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The Annals of Pharmacotherapy Evolutionary Trend From the Past to Present

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ARTICLE INFO

Article type:

Focus

J Pharm Care 2014; 2 (1): 45-47.

► Please cite this paper as:

Karimzadeh I. The Annals of Pharmacotherapy Evolutionary Trend From the Past to Present. J Pharm Care 2014; 2(1): 45-47.

The Annals of Pharmacotherapy originally named “Drug Intelligence” was founded in 1967. Its founder and editor was Donald E Francke. He was trained as a hospital pharmacy intern at the University of Michigan Hospitals. He served as the president of both the American Pharmaceutical Association (APhA) and the American Society of Health-System Pharmacists (ASHP). The early issues of the journal had virtually no pharmacotherapeutic content. Long-running series on the biopharmaceutical and pharmacokinetic topics such as absorption, distribution, metabolism, and excretion of drugs were prepared by John Wagner. At the same time, Edward Hartshorn began discussions about the basis of drug actions, drug-drug interactions, and adverse drug reactions. Various aspects of injectable medications such as physical and chemical incompatibilities with other drugs or intravenous (IV) fluids and IV drug therapy were discussed by Norman Ho and his colleagues. These areas of pharmacokinetics, drug interactions, and intravenous therapy were considered as foundations of clinical pharmacy practice (1). An early article authored by Gloria Francke in 1969 defined clinical pharmacy and emphasized on the multidisciplinary process of medication error prevention as an influential factor in the development of clinical pharmacy practice (2). Soon after foundation of Drug Intelligence, numerous

role model descriptions and innovations were featured in pharmacotherapy which caused changing the journal name to Drug Intelligence and Clinical Pharmacy (DICP) in 1969 (1).

Two early pharmacotherapy series, which have continued till today under various names in the journal, are “Drug Information Analysis Service (DIAS) Rounds” and “Drug Evaluation Data Column”. The DIAS Rounds initiated in 1970 provided well-researched responses to questions asked from the University of California-San Francisco Drug Information Center such as unusual adverse drug reactions, drug-drug interactions, drug-laboratory test interactions, and other medication safety issues. DIAS Rounds, as the current title of “Drug Information Rounds” in the journal, served a useful source of drug information to pharmacists and give answers to certain inquiries related to pharmacotherapy that included recommendations based on the available evidence (3). Drug Evaluation Data Column started in 1971 critically assessed new medications at the time of marketing. Currently, Formulary Forum and New Drug Approvals article categories in the journal provide comprehensive as well as comparative reviews of single drug entities that have recently received FDA approval (1).

Regarding the fact that the majority of hospital pharmacists were not trained in clinical aspects of pharmacy in the early 1970s, series of clinical case studies introducing pathophysiology, clinical symptoms (semiology), and laboratory findings written by Margaret McCarron were very useful. The constant increase in the

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pharmacotherapeutic content of the journal throughout the 1970s and 1980s reflected the development of Pharm D education and postdoctoral residency and fellowship training during this period (1). These topics included drug utilization evaluations (DUEs), assessing drug adherence, patient education, medication error detection and prevention, use of patient medication profiles, new drug distribution services and satellite pharmacies, designing and preparation of total parenteral nutrition solutions, development of drug information centers, reporting and prevention of adverse drug reactions, and therapeutic drug monitoring. Highly impressive article written by Donald Brodie in 1986 entitled "Drug Use Control-the Keystone to Pharmaceutical Service" defined drug use control as the system of knowledge, understanding, judgments, skills, controls, and ethics that provides optimal patient care and improves drug utilization (4). From 1983, each issue of the journal generally contained review articles about a certain drug, drug class, or pharmacotherapy of a specific disease, case reports about an adverse drug reaction, drug toxicity, or drug interaction, and also original articles regarding various subjects in clinical pharmacy field.

