

# Community health orientation of Indian Journal of Endocrinology and Metabolism: A bibliometric analysis of Indian Journal of Endocrinology and Metabolism

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## ABSTRACT

**Background:** Endocrine and metabolic diseases especially diabetes have become focus areas for public health professionals. Indian Journal of Endocrinology and Metabolism (IJEM), a publication of Endocrine Society of India, is a peer-reviewed online journal, which covers technical and clinical studies related to health, ethical and social issues in field of diabetes, endocrinology and metabolism. This bibliometric analysis assesses the journal from a community health perspective. **Materials and Methods:** Every article published in IJEM over a period of 4 years (2011–2014) was accessed to review coverage of community health in the field of endocrinology. **Results:** Seven editorials, 30 review articles, 41 original articles, 12 brief communications, 20 letter to editors, 4 articles on guidelines and 2 in the section “endocrinology and gender” directly or indirectly dealt with community health aspects of endocrinology. Together these amounted to 17% of all articles published through these 4 years. There were 14 articles on general, 60 pertaining to pancreas and diabetes, 10 on thyroid, 7 on pituitary/adrenal/gonads, 21 on obesity and metabolism and 4 on parathyroid and bone; all community medicine related. **Conclusion:** Community health is an integral part of the modern endocrinology diabetology and metabolism practice and it received adequate journal space during the last 4 years. The coverage is broad based involving all the major endocrine disorders.

**Key words:** Bibliometric analysis, community medicine, endocrinology, Indian Journal of Endocrinology and Metabolism, public health, trans disciplinary approach

## INTRODUCTION

Endocrinology is the branch of medicine dealing with the endocrine system, its diseases, and its specific secretions called hormones. Indian Journal of Endocrinology and Metabolism (IJEM), an official publication of Endocrine Society of India (ESI)<sup>[1]</sup> is a peer-reviewed indexed journal,

online since 2007. The journal covers technical and clinical studies related to health, ethical and social issues in the field of diabetes, endocrinology and metabolism.

Public health is the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals.<sup>[2]</sup>

Bibliometric analysis is an art of determining the quality of research. It is the application of quantitative analysis and statistics to publications such as journal articles and their accompanying citation counts. There are several bibliometric indicators like researcher’s bibliometric indicators (number of publications or citations), university

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and department level bibliometric indicators and journal indicators.<sup>[3]</sup>

While noncommunicable diseases (NCDs) have become a major focus area for public health professionals, there is an equally important need to sensitize NCD clinicians to the public health importance of the diseases they are treating. The current status of community health in NCD can be assessed by doing a bibliometric analysis of the leading NCD journals.

The present attempt reports the bibliometric analysis of IJEM over a 4 years period (2011–2014), to assess its coverage of community health. The focus is on articles published with interspeciality coverage of endocrinology and community medicine.

Bibliometric analysis for IJEM has been done in the past for a 3-year period from 2007 to 2009,<sup>[4]</sup> but the current attempt reviews the contribution of IJEM specifically to community health.

## MATERIALS AND METHODS

A total of four volumes (15, 16, 17 and 18) of IJEM were analyzed.<sup>[5]</sup> The articles published were analyzed for each type of article (editorial, original article, review article, brief communication, letter to editor, case reports, case reports with review of literature, guidelines and recommendations and two special sections introduced recently, that is, endocrine and gender and endocrine and arts) under the different sub specialties of endocrinology and metabolism (pituitary, parathyroid, thyroid, pancreas, adrenal, gonads and general endocrinology).

The volumes of IJEM published were further searched and analyzed for the articles written from a community health perspective. All articles were read independently by each author and classified according to their relevance to community health. Selected articles were further classified into different subjects pertaining to the discipline. Community health is an all-encompassing science, which includes virtually every aspect of medicine in its ambit. No formal demarcation of its sub specialties has been made so far. We arbitrarily divided the selected articles into various domains of community endocrinology viz., epidemiology, prevention *per se*, psychosocial health, nutrition (including obesity and growth related articles), NCDs and public health, knowledge, attitude and practices studies, recommendations and health programs, research and bibliometric analysis and health economics. These community medicine related endocrinology articles were further divided as per the several sub specialties of endocrinology and metabolism (pituitary,

parathyroid, thyroid, pancreas, adrenal, gonads and general endocrinology).

