Publication Indicators for Science in India Based on International Databases

PART 4

Mapping Medical Research in India: An Analysis Based on *Medline* Nov. 1987 - Dec. 1994

Subbiah Arunachalam
Distinguished Fellow in Information Science
M S Swaminathan Research Foundation
Third Cross Street, Taramani, Chennai 600 113, India

Submitted to the
Department of Science and Technology
Government of India, New Delhi

October 1997

Publication Indicators for Science in India Based on International Databases

PART 4

Mapping Medical Research in India: An Analysis Based on *Medline* Nov. 1987 - Dec. 1994

Subbiah Arunachalam
Distinguished Fellow in Information Science
M S Swaminathan Research Foundation
Third Cross Street, Taramani, Chennai 600 113, India

Submitted to the
Department of Science and Technology
Government of India, New Delhi

October 1997

Dedicated
to the memory of
Sambhu Nath De of Calcutta,
who, despite his great work in cholera,
died unsung and unrewarded in his own country,
exposing in the process the gross inadequacies of India's
scientific establishment, Academies and the peer review system

About the author

Subbiah Arunachalam is a consultant in the areas of Information Access and Writing (both technical and business). Currently he is a Distinguished Fellow in Information Science at the M S Swaminathan Research Foundation, Madras and a part time Visiting Professor at the Indian Institute of Technology, Madras, in the Department of Humanities and Social Sciences.

He is an editor of scientific and technical journals, science writer and information scientist. He played an important role in the founding of *Pramana, Journal of Physics*, of which he was the first executive editor, and had contributed substantially to the growth of *Indian Journal of Technology*. He was with the Indian Academy of Sciences for two years in the early Seventies, where he was editor, secretary, manager, all rolled into one. He is a member of both the Indian and the International Sciences Writers Associations, and the Indian correspondent of GATE, published by GTZ, Frankfurt, Germany.

His research interests include science studies, scientometrics, information access, and knowledge flows and he is especially known for his work on science in the developing countries. His work has appeared in *Scientometircs, Journal of Information Science, Current Science, Journal of Scientific and Industrial Research, Knowledge and Policy, The Scientist, Science Today, Science Age, Science Reporter* and in many newspapers.

Arunachalam is on the editorial boards of many refereed journals. These include *Scientometrics* (Budapest), *Journal of Information Science* (London), *Current Science* (Bangalore), *JISSI - Journal of the International Society of Scientometrics and Informetrics* (Calcutta) and *DESIDOC Bulletin of Information Technology* (Delhi). He is also on the editorial boards of *Current Contents*, PCES edn (Philadelphia), and the *Indian Journal of History of Science* (Delhi). He has delivered invited talks in 20 international conferences and chaired sessions in half a dozen of them.

The author would welcome comments and criticism.

Subbiah Arunachalam
Visiting Professor
Dept of Humanities and Social Sciences
Indian Institute of Technology
Chennai 600 036, India.
Email: <arun@indy.iitm.ernet.in>

Preface

India has an ancient tradition of medicine and surgery. The indigenous systems of medicine, especially Ayurveda and Siddha, have a long history dating back to Vedic times. Charaka and Sushruta, known for their originality and spirit of inquiry, will figure in any list of all-time greats in medicine. Unfortunately, an age of stagnation began around the seventh century, and successive cultural intermingling that took place with the arrival of people from Europe and the Middle-East led to the adoption of other systems of medicine. The early lead India had was lost and during the colonial times, Western medicine took a dominant position in India, and as Prof. Marthanda Varma Valiathan says, India adopted the Western medical system whole-heartedly in the nineteenth century and continues to live on borrowed intellectual capital.

India offers extensive scope for medical research: a very large population, a very high proportion of it living in penury and poor health, and prevalence of almost all the known diseases and syndromes.

This report, one in a series looking at published research in different fields, examines India's contribution to medical research as reflected by *Medline*, the CD-ROM database of the US National Library of Medicine. Other parts in this series have quantified India's contribution to research in mathematics, physics and materials science. Unlike in the earlier parts, here I go beyond developing mere bibliometric indicators and attempt to find out whether the medical research done in India is in areas where it is needed the most. To answer this question, I match the journals in which Indian medical research is published often, reflecting the subfields in which Indian researchers are active, with the diseases that afflict Indians the most, gathered from mortality and morbidity statistics. This I believe is a legitimate policy application of scientometrics, and I owe it to a conversation I had with Prof. S K Rangarajan. Surely, the study can be refined and I am sure future researchers will bring in greater precision to such policy oriented studies.

I have published my findings on medical research in India in two papers. One, based on an analysis of five years of *Science Citation Index*, was presented at the Fifth International Conference on Scientometrics and Informetrics, held at River Forest, IL,

USA, in June 1995. It was widely regarded as one of the important papers presented at