

## NURSING RESEARCH AND BIBLIOGRAPHIC CITATION MODELS

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*This research focuses on the analysis of how nursing journals publish their papers. Basically, two models are analyzed, Vancouver, by the International Committee of Medical Journal Editors, and APA by the American Psychological Association. Their advantages and disadvantages are discussed. In view of how research papers are currently published and how research is judged, the authors propose that nursing journals adopt their own model, irrespective of how medical professionals publish.*

*DESCRIPTORS: nursing research; bibliography; periodicals; scientific and technical publications*

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## LA INVESTIGACIÓN EN ENFERMERÍA Y LOS MODELOS DE CITACIÓN BIBLIOGRÁFICA

*Esta investigación se centra en el análisis de la forma de publicar de las revistas de enfermería. Se analizan básicamente dos modelos, el modelo Vancouver, promovido por el Comité Internacional de Editores de Revistas Médicas, y el modelo APA, de la Asociación Norteamericana de Psicología. Se discuten sus ventajas e inconvenientes. A la vista de cómo se publica en la actualidad y de cómo se juzga la investigación, se propone que las revistas de enfermería adopten su propio modelo, independientemente de cómo publican los profesionales de la medicina.*

*DESCRIPTORES: investigación en enfermería; bibliografía; publicaciones periódicas; publicaciones científicas y técnicas*

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## PESQUISA DE ENFERMAGEM E MODELOS DE CITAÇÃO BIBLIOGRÁFICA

*Esta pesquisa concentra-se na análise de como os jornais de enfermagem publicam os seus artigos. Basicamente, dois modelos são analisados, o Vancouver, promovido pelo Comitê Internacional dos Editores de Revistas Médicas, e APA, pela Associação Psicológica Americana. As suas vantagens e desvantagens são aqui discutidas. Diante da maneira que os artigos de pesquisa estão sendo publicados, atualmente, e como a pesquisa está sendo julgada, os autores propõem um modelo próprio para a enfermagem, independentemente de como publicam os profissionais médicos.*

*DESCRIPTORES: pesquisa de enfermagem; bibliografia; publicações; publicações científicas e técnicas*

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## INTRODUCTION

Scientific tradition sometimes causes certain inertia and imitation, difficult to avoid and which, in the case of nursing, is related to medicine due to the influence this profession has traditionally exerted over it. Thus, it is not surprising that medicine has led a large part of nursing research to publish according to the Vancouver model. This model got its name after the meeting of journal editors held in Vancouver, Canada in 1978, which created the International Committee of Medical Journal Editors. In this meeting, editors agreed on the unification of how professionals should write and cite in the medical area. Initially, mainly biomedical sciences journals adhered to the group and a list of 300 journals<sup>(1)</sup> was published, while only the *Nursing* journal was included.

The Vancouver model was implemented in nursing in part because there was work already done and also due to a certain editorial inexperience, which led to the adoption of the new publishing model, without previous analysis by professionals responsible for several of these journals. It is important to appoint other considerations however, for example regarding the meaning and use of citations. Campanario<sup>(2)</sup> describes the subjacent principle of every citation: "if a document cites another document, both acquire a conceptual relationship", that is, through citations we acknowledge and accept that our publications are closed linked to the references included. Hence, this relation demands an attitude of respect to whom is cited and to what is cited, which is supposed to be consulted at least in its main lines and not only through titles and abstracts obtained in bibliographic searches, which unfortunately is sometimes observed. However, for this respect to be real and not fictitious, a critical evaluation is also needed to clarify why some authors are cited and not others, since to support and strengthen views expressed<sup>(3)</sup>, one should cite research not only easily accessed but also well interpreted and evaluated by the author. This is what research using the APA model proposed by the American Psychological Association and, in some cases, the Harvard model, very similar to APA, aim at.