## RESULTS

Over 4 years, IJEM has published 4 volumes comprising of 22 issues and 10 supplements.

Overall, these 32 issues include a total of 779 submissions, comprising of 48 editorials, 231 original articles, 148 reviews, 34 brief communications, 178 letters to editor, 97 case reports, 27 case reports with review of literature, 3 articles on endocrinology and gender and 5 pertaining to endocrinology and arts [Table 1]. There were eight South Asian guidelines for the management of endocrine disorders in Ramadan. Of these, 7 editorials, 41 original articles, 30 review articles, 12 brief communications, 20 letters to editor, 4 guidelines and 2 on endocrinology and gender directly or indirectly dealt with the community health perspective of endocrinology. Table 2 shows the year (volume) wise distribution of these community endocrinology articles. Table 3 shows the number of articles related to community endocrinology published

**Table 1: Total number of research articles published in IJEM w.e.f. 2011-2014**

Type of research article	2011	2012	2013	2014	Total
Editorial	9	13	13	13	48
Original	17	57	69	88	231
Review article	19	55	46	28	148
Brief communication	0	8	12	14	34
Letter to editor	10	71	58	39	178
Case report	21	35	37	4	97
Case report with review of literature	0	17	10	0	27
Endocrinology and gender	0	0	3	0	3
Endocrinology and arts	0	3	1	1	5
Guidelines	0	8	0	0	8
	76	267	249	187	779

IJEM: Indian Journal of Endocrinology and Metabolism

**Table 2: Number of articles published in IJEM based on the various areas of community medicine w.e.f. 2011-2014**

Based on the various areas of community medicine	2011	2012	2013	2014	Total
Epidemiology	0	2	10	6	18
Prevention	2	6	5	3	16
Psychosocial health	0	3	4	3	10
Nutrition and health	4	14	9	5	32
Noncommunicable diseases and public health	4	5	6	2	17
Knowledge, attitude and practices studies	0	1	3	1	5
Recommendations and health programmes	0	5	5	2	12
Research and bibliometric analysis	0	2	1	0	3
Health economics	0	0	0	3	3
Total	10	38	43	25	116

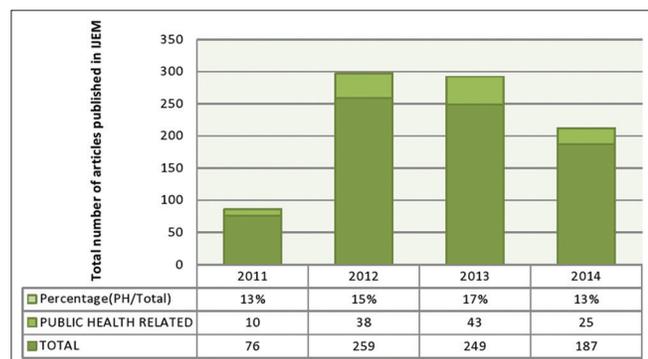
IJEM: Indian Journal of Endocrinology and Metabolism

under different contents of the journal. Figure 1 gives the fraction of community endocrinology articles published in these years. Table 4 gives the distribution of community health articles as per the various sub specialties of endocrinology.

If we calculate the percentages (excluding case reports and case report with review of literature) published from community health perspective out of the overall number in these 4 years, then community health related articles account for around 18% (116/655). 13%, 15%, 17%, 13% of the articles in all the categories published in IJEM in 2011, 2012, 2013 and 2014 respectively were community medicine related.

## DISCUSSION

Over the last few decades, NCDs have emerged as the leading causes of death globally. NCDs place a huge burden



**Figure 1:** Year wise fraction of community endocrinology articles in Indian Journal of Endocrinology and Metabolism

on individuals and families, drain health resources, and threaten to derail the productivity, growth, and development of the nation.<sup>[6]</sup> The endocrine and metabolic diseases of obesity, diabetes mellitus (DM), iodine deficiency (ID) disorders, Vitamin D deficiency and osteoporosis are some of the major public health problems faced today. For instance, the world prevalence of diabetes among adults (aged 20–79 years) was 6.4% in 2010 and is expected to increase to 7.7% by 2030.<sup>[7]</sup>

Eighteen articles on epidemiology of endocrine and metabolic disorders were published through 2011–2014. Defining the epidemiology of these conditions will provide clues to risk factors and identify areas of concern to help allocate community health resources.

