INTRODUCTION

Indian Endocrinology community is growing at a rapid pace in recent years. This is witnessed by increasing strength of members in endocrine society, participation in academic discussions, presenting the research work at national and international scientific meetings. The quality research work finds its way into one of the leading biomedical journals and the need to publish or perish is felt by most of the academicians. Academic institutes imparting graduate and postgraduate teaching also undertake research activities in their departments. Diabetes and thyroid disorders constitute the major chunk of endocrinological disorders in clinical practice. These disorders are more often tackled by the primary care physicians and complicated cases reach the doors of the endocrine clinic. The practice of endocrinology needs a solid foundation of internal medicine and more number of physicians are engaged in conducting research projects in diabetes and thyroid disorders. Hence, research productivity related to the endocrine subspecialty is seen more often in a general medical journal than an endocrine journal.

ABSTRACT

Background: The details about the research productivity in the specialty of endocrinology from India is lacking. We plan to assess the publishing trends and the research productivity of Endocrinology related research articles published in the Journal of the Association of Physicians of India (JAPI). Materials and Methods: We carried the bibliometric analysis of endocrinology related articles from JAPI. The data were obtained from the JAPI website for the publications between 2000 and 2011. The articles were analyzed for the type (original article, case reports, correspondence, and pictorial image), subspecialty (diabetes, thyroid, etc.), and place of the research. Data were presented with descriptive statistics in numbers and percentages. Results: Out of a total 2977 articles published by JAPI, 312 articles belong to endocrine subspecialty. Endocrinology related articles constitute about 11.2%–23.2% of the published articles per year in JAPI and the percentage is increasing every year. Original articles (52%) and case reports (27%) constitute the majority, while the rest were letters to editor (9%) and pictorial images (12%). Diabetes (57%) and metabolic bone disorders (16%) lead the subspecialty articles, followed by thyroid (9%), adrenal and gonad (8%), and pituitary (8%). Chennai (20%), Mumbai (14%), and Delhi (9%) are the top 3 places contributing to the articles followed by Chandigarh and Varanasi. Conclusion: Majority of endocrinology related research productivity is seen in form of original articles and case reports. Diabetes is the leading disease with maximum research articles from Chennai and other glands are equally represented in the research productivity.

Key words: Biomedical journals, endocrinology, India, publication trends, research productivity
the endocrinology were not available from the general medicine journals published from India. Association of Physicians of India (API) was formed in 1944 and has over 15,000 participants as its members.[8] The official journal of the association is called as the Journal of Association of Physicians of India (JAPI). JAPI is published every month with a readership of over 2 lakhs and is extremely popular amongst the medical fraternity. The journal is published in both print form and released online every month. It covers all the aspects of the medicine and various subspecialty subjects. There is no formal assessment of the published literature of endocrinology in the JAPI. Hence, this work was carried out by the authors with the aim to analyze the nature and characteristics of endocrinology related articles published in JAPI.

MATERIALS AND METHODS

JAPI issues of last 12 years (Jan 2000 to Dec 2011) available online were taken for analyzing the publication trends of endocrinology articles in the journal. The data were derived from the website of the journal which gives link to previous issues.[4] The flow diagram of the study is given in Figure 1. Research work carried out by the individuals and institutions is presented as original articles.[5] However, space constraints in a journal lead to publication of the same data in a concise form as correspondence (also known as Letters to Editor). Individual case reports and reporting an interesting image also constitute the early steps toward the research activities. Hence, the following types of articles were included in the final analysis regarding the research productivity pertaining to endocrinology in JAPI: Original Articles, Case Reports, Images, and Letters to Editor. The articles published were analyzed for type, subspecialty, and place of the institution from where the work originated.

The following articles were excluded from the analysis as they do not report data derived from original research: Editorials, Update Articles, Review Articles, Philately, Miscellaneous Articles, Postgraduate Clinic, Guidelines, Announcements, and Corrigendum. Correspondence pertaining to the published articles and comments unrelated to research work were also excluded from the analysis. Articles published in the special issues and topic supplements were excluded. The endocrinology related articles published in special issues were excluded as they are in the form of concise reviews rather than representing the original research work. The details about special issues published prior to December 2009 were not available on the website.

For the purpose of analysis, the subspecialties were divided into six broad groups consisting of diabetes and metabolic disorders, thyroid, adrenal and gonads, pituitary, metabolic bone disorders, and miscellaneous groups. The institution of the first author is taken as the place and department of study for the articles involving multiple authors from different institutes and departments. The data were obtained independently by both the authors and discrepancy if any was resolved by accessing the information jointly from the JAPI website.

