

The Lithium Information Center: An Efficient Information Service

MARGARET G. BAUDHUIN, JAMES W. JEFFERSON AND JOHN H. GREIST

*Lithium Information Center, Department of Psychiatry, University of Wisconsin
Center for Health Sciences, 600 Highland Avenue, Madison, WI 53792*

BAUDHUIN, M. G., J. W. JEFFERSON AND J. H. GREIST. *The Lithium Information Center: An efficient information service*. PHARMACOL BIOCHEM BEHAV 21: Suppl 1, 109-111, 1984 —The Lithium Information Center is described as a response to the accelerated growth of information regarding a specific health care topic. The authors describe the body of literature that is managed by the Lithium Information Center, discuss how that information is stored and retrieved, indicate the advantages of this kind of information management compared to other health care information services, and note extraordinary peripheral ways in which the Center contributes to the continued growth of useful information about lithium and its therapeutic uses. It is concluded that the Center might be used as a model for others who wish to manage literature of content areas in which interest is increasing rapidly.

Computerized bibliographic retrieval Information systems Lithium

MANAGING the accelerated growth of information in the health sciences is a problem that concerns most health care professionals. The Lithium Information Center is an example of a system that manages very effectively the information of a specific health care topic. The Center, with its specific focus on lithium and its medical and biological uses, is a convenient source of comprehensive bibliographic information on the subject. An examination of how the Center works to meet the needs of researchers and other health care professionals will demonstrate its strengths when compared to more generalized information management systems.

ABOUT THE LITERATURE

The body of research concerning the medical and biological uses of lithium has grown a great deal over the last several years. In fact, almost 10,000 references on lithium have appeared in the literature since 1970, when the FDA approved the labeling of lithium as a treatment for acute mania. Also, the work in this area, which is already very diverse, is quickly becoming more so as new areas of interest emerge. Research into lithium's mechanism of action, for example, has been an ongoing pursuit. More than 500 references dating back to the 1950's have been written on this topic. Recently, though, new areas of interest such as lithium as a treatment for alcoholism [6] have attracted the interest of many researchers. The Lithium Information Center lists 160 publications on this subject alone. Other areas in which there is growing interest include lithium's ability to increase the white blood cell count in cancer patients who are receiving chemo- or radiotherapy [7] and lithium as a treatment for herpes virus infections [8]. These and other areas of specific interest are emerging regularly, and since lithium has already been tried as a possible therapy for more than 30 psychiatric and other medical disorders [2], it can be expected that a great deal more diversity in research will be seen during the coming

years. This accelerated growth of the lithium literature and interest in it has necessitated a specifically oriented information system.

WHAT IS THE LITHIUM INFORMATION CENTER?

The Lithium Information Center, which has been in operation since 1975, is concerned with the collection and dissemination of information about the lithium literature. At the Center, personnel maintain a collection of more than 12,000 references that are related to lithium and its medical and biological uses. This collection, which grows at an average rate of more than 900 references annually, is managed via a computerized data base known as the Lithium Library. References in the Lithium Library date back to 1818 (only one year after the element was discovered). The file is updated almost every day with references to newly published journal articles, books, book chapters, and meeting abstracts and proceedings. It also includes manuscripts that are in press and unpublished reports that have been submitted to the Center.

Other services provided by the Lithium Information Center include the Lithium Index, a collection of synopses regarding specific topics in the area of lithium therapy and research and the Lithium Consultation, a system through which physicians can use an interactive computer program to reach conclusions about how lithium treatment might be used or managed with particular patients. These two additional computerized information systems, which were developed after 1980 through a grant from the National Library of Medicine (LM03713), are in many ways better suited for use by clinicians than they are for the needs of researchers.

HOW IS THE INFORMATION RETRIEVED?

The bibliographic information that comprises the Lithium Library can be retrieved by author, key title word, subject,

journal title, and year of publication. These search options can be combined in a number of ways (e.g., author/date, subject/date, subject/author, etc.) so that each search can be customized to fit the specific requirements of the information request. With these search options, the Center is able to provide its users with a comprehensive but highly specific bibliography, accompanied by a summary (from the Lithium Index) of the literature on the subject. The center also collects and keeps on file all of the articles, books, etc. that are referenced in the Lithium Library and can provide single copies upon request (subject to the constraints of Public Law 94-553, the Copyright Revision Act of 1976, which became effective January 1, 1978).