Jain *et al.* who did a retrospective analysis of all elderly patients following up at their closed community hospital in Nagpur city of Maharashtra observed a 30.42% of prevalence of DM.<sup>[8]</sup> The high prevalence of DM reported uniformly from across the region has inspired the editors to suggest the use of the term endemic rather than epidemic while describing DM.<sup>[9]</sup>

Endocrinologists are able to deal with secondary prevention of these silent killers exceptionally well, but India still remains one of the capitals of diabetes and cardiovascular diseases (CVDs). There is a need for endocrinologists to look beyond just treating patients who come with the said disease to them; it is required that they maintain a broader outlook towards various determinants of disease and address the problem from the biological, behavioral, psychosocial and

**Table 3: List of number of articles published in IJEM of public health importance w.e.f. 2011-2014 as per type of article**

Type of research article	2011	2012	2013	2014	Total	Fraction of the total	Percentage
Editorial	1	1	2	3	7	7/48	15
Original	4	10	18	9	41	41/231	18
Review article	3	16	8	3	30	30/148	20
Brief communication	0	3	6	3	12	12/34	35
Letter to editor	2	4	7	7	20	20/178	11
Endocrinology and gender	0	0	2	0	2	2/3	67
Guidelines	0	4	0	0	4	4/8	50
Total	10	38	43	25	116	116/779	15
						116/655*	18

\*Denominator excluding case reports and case reports with review of literature. IJEM: Indian Journal of Endocrinology and Metabolism

**Table 4: Distribution of community health articles as per the various sub specialties of endocrinology w.e.f. 2011-2014**

	General	Pancreas	Thyroid	Pituitary/ adrenal/gonads	Obesity and metabolism	Parathyroid and bone metabolism	Total
2014	2	14	4	3	1	1	25
2013	4	25	6	1	6	1	43
2012	7	15	0	1	13	2	38
2011	1	6	0	2	1	0	10
Total	14	60	10	7	21	4	116

community perspective. The editors have also emphasized on the need for therapeutic patient education as a tool to achieve the desired therapeutic outcome<sup>[10]</sup> They have also stressed upon patient empowerment and encourage inclusion of patient education as an integral part of all disease management.<sup>[11]</sup>

Traditional Indian strategies have also been studied in the pages of IJEM. There was found to be a significant improvement in the (quality of life) and a nonsignificant trend toward improvement in glycemic control in the group practicing the comprehensive yogic breathing program compared with the group that was following standard treatment alone.<sup>[12]</sup> It is suggested that yoga and related practices result in rapid gene expression alterations, which may be the basis for their longer-term health effects.<sup>[13]</sup>

Several of these endocrine and metabolic disorders are preventable and easily diagnosable. Yet, if still these disorders strike, a majority of them remain undiagnosed. Though existing risk factors such as smoking, dyslipidemia, hypertension, diabetes and obesity have been considered while calculating the risk among various ethnic groups, they cannot fully explain excess risk in Indians and other ethnic groups, indicating a search for alternative risk factors says Gupta *et al.*<sup>[14]</sup> This highlights the imperative role of the community medicine specialists to cater to the unseen population; to locate those cases who are at risk of developing these disorders. For instance the public health implications of hypothyroidism were understood quite early in the evolution of thyroidology.<sup>[15]</sup> ID is still the single most important preventable cause of brain damage.<sup>[16]</sup> However even now, there are two major factors – poverty and inability of consumers to assess the quality of salt they purchase – that hinder iodized salt consumption in India, thereby putting a large number of people at risk of ID. Patients with hypothyroidism in India often remain undetected and untreated in spite of easy detection techniques and low cost treatment, impairing the work performance and economic productivity of Indian people.<sup>[17]</sup>