The Vancouver model format presents a number between brackets, or as a super index, for each bibliographic entry that is added in the order they appear in text, in the complete list of references

at the end<sup>(1)</sup>. In fact, there is available software that eases the task and speeds up the study presentation. However, the abundance of bibliographic citations on one hand, and the word scarcity in their evaluations on the other, are due to the generalized idea that the more bibliographic entries the greater the impact produced, even if none of the citations are evaluated. Another factor might be the economic limitation, usually excessive, imposed by publishers on the number of total words of articles. All these tend to excessively reduce previous and necessary evaluation and/or critique of previous literature, which favor second and third hand citations and increase the chances that errors may filter through prestigious studies for having "copied" a wrong bibliographic information in its beginning.

Criticism is very explicit when referring to minimum standards regarding previous literature review that appears in the article introduction, in a separate section or in the article discussion. As stressed by Swales<sup>(4)</sup>, it is not about creating anything new, gaps should be identified in the previous literature, what others initiated in a given area should be researched and continued and data sources other researchers have used should also be investigated.

When one examines several professional journals in the area of health sciences, different ways to use and cite bibliography are found, that is, different forms of attributing to each respective author information extracted through bibliographic search. The main models of bibliographic citation currently used are analyzed in this study in terms of their utility and pertinence, aiming to distinguish which could be the most adequate to be used in nursing research. It is intended that nursing professionals pay more attention to the analysis and evaluation of previous literature and also to propose the unification of referencing and citing criteria in nursing so that it may answer its research needs, which do not necessarily have to be the same used in other areas.

## MATERIAL AND METHOD

This study is based on the analysis of citation systems used by nursing journals contained in three databases:

- Twenty-two journals of free access in the Directory of Open Access Journals (DOAJ) in the Nursing section (Table 1);
- The first 20 Spanish journals according to the most recent list published in the CUIDEN *ranking* (Table 2);
- The 36 nursing journals, which until 2006, were in the ISI impact factor list (Table 3).

In the first group, 22 journals listed in the DOAJ were analyzed, aiming to assess the model of references used and the most significant differences that could be observed. However, only the first 20 journals from the second database according to *ranking* CUIDEN were used, due to the fact that they almost unanimously elected the Vancouver standard of biomedical journals. In the ISI list, we analyzed

the 36 journals that appeared in 2006 and which offered greater variability in the model used. Also, to illustrate the differences in the citations used in the two models, a comparative analysis of the application of both reference systems, APA and Vancouver, was carried out, based on the original articles published in journals contained in the databases this study focused on.

## RESULTS

The first database searched was the Directory of Open Access Journals<sup>(5)</sup>, in which 22 nursing journals were analyzed, presented in Table 1.

Table 1 – Data on the publication origin and style of 22 nursing journals in DOAJ, alphabetically ordered.

DOAJ journals	Country	Association	Model
1. Acta Paul Enferm	Brazil	Escola Paulista de Medicina	Vancouver
2. BMC Nursing	USA	BioMed Central	Vancouver
3. Cienc Enferm	Chile	Depto. Enfermería	APA
4. Gerokomos	Spain	Sociedad Esp. de Geriátria e Gerontología	Vancouver
5. Index Enferm	Spain	Fundación Index	Vancouver and APA
6. Int J Adv Nurs P	USA	Internet Scientific Publications (ispub.com)	Vancouver and APA
7. Nure Inv	Spain	Fundación para el Desarrollo da Enfermería (FUDEN)	Vancouver and APA
8. Online Braz J Nurs	Brazil	Universidade Federal Fluminense	Vancouver
9. Online J Issues Nurs	USA	Kent State University	APA
10. Online J Nurs Informatics	USA	OJNI Corp.	APA
11. Online J Rural Nurs Health C	USA	Rural Nurse Organization	APA
12. Open Nursing Journal, The	USA	Bentham Open Alerts	Vancouver
13. Rev Bras Enferm	Brazil	Associação Brasileira de Enfermagem	Vancouver
14. Rev Cubana Enferm	Cuba	Ed. Ciencias Médicas	Vancouver
15. Rev Esc Enferm USP	Brazil	Universidade de São Paulo	Vancouver
16. Rev Soc Esp Enferm Nefrol	Spain	Sociedad Española de Enfermería Nefrológica	Vancouver
17. Rev Electr Enferm	Brazil	Facultad de Enfermería	Vancouver and APA
18. Rev Latino-am Enferm	Brazil	Escola de Enfermagem	Vancouver
19. Rev Saúde.Com	Brazil	Universidade do Sudoeste da Bahia	Vancouver
20. Texto Contexto Enferm	Brazil	Universidade Federal de Santa Catarina	Vancouver
21. Topics Adv Pract Nurs	USA	Medscape Today	Vancouver
22. World Wide Wounds	R.U.	Surgical Materials Lab	Vancouver