HOW DOES THE LITHIUM INFORMATION CENTER WORK?

During the first few years of operation, an average of 600 requests for information were handled each year at the Lithium Information Center. In 1982 there were over 1,000 requests, and in 1983 more than 900 requests were processed. These requests, which come from virtually all over the world (the Center has received requests from each of the 50 states, Washington, DC, Puerto Rico, nine Canadian provinces, and 30 other countries), are usually mailed or phoned in, but the system can also be accessed directly by anyone with appropriate computer equipment. Requests have come from researchers, physicians, pharmacists, and other medical professionals. The Center has also received a large number of requests from patients taking lithium, their families, and other laypersons who are interested in lithium. More than 80 research and medical institutions, libraries, pharmaceutical companies, and private individuals use the Center's remote access system.

CHARGES

Although the Lithium Information Center has received a portion of its funding through public and private grants, it also relies on the fees that are charged for its services. The average fee charged for a computer search is \$10.00, but costs vary according to the complexity of the search and the number of references generated by the search. The Center also charges a modest fee for its duplicating services.

ADVANTAGES OVER OTHER INFORMATION SYSTEMS

Standard reference tools (MEDLARS/MEDLINE, EXCERPTA MEDICA, BIOSIS, etc.) are limited in several ways that can disadvantage the researcher in his attempts to find all of the literature that is relevant to his particular area of interest. For example, many of the general information services index only a limited number of the available medical and research journals and are additionally limited in the time span from which they draw their citations. Many of these services do not include references to books, chapters, government reports, and reports detailing the proceedings of relevant meetings and conferences, all of which can be very useful to the researcher.

The objective of the Lithium Information Center is to index all available literature on the subject of lithium in medicine. To the extent that this goal is being accomplished, the Lithium Information Center has become the central resource for lithium information and, thus, has eliminated the necessity of contacting several general information services in an effort to guarantee the most comprehensive bibliography. Also, because the Center focuses specifically on

lithium, its bibliographies include far fewer extraneous references.

In addition, the Lithium Information Center will provide for researchers engaged in ongoing research projects, periodic updates consisting of bibliographic references to literature about the specific area under consideration.

The Lithium Information Center also maintains a collection of all of the literature that is cited in its data base which means that researchers can be sure that there is at least one place where these publications, no matter how obscure, are readily available.

WHAT ELSE DOES THE CENTER OFFER?

In addition to bibliographic information regarding lithium, its therapeutic uses, side-effects, etc., which can be used by researchers in the preparation of reports, articles and grant proposals, there are other significant ways in which the Center can aid researchers. For example, the Lithium Information Center keeps statistics regarding lithium topics that people are interested in but about which there is little reported research. The Center could, therefore, be viewed as a source of topics on which more research is needed. The Lithium Information Center is also a storehouse for anecdotal reports which can be very useful to the researcher who wishes to provide documented examples as part of a report.

Staff members have also contributed to the body of literature on lithium more than 20 journal articles, 15 letters to the editor, 5 book chapters, 2 books, 1 bibliography, and 1 patient information booklet. Recent publications which might be of particular interest to researchers include *Lithium and the Kidney: A Bibliography* [1] which is a comprehensive source of approximately 900 references (included in the original publication and four supplements) to literature concerning the relationship between lithium and the kidney and the *Lithium Encyclopedia for Clinical Practice* [4] a collection of summaries of the literature on important lithium topics.

Examples of recent inhouse research projects include studies on the effect of exercise on serum lithium levels [3] and lithium's effects on the eye [5], two areas of widespread interest but little known research.

CONCLUSION

The Lithium Information Center is, then, not only an effective bibliographic service and an important source of ideas concerning areas of investigational interest but also might be considered a generic model for an information management system that works particularly well at managing the literature of any subject area in which interest is increasing rapidly. Such systems might, in fact, be our best option for controlling the huge body of health sciences literature which continues to grow at an alarming rate, certainly much faster than the health care professional can follow. The responsibility has changed from "keeping up on the literature" to finding and reading those pieces that are most relevant to one's work. A system like the one used at the Lithium Information Center is an efficient means of doing that.

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