In 2000, a study by AIIMS showed that up to 90% of apparently healthy subjects were having hypovitaminosis D.<sup>[18]</sup> Early detection of Vitamin D deficiency should be the priority of the government as well as the nongovernmental organizations involved in health. There is also a need for the national food fortification program to improve the Vitamin D status of the whole population. Vitamin D should be supplemented for vulnerable groups such as pregnant and lactating women, infants and elderly >60 years as it is beneficial for both skeletal and nonskeletal health.<sup>[19]</sup> Mithal

and Kalra *et al.* concluded that daily doses of 1000–2000 IU can be recommended in all antenatal women in South Asia, without estimating serum 25(OH) D levels.<sup>[20]</sup> Kaushal and Magon *et al.* seconds their conclusion that getting 25(OH) D levels consistently above 75 nmol/L (30 ng/mL) may require at least 1500–2000 IU/day of Vitamin D.<sup>[21]</sup>

There were 8 articles on South Asian guidelines for management of endocrine disorders in Ramadan in the July–August 2012 issue of IJEM.<sup>[22–25]</sup> The holy month of Ramadan is one of five main pillars of being a Muslim. The risk group approach is a commonly practiced managerial tool in public health and population medicine. Using this approach, the concerns regarding fasting in diabetes, which by all counts is a public health problem of concern in current medical practice, can be taken care of.<sup>[26]</sup> This series of articles on Ramadan management suggests the person centered, community centered ethos and international reach of IJEM.

Shriraam *et al.* compiled the various national health programs running in the country in endocrinology and emphasized on the need for the program to maximize its effort in primary prevention or at least postponing the onset of these conditions.<sup>[27]</sup> Most of the programs aim at primary prevention (health education and specific protection) and secondary prevention (screening for early diagnosis of the disease and treatment). Keeping in view that there are common preventable risk factors for cancer, diabetes, CVD and stroke, Government of India initiated a National Programme for Prevention and Control of Cancers, Diabetes, Cardiovascular Diseases and stroke (NPCDCS) during 2010–2011. NPCDCS has two components viz., (i) cancer and (ii) diabetes, CVDs and stroke.<sup>[28]</sup> Childhood obesity screening is done under school health programs, but for the follow-up care of obese children, no specific programs are available.<sup>[27]</sup> For unseen syndromes such as congenital hypothyroidism, there is a felt need for the universal screening program. All this can be achieved through consolidation of knowledge of endocrinologists and mobilization efforts of community medicine specialists. It is important for both the endocrinologists and community medicine professionals to think “prevention of obesity” at all patient visits in clinics and in fields to incorporate relevant health education. Body mass index (BMI) charts and waist circumference should be incorporated in routine health records. BMI should be monitored annually. The children with BMI > 75<sup>th</sup> centile should be frequently monitored and life style interventions should be introduced. The purpose should be to pool and integrate the expertise of both endocrinologists and community medicine specialists so that more efficient and

comprehensive assessment and intervention services may be provided. The role differentiation can be defined by the needs of the situation rather than by discipline-specific characteristics.

Truly the 40 years experience of ESI coupled with the energetic 15 years of IJEM provides us with an academic cocktail with an idea of the past, current, and future trends in endocrine research.<sup>[29]</sup> Kumar *et al.* analyzed the characteristics of all articles published by endocrinologists from India in PubMed indexed journals between 2001 and 2012 and concluded that research productivity of endocrinology community is increasing during the last decade in PubMed indexed journals.<sup>[30]</sup> There is a further need for the similar kind of bibliometric analysis of the community medicine journals to analyze their contribution towards the field of endocrinology and metabolism. This will help assess whether the upcoming field of NCD, especially diabetes and other metabolic disease, is being given adequate representation by community medicine fraternity.

## CONCLUSION

Much is said and written about how things need to be done at individual, community and government level if we wish to see a change. Working individually, however, in clinics and academic departments will not bear as much results as would the trans disciplinary approach. A trans disciplinary approach requires team members to share roles and systematically cross discipline boundaries. We must work to horizontally interconnect the fields of community medicine and endocrinology, so that we can consolidate the results of the articles published and convert it into some visible action in the field of endocrinology and metabolism. We hope that this communication will herald the beginning of a new, much needed specialty: Community endocrinology.

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