Journals 9 and 21 require registration to be accessed.

Table 1 shows that 15 of the journals only publish according to the Vancouver model (68.2%), three of which (13.6%) accepted a few articles in another model (APA, Harvard), while the rest (18.2%) directly defend the APA model: three are from the United States and one from Chile (*Cienc Enferm*). It must be pointed out that many journals that publish according to the Vancouver standards are linked to some medical laboratory or biomedical database (BioMed, Medline, Surgical Materials Testing Laboratory etc.), which also seems reasonable in journals originated from health institutions, as is the case of the majority of Latin-American journals except for the Chilean (n° 3), which publishes according to the APA model. Many nursing professionals, regardless of their individual work, jointly publish with

medical teams, who opt to publish in medical journals and sometimes in multidisciplinary journals with the highest possible impact, which usually does not occur with journals exclusively from the nursing area<sup>(6)</sup>. The *Index Enferm* journal was the one in which more freedom of style was observed, where the editorial board, even advising to use the Vancouver model, frequently accepts articles following other models.

The Group of Documentary Studies Index Foundation has published several studies related to nursing journals in the Spanish and Portuguese language area and also the list of CUIDEN impact indicators, through which some significant information can be inferred. Table 2 presents the distribution of the first 20 Spanish journals in 2006 according to the Rc<sub>n</sub><sup>(7)</sup> index.

Table 2 - BdD 2: Spanish journals, ordered according to the CUIDEN rate of historical impact (Rc<sub>n</sub>)

List ISI	Index Rc <sub>n</sub>	City	Association/editorial	Model
1. Index Enferm	3,878	Granada	Fundación Index	APA and Vancouver
2. Enferm Intensiva	3,500	Madrid	Spanish Society of Intensive Nursing Care and Coronary Units	Vancouver
3. Rev ROL Enferm	2,883	Barcelona	Ediciones Rol de Enfermería	Vancouver
4. Gerokomos	2,650	Madrid	Spanish Geriatric and Gerontology Society	Vancouver
5. Enferm Clínica	2,550	Barcelona	Doyma	Vancouver
6. Enferm Cardiol	2,000	Madrid	Spanish Association of Nursing in Cardiology	Vancouver
7. Tempus Vitalis	1,666	Almería	Andaluz de Enf en Cuidados Críticos	Vancouver
8. Inquietudes	1,400	Jaén	Complejo Hospitalario	Vancouver
9. Metas Enferm	1,371	Madrid	Grupo Paradigma	Vancouver
10. Cul Cuid	1,322	Xàvia, Valencia	Consejo de Enfermería de la Comunidad Valenciana	APA
11. Evidentia	0,955	Granada	Fundación Index	Vancouver
12. Matronas Prof	0,750	Barcelona	Federación de Asociaciones de Matronas de España	Vancouver
13. Rev Soc Esp Enferm Nefrol	0,703	Madrid	Soc.Esp. de Enferm. Nefrológica	Vancouver
14. Arch Memoria	0,666	Granada	Fundación Index	Vancouver
15. Enfuro	0,437	Madrid	Asoc. Esp. de Enferm. En Urología	Vancouver
16. Enferm Integral	0,424	Valencia	Colégio Oficial de ATS e DUE	Vancouver
17. Enferm Global	0,403	Murcia	University of Murcia	Vancouver
18. Nure Inv	0,347	Madrid	Foundation for nursery development (FUDEN)	Vancouver
19. Enferm Comunitaria	0,157	Granada	Fundación Index	Vancouver
20. Enferm Docente	0,157	Málaga	Hospital Virgen de la Victoria	Vancouver

As observed in Table 2, most Spanish nursing professionals follow the Vancouver model, according to the standards of each journal, except for *Cultura dos Cuidados* (n° 10), which publishes according to the APA model, besides others that occasionally accept it (n° 15 and 16).

