms (*Science Citation Index*, *Biotechnology Citation Index* ...). By use of statistical methods and compi-

lation of SCI over several years, publication of JCR was started in 1975 (5-6).

JCR is an ideal tool for analysis and comparison of scientific journals. Two editions exist: Science Edition and Social Science Edition. JCR offers several ways of ranking, evaluation and comparison of journals such as: impact factor, speed of citation index, halftime citation and halftime citing. Only IF dental journals were taken for this study (7-9).

Impact factor is the measure of frequency with which an "average article" of a journal is cited in one year. Each year IF is recalculated, and in this study recorded for 2001, 2002 and 2003. IF is a useful measure of the significance of the total frequency of citation. ISI stresses how the impact factor of a journal is a significant indicator only when journals which cover the same field of research are compared (10-12).

Ulrich's Periodical Directory is a bibliographic database in which there are 175 000 publications from the whole world, and which gives basic data on journals and databases in which they are referred (13).

## Method

1. The titles of journals with pertinent impact factors (IF) were taken from the journal Citation Reports (JCR) Institute for Scientific Information from Philadelphia (ISI) for 2001, 2002 and 2003, Science Edition (SE), in the field of *Dentistry*, *Oral Surgery and Medicine*.
2. For each journal the secondary sources in which they are referred were determined from ULRICH'S database.

## Results

### *Dental journals from JCR with IF from 2001 to 2003*

In JCR (SE) 49 dental journals were taken in 2001 (from the available number of 5748), 48 journals in 2002 (from available 5876), and 46 journals in 2003 (from available 5907). The results are presented in the Table 1.

IF for 2001 (column 3) starts from the highest 3,350 for J Dent Res to the lowest 0,198 for J Dent Child.

In 2002 the highest IF (column 4) was again the journal J Dent Res - 2,956 (lower than IF 2001), and the lowest IF Aust Dent J - 0,450 (out of a total number of 48 journals with IF). J Dent Child did not fulfil the set conditions for ISI selection. Thirty journals recorded increased IF, while 19 journals registered lower IF in 2002 compared to the previous year.

In 2003 J Dent Res had the highest IF (column 5 - 2,702 (although it was lower than the IF of 2001 and 2002. Aust Dent J had the lowest IF - 0,358 (out of a total number of 46 journals with IF). Twenty-one titles registered increased IF compared to the previous year and 25 titles had lower IF. Three titles did not fulfil the set criteria for ISI selection in that year: J Dent Child, Com Dent Health and Swed Dent J.

#### ***Secondary sources of data for dental journals from JCR***

Reference of journals was checked for the 49 titles in the attached table.

The number of journals according to the most important secondary sources is presented in Graph 1. All the selected dental journals from the ISI selection are in *Current Contents* and SCI. All apart from

*J Dent Child* are in MEDLINE, and 34 titles are referred in *Dental Abstracts*. Twenty-seven are referred in *Biological Abstracts*, 24 in *Chemical Abstracts* and 16 in *Excerpta Medica* (see Table - columns 6-11).

#### **In place of a conclusion**

The object of the study was to identify dental journals which are "evaluated" by selection of the Institute for Scientific Information, Philadelphia, USA (ISI).

From JCR IF was registered for 49 dental journals in 2001, 48 in 2002 and 46 in 2003.

High reference was determined for the above dental journals in the most important secondary sources.

The system of international indexes and databases has become essential, without which continuity in the progress of biomedical sciences would be difficult and slow. Without them a large part of new knowledge would be lost in the vast number of studies which are published daily.

The data obtained can be used by scientists (publishing articles in these journals) and by libraries (building up a fund of scientific periodicals).