RESULTS

Over the past 12 years, JAPI published 12 volumes (Volume numbers 48–59) with a total of 144 issues. A total of 10 issues were not considered as they published the Proceedings of the APICON and the details about May 2005 issue were not available on the website. The top 4 subspecialties contributing to research productivity in JAPI are endocrinology (17.4%), neurology, infectious diseases (14.2% each), and cardiology (12%). A total of 312 endocrinology related articles were available for final analysis. The distribution of the types of articles is given in Figure 2. Original Articles (52%) and Case Reports (27%) constitute the majority, whereas the remaining 21% is shared between Pictorial Images and Letters to Editor. Endocrinology as a subspecialty contributed to about 11.2%–23.2% of articles published in JAPI. A total of 166 articles were published between Feb 2003 and Mar 2009 and the total number of endocrinology articles and its share in JAPI is given in Figure 3. Endocrinology contributed maximum percentage of articles between the years 2008 and 2010 and the trend line showed an increasing share over the last decade [Figure 3].

Figure 4 gives the details about the subspecialty wise distribution of the articles. Diabetes and metabolism leads
the pack and metabolic bone disorders remain the distant 2nd subspecialty. Articles pertaining to pituitary, adrenals, gonads, and thyroid disorders remain in equal number and are in minority when compared with the contribution from diabetes. Original articles constitute the majority of articles related to diabetes, whereas case reports constitute the majority regarding the articles pertaining to other glands. Chennai (20%), Mumbai (14%), Delhi (9%), Chandigarh, and Varanasi (6% each) contributed the majority of endocrinology articles in JAPI. The contributions from other cities of India remain a small percentage individually. Only two publications related to endocrinology were submitted from foreign countries.

**DISCUSSION**

In this study, we analyzed the publication trends of endocrinology related research articles in one of the most popular journal of India, i.e., JAPI, the official journal from API. The total number of endocrinology articles published per volume increased gradually over the past 12 years. The peak contribution was seen between 2008 and 2010. Original articles take a major share of published articles and this is a good sign as they are considered to be the essence of biomedical research. Increasing contributions from the field of endocrinology to the total number of articles in the JAPI is also a good indicator of the research productivity of the specialty.[6]

Justifying the dubious distinction of being the diabetes capital of the world, the majority of original articles relate to the field of diabetes.[7] Chennai Urban Rural Epidemiology Study (CURES) contributed to majority of diabetes research articles in JAPI.[8] Previous analysis of IJEM journal revealed that diabetes is the leading topic for research, closely followed by thyroid, pituitary, and adrenal.[2] However, our analysis from JAPI showed that diabetes is far ahead than others followed by metabolic bone disease unlike thyroid disorders. Our data revealed the presence of case reports related to diabetes contrary to the IJEM data. We deliberately excluded the review/update articles as they do not consist of research output from an institution or individual. Hence, comparing the data about these articles was not possible.

Research output regarding endocrinological conditions other than diabetes was not published prominently in JAPI. Multiple factors could have resulted in less representation from other endocrine gland disorders. They include specialized nature of the studies, small number of patients, data about rare diseases, and few studies may have been rejected by the editors if not relevant to the general practitioner. Though thyroidal disorders constitute a majority of endocrine practice after diabetes, metabolic bone disorders were represented more in published space in JAPI. This could be because of less research output in thyroidology and policy of the journal to highlight the hitherto neglected metabolic bone disorders for physicians.
Most of the contributions to the JAPI in the field of endocrinology have come from the three metros (Chennai, Mumbai, and Delhi). This is closely followed by Varanasi and Chandigarh [Figure 5]. This is self-explained by the fact that prestigious academic institutes imparting endocrinology training are located at these places and are actively involved in teaching and research activities.[9,10] The practitioners and institutes from other places have contributed sporadically with interesting case studies and occasional original research article. Very few reports have been contributed from foreign countries and this could be due to poor visibility of the JAPI coupled with lack of online submission facilities.[11] Though we analyzed all the online available data in this study, exclusion of some articles for lack of details remains a major limitation of our study.

**CONCLUSIONS**

Our analysis showed the publication trends of endocrinology related research articles in JAPI. Endocrinology as a subspecialty contributed the maximum number of articles in JAPI. Original articles and case reports are the majority and Chennai contributed the maximum number of articles in the field of diabetes. Diabetes remains the most favorite research topic followed by metabolic bone disorders. Other endocrinological conditions are represented equally in the published literature of JAPI.

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