It would be unfair, however, to sample only nursing journals included in the DOAJ (Table 1) or

only and exclusively Spanish journals in the Index Foundation (Table 2) to obtain representative results. Not because they are free access journals or because some of them are electronic, whose impact is questioned<sup>(8)</sup>, but because of other factors, for instance, data that appear in *Journal Citation Reports* according to Table 3.

Table 3 – Data on the publication origin and style of the 20 first nursing journals according to impact factor (Journal Citation Report 2006)

List ISI	Impact Factor	Country	Observations	Model
1. Birth-Iss Perinat C	2,058	USA	Blackwell Publishing	Vancouver
2. Nurs Econ	1,810	USA	Jannetti Publications	APA
3. Am J Crit Care	1,685	USA	Am. Assoc. of Critical Care Nurses	Vancouver
4. Nurs Res	1,604	USA	Lippincott Williams & Wilkins	APA
5. Oncol Nurs Forum	1,475	USA	Oncology Nursing Society	APA
6. J Clin Nurs	1,430	RU	Blackwell Publishing	APA
7. Nurs Outlook	1,419	USA	American Academy of Nursing	Vancouver
8. J Adv Nurs	1,342	RU	Blackwell Publishing	APA
9. Res Nurs Health	1,337	USA	John Wiley & Sons	APA
10. Adv Nurs Sci	1,271	USA	Lippincott Williams & Wilkins	Vancouver
11. J Nurs Scholarship	1,250	RU	Honor Society of Nursing	APA
12. Western J Nurs Res	1,240	USA	Midwest Nursing Research Society	APA
13. Midwifery	1,169	UK	Churchill Livingstone	APA
14. J Perinat Neonat Nurs	1,153	USA	Lippincott Williams & Wilkins	Vancouver
15. J Hum Lact	1,133	USA	Internat. Lactation Consultant Assoc.	Vancouver
16. J Nurs Admin	1,090	USA	Lippincott Williams & Wilkins	Vancouver
17. Nurs Sci Quart	1,074	USA	Sage Publications	APA
18. Int J Nurs Stud	1,073	RU	Pergamon-Elsevier Science	APA
19. CIN-Comput Inform Nurs	1,042	USA	Lippincott Williams & Wilkins	Vancouver
20. J Obst Gyn Neo	0,987	USA	Assoc. Women's Health	APA
21. Cancer Nurs	0,985	USA	Lippincott et al.	Vancouver
22. Nurs Educ Today	0,527	USA	Elsevier Science	APA
23. Heart Lung	0,955	USA	Elsevier Science	Vancouver
24. Public Health Nurs	0,522	RU	Association of Community Health Nursing Educators	APA
25. J Nurs Care Qual	0,878	USA	Lippincott Williams & Wilkins	Vancouver
26. J Prof Nurs	0,878	USA	Saunders-Elsevier	APA
27. Perspect Psychiatr C	0,800	USA	Adult and Geropsychiatric Mental Health Nurses	APA
28. Nurs Ethics	0,784	RU	Sage Publications	Vancouver
29. J Midwifery Wom Heal	0,878	USA	Elsevier Science	Vancouver
30. Appl Nurs Res	0,742	USA	Saunders-Elsevier	APA
31. Am J Nurs	0,711	USA	Lippincott Williams & Wilkins	Vancouver
32. Arch Psychiatr Nurs	0,702	USA	Saunders-Elsevier	APA
33. J Nurs Educ	0,696	USA	Slack	APA
34. J Assoc Nurse Aids C	0,657	USA	Association of Nurses in AIDS Care	APA
35. Nurs Clin N Am	0,432	USA	Elsevier	Vancouver
36. Geriatr Nurs	0,373	USA	National Gerontol. Nurs. Association	Vancouver

Thirty-six nursing journals included in the ISI list, out of more than 50 that will possibly appear in the next list, were analyzed according to the impact factor (2006) (Table 3) to see to what extent they follow the trend showed in Tables 1 and 2. According to Table 3, 20 (55.6%) out of the 36 nursing journals in this list follow the APA model and 16 (44.4%) follow the Vancouver model.