Pharmaceutical education (post-BS in pharmacy Pharm D programs vs. 6-year all-Pharm D program) was the subject of great debates between different scientists during the second half of 1970s and the 1980s. Post-BS in the pharmacy Pharm D program encompassed 5 years BS plus 2-3 years Pharm D and residency. The pages of DICP during this period reflected the debates. In 1975, a 24-member editorial advisory board comprised of prominent clinical pharmacists was added to the contributing editors of the journal. In 1979, DICP agreed to publish American College of Clinical Pharmacy (ACCP) news, including abstracts of their annual meetings. This action gave the ACCP wide publicity in front of clinical and hospital pharmacists, as well as pharmacy faculty members (1). The journal name changed 2 more times during the 1990s; "DICP-The Annals of Pharmacotherapy" in 1990 and finally "The Annals of Pharmacotherapy" in 1992.

The journal has played a considerable and undeniable role in disseminating clinical pharmacy concepts outside the US since its founder and editor, Donald E Franck, had numerous international relationships. Many authors from Europe, Japan, Australia, the Middle East, and other areas of the world have published in the Annals of Pharmacotherapy (1). "Drug information centers as bases for continuing education programs in Kuwait" by Tarifi et al., (5), "Prescribing patterns in primary healthcare in Saudi Arabia" by al-Nasser (6), "Pharmacists as members of the healthcare team in Israel: sectoral differences" by Lustig & Zusman (7), and "Factors associated with preventability, predictability, and severity of adverse drug reactions" by Gholami & Shalviri (8) are only some examples from the Middle East published in the Annals of Pharmacotherapy within 1990s. Publishing abstracts

in the French and Spanish in addition to English has aided the journal in achieving worldwide popularity and reputation (1).

Steady progression in the capability of clinical pharmacists about advanced practice and research during the recent 30 years has been reflected in the content and quality of articles published in the journal (1). For example, a series of pharmacoepidemiology appeared in the journal through pioneer articles entitled "Introduction to pharmacoepidemiology" by Hartzema et al., (9) and "Assimilating pharmacoepidemiology into education and practice" by Whitney (10) in 1987. Evolution in this field and urgent need for pharmacoepidemiologist led to approving pharmacoepidemiology as a mandatory part of the Pharm D curriculum in the United States in 2005 by the American Colleges of Pharmacy Education (ACPE) board (11).

Specialty and subspecialty pharmacotherapeutic topics such as cardiology, oncology, nephrology, infectious diseases, pulmonary diseases, parenteral nutrition, ambulatory care, critical care, drug interactions and reactions, pediatrics, geriatrics, psychiatry, pharmacoepidemiology, and pharmacoconomics were created in the Annals of Pharmacotherapy in 2003 to meet noticeable advancements in clinical pharmacy (1). Other new sections of the journal are as follows: **(a)** Drug Selection Perspectives. Provide comparison of drugs within a class or in different classes with the same indication(s); **(b)** Therapeutic Controversies. Assess problems or controversial issues in clinical therapeutics and provide recommendations based on the latest data; **(c)** Therapeutic Monitoring. Provide reviews of drug therapy monitoring to individually optimize treatment. **(d)** Special Contributions. Discuss unusual, topical, or historical subjects that are of special interest or importance; **(e)** Editorials and Commentaries. Consider viewpoints on diverse, controversial, or topical subjects; **(f)** Letters and Comments. Address recently published articles in areas related to clinical practice, research, or education; and **(g)** New Publications.

During its 47 years of publication, the Annals of Pharmacotherapy has grown from a small monthly issue discussing only few topics written by a small group of pharmacists to the well-respected, prominent, peer-reviewed journal with highly-experienced and -specialized editorial board team covering vast and various fields related to clinical pharmacy. To better understanding the history of professionalization of modern clinical pharmacy and also the journal contribution to this achievement, referring to a book entitled "Evolution of Clinical Pharmacy" is highly recommended. It was published in the 40th year of publication of the Annals of Pharmacotherapy in 2006 and compiled landmark articles from the journal describing the pioneering work in pivotal areas of clinical pharmacy which gave direction

and shape to the practice of clinical pharmacy. The book contains 112 articles; Seventy one from early volumes of the journal and 41 describing profession progresses over time. Articles published during the early years of the journal that demonstrate the development of ACCP are also included. Harvey Whitney Books Company is the publisher of the book.

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