The importance nursing publications have recently had made Thompson Scientific announce

the expansion of nursing journals coverage in an article published in the press on September 7<sup>th</sup> 2006. As stated in the press release "being indexed by *ISI Web of Knowledge* is an important indicator of the impact and influence of a scientific journal in its respective field." It is evident that nursing researchers have taken the initiative to give nursing this autochthonous nature, especially in countries where there are high education degrees up to the doctoral level. This is what is proposed

here and has considerably and concretely advanced in the United States. It is significant that there are no Spanish journals in the ISI list so far and that only recently the inclusion of the Brazilian *Rev Latino-am Enfermagem* was announced.

## REASONS TO ELECT THE MODEL

Most nursing journals in the ISI index employ a reference system more related to the Social Sciences

like the APA model and which is proposed in this article, not because one wants to abdicate one's education but because one wishes to contribute to the improvement of research quality and to the result and selection of bibliographic material. A comparative example obtained in nursing journals included in databases mentioned above should be sufficient to show the difference.

See below Table 4 in which the authors of Spanish language elect the described and different models.

Table 4 – Comparison of two texts from the nursing area originally written in Spanish, one according to the Vancouver model and the other according to APA

Vancouver: excerpt from the introduction of a nursing article originally written in Spanish <sup>(10)</sup>	APA: excerpt from the introduction of a nursing article originally written in Spanish <sup>(11)</sup>
<p>Introduction</p> <p>Population is aging in developing countries <sup>(1-4)</sup>. People older than 65 years old represent 15.4% in terms of the total population in Spain, proportion that is believed will increase until 2025, especially those who will pass 80 years of age. [...] The aging population is an important issue in developed countries due to the consumption of social and health resources <sup>(5, 6)</sup>. Literature shows several studies addressing the knowledge of the different aspects of the aging phenomenon like geriatric syndromes, chronic pathologies, old people functional capacity, and risk or valorization of dependencies in elderly people <sup>(7-12)</sup>. Most elderly people (95%) live in their houses and their health reference is the primary care multidisciplinary team. Primary care is an important link in the follow-up and resolution of problems of dependent people, especially those who should be attended at home <sup>(13)</sup>. [...]</p>	<p>Introduction</p> <p>Research is an essential process to contribute to the development of a science, only through it one achieves questioning and analysis of reality that permits to make use of daily practice an act of human creation (De Souza, 2004). Under this perspective, research processes are which permit to report the object and methods of a science. What seems interesting is that the epistemological construction of the object of science and its respective methods of inquiring reality are tacit agreements that respond to historical, cultural and sociopolitical moments in which researchers interact; using the words of Varela: "science is what scientists say is science" (Varela &amp; Hayward, 1997: 47). [...] both health policies and financing resources exert a powerful influence on the creativity of productive teams to generate research in agreement with social and demographic contingent (Castrillón, 2004; Mendes, 2002).</p>

The first example from the journal *Gerokomos* follows the Vancouver model and its authors include in the first paragraph six bibliographic items, another six in the second and one in the third; a total of 13 bibliographic citations. However, these are not critically evaluated, some are repetitive and others unnecessary. On the other hand, the text in the APA model, also from the nursing area, without any bibliographic fanfare as the theme itself does not require this, suffices with three bibliographic citations. Moreover, the second text seems very wise because it quotes authors' exact words in a context where paraphrasing would also appear redundant. The only advantage found in the Vancouver model is the schematization of information, though the question is whether this is what an incipient science like nursing needs. We do not believe so.

The Vancouver model is directly contradicted by Swales<sup>(4)</sup> recommendation that defends a mixed procedure, which would be considerably reinforced in the analysis of citations, increasing techniques of textual analysis. This author

asks a series of questions that should be considered at the moment of including citations in the article section review of the literature, for example: whether the citation was evaluated or criticized; whether it quotes the author directly; whether it refers to a theory or simply to a concept; whether author and year are represented between parentheses, and if it directly reproduces words or proposes an alternative to it. The following example<sup>(12)</sup>, an excerpt from a medical article, confirms this lack of evaluation or critique in the Vancouver model.

The importance of hyper-homocystinemia as vascular risk factor in general and acute stroke in particular has been described<sup>(1-10)</sup>. The hyper-homocystinemia etiology varies considerably, causing high levels of homocysteine in the blood in chronic renal failure, liver failure, malnutrition, use of oral contraceptives, changes in Cistation beta synthase, antiepileptics, L-dopa and drugs that interfere in the metabolic pathways of folate, smoking, etc<sup>(11-15)</sup>. Differences due to gender have been observed and homocystinemia is higher in men<sup>(16-18)</sup>.

On the one hand, as shown in this example, the accumulation of studies that “say something” related to the study in question is not sufficient to include them if this has not been based on evaluation. On the other hand, the qualitative analysis of this paragraph cannot answer any of the questions asked in literature<sup>(13)</sup>. We can argue, as one of the referees in the first version of this article did, that what Swales<sup>(4)</sup> proposed can also be done with the Vancouver model. Indeed, but only in theory, since in practice one tends to reduce the part of the previous literature evaluation to a minimum. A direct quotation, as suggested by Campanario<sup>(2)</sup>, should somehow involve the cited author, though it is not always possible if one does not explicitly mention the author, which happens in both models. Consider the following example in which the Vancouver model is used, a direct quotation with page indication from the journal *Online Braz J Nurs*<sup>(14)</sup>.

“Careful reading of selected articles permitted to select information related to the concepts of administration of nursing care focused on the reference of the complexity paradigm, which were submitted to content analysis and then main ideas and/or reference categories were extracted<sup>(6)</sup>. Content analysis aims to logically infer these messages with justification, complementing and validating the interpretation results. This process “consists of classifying elements in different folders, establishing an order of subjects which depend on the choice of criteria for classification<sup>(7:364)</sup>”<sup>(14)</sup>.

As can be observed, the page follows the citation number (7:364) and refers to an article from its bibliography. However, this interesting innovation does not appear in the Vancouver form, which shows that, one can do it, which in turn leads to the question about the possibility of incorporating this model into the previous example<sup>(12)</sup>. The article cited above<sup>(14)</sup> besides indirect quotations, contains another 17 direct quotations, although none of the names of their respective authors appear. It is worth pointing out, as did Skelton<sup>(15)</sup>, that there was a process in medical research where “people got lost”, mentioning the fact to the detriment of the author. On the other hand, the use of ambiguous verbs and expressions, such as “to indicate”, “to suggest”, “who knows”, “perhaps”, “possibly”, and “probably”, one maintains an unsteady and temporary attitude, at the same time as one avoids going “beyond the evidence”, as suggested by Skelton e Edwards<sup>(16)</sup>.

Unfortunately, academic writing manuals devote little space to previous review and evaluation of literature, a section considered essential in the presentation of scientific studies. Granjel *et al.*<sup>(17)</sup> are very explicit and dedicate chapters to the access and treatment of bibliography information. However, they impose limits to the introduction section since, as they argue, it is not a place to inform “the content of research but a place to inform the study objectives and claims” (our translation)<sup>(17)</sup>. Norman<sup>(18)</sup> on the other hand, uses only one paragraph to indicate that a good introduction should only include necessary information and references, presented in a logical order, to justify the study, and that the introduction is not the place to review the literature or to show how much the author knows about the subject. This little information is understandable since this manual mainly answers grammatical aspects of scientific research in English. However, both manuals favor the publication of any literature review more or less comprehensive in the so-called review articles. Day<sup>(19)</sup>, in turn, highlights the fact that a literature review should be “exhaustive and appropriate”, that is, it should contribute to a better understanding of the context in which our own study has been structured. “No researcher – says Day<sup>(19)</sup> – can investigate a problem without understanding the context” and, for that, a good literature review should be included. In previous research<sup>(20)</sup>, following the Swales’ model, the article structure that directly addresses the need for a literature review related to the study itself was presented through four concrete informative units: (i) reference to previous research, (ii) to its limitations, (iii) to the advantages of the research itself and (iv) how this investigation is a continuation of previous research<sup>(20)</sup>. For that, evaluation is needed and not simply mechanically repeating what other researchers have said; as Day advises, “Evaluate – don’t regurgitate”<sup>(19)</sup>.

## FINAL CONSIDERATIONS

The nursing profession has greatly developed in recent years. It is no longer considered a mere technical vocation or a simple occupation to be compared to law, medicine or pedagogy. Consequently, several nursing journals have become influential publications worldwide in the area of health sciences.

It is clear that the evident development of research in the nursing area has favored changes in the use of one of the models. Hence, in the United States for instance, which already have years of graduate nursing research, many of the important journals (see Table 3) have significantly worked out of the biomedical area and published according to the APA model. It is precisely because of this reason that similar change is expected in the production of research based on the introduction of nursing undergraduate and graduate programs, especially in countries like Spain and Brazil, where scientific development represents a crucial factor in professional and social advancement<sup>(21)</sup>. On the one hand, the incorporation of nursing schools to universities is a relatively recent fact. This late incorporation only recently encouraged research at doctoral and postdoctoral level. On the other hand, the definitive incorporation of undergraduate and postgraduate programs, which are in a period of experimentation and changes, especially in Europe, should definitely encourage the generalization of research among nursing professionals. This has been one of the main reasons research groups, mainly in the nursing area, are not as numerous as one would desire. In an article addressing publications related to health, Paraje et al.<sup>(22)</sup> analyzed the global production of articles in the area and Spain was in the tenth place. The implementation of undergraduate programs, according to the European Union guidelines, should enhance research groups, as well as projects presented and approved by the Ministry, and the publication of articles in journals of impact.

In an editorial note in the *Gac Sanitaria*, Fernández and Plasència<sup>(23)</sup> address readers and ask

at the same time: "can we count on your citations as well?" with which they give, once more, excessive emphasis to the importance of mutual citation so as to increase the respective impact index. It is thought that nursing, poorly represented in committees of national research, should somehow propose a different model to value published works and promote higher quality publications. It is not sufficient to complain when one is personally affected because one's research has not been satisfactorily valued. One step further is necessary and it is achieved through the encouragement of more independent work groups. Nursing activity frequently sees itself diluted in larger groups, related or not to hospitals, but because they belong to a concrete unit, they are usually subject to a work style and cannot say a word so as to give a nursing touch which research in this area requires.

After the difficulties faced in the nursing profession related to the medical category, it does not seem adequate that nursing publishes in a certain way because this was determined in a meeting of editors of medical journals in Vancouver (Canada). It is thought that, given its idiosyncrasy, much more oriented to sociology than to biomedicine, nursing should take a turn for its own method of research and publication style. However, regardless of this reason, which by itself would suffice, one has to understand that the alternative APA is more reliable in citations and gives credit to whom deserves it, besides being more accessible in terms of bibliographic recovery. In other words, Vancouver seems to favor quantity in the same way APA introduces qualitative elements in relation to the evaluation of the mentioned references.

## REFERENCES

1. International Committee of Medical Journal Editors (1988). Uniform requirements for manuscripts submitted to biomedical journals. *Ann Intern Med* 1988; 108:258-65.
2. Campanario JM. Citation analysis. En: Feather J, Sturges P, editors. *International Encyclopedia of Information and Library Science*. 2<sup>a</sup> ed. London: Routledge; 2003. p. 76-8.
3. Piqué Angordans J, Posteguillo S. Organización de la bibliografía, citas directas, notas, apéndices y agradecimientos. En: Fortanet I, coordinadores. *Cómo escribir un artículo de investigación en inglés*. Madrid: Alianza; 2002. p. 180-209.
4. Swales JM, Feak CB. *English in Today's Research World: A Writing Guide*. Ann Arbor: The University of Michigan Press; 2000.
5. DOAJ - Directory of Open Access Journals [Internet]. Journals Expand Subject Tree. [access May 13 2008]. Available from: <http://www.doaj.org/doaj?func=subject&pid=23>
6. Orts Cortés MI, Richard Martínez M, Cabrero García J. Factor de impacto en las revistas de enfermería. *Enferm Clin* 2002; 12(6):266-72.
7. Gálvez Toro A, Hueso Montoro C, Amescua M. Indicadores CUIDEN de repercusión de las revistas de enfermería del área lingüística del español y del portugués. *Index Enferm* 2004; 46:76-89.
8. Fosmire M, Yu S. Free scholarly electronic journals: How good are they? *Issues in Science and Technology Librarianship* (Summer). 2000. [access January 15 2007]. Available from: [www.library.ucsb.edu/istl/00-summer/refereed.html](http://www.library.ucsb.edu/istl/00-summer/refereed.html)
9. Thomson Scientific Expands Coverage of Nursing Journals



- [Internet]. [access May 13 2008]. Available from: <http://scientific.thomson.com/press/2006/8341223/>.
10. Gálvez-Romero C, González-Valentín A, de Ramón Garrido E. Estado de salud y utilización de recursos sanitarios de una población de ancianos atendidos en domicilio". *Gerokomos* 2007; 18(3):117-26.
  11. Alarcón AM, Astudillo P. La investigación en enfermería en revistas latinoamericanas. *Cienc Enferm* 2007; 13(2):25-31.
  12. Sánchez-Marín B, Grasa JM, Torres M, et al. Prevalencia de la mutación C677T del gen de la metilentetrahidrofolato reductasa en pacientes con patología isquémica cerebrovascular aguda en la Comunidad Autónoma Aragonesa. *Anal Med Int* 2006; 23(4):153-5.
  13. Swales JM. Citation analysis and discourse analysis. *Applied Linguistics* 1986; 7(1):39-56.
  14. Erdmann AL, Baches DS, Minuzzi, H. Gerência do cuidado de enfermagem pelo olhar da complexidade. *Online Braz J Nurs* 2008; 7(1).
  15. Skelton J. How to tell the truth in *The British Medical Journal*: Patterns of judgement in the 19<sup>th</sup> and 20<sup>th</sup> Centuries. En: Markkanen R, Schröder J, editors. *Hedging and Discourse. Approaches to the Analysis of a Pragmatic Phenomenon in Academic Texts*. Berlin · New York: Walter de Gruyter; 1997. p. 42-63.
  16. Skelton JR, Edwards SJL. The function of the discussion section in academic medical writing. *BMJ* 2000; 320:1269-70.
  17. Granjel M, Gutiérrez Rodilla BM, Rodríguez Sánchez JA. Guía práctica para la elaboración de un trabajo científico. Carreras Panchón A, coordinador. Bilbao: CITA, Publicaciones y Documentación; 1994.
  18. Norman G. *Cómo escribir un artículo científico en inglés*. Madrid: Editorial Hélice; 1999.
  19. Day A. *How to Get Research Published in Journals*. Brookfield, Vermont: Gower; 1996.
  20. Piqué Angordans J. La sección de la Introducción. En: Fortanet I, coordinador. *Cómo escribir un artículo de investigación en inglés*. Madrid: Alianza; 2002. p. 62-83.
  21. Marziale MHP. Scientific production in Brazilian nursing: the search for international impact. *Rev Latino-am Enferm* 2005; 13:287-8.
  22. Paraje G, Sadana R, Karma G. Increasing international gaps in health-related publications. *Science* 2005; 308:959-60.
  23. Fernández E, Plasència A. Contamos contigo. ¿Contamos también con tus citas? *Gac Sanitaria* 2002; 16(4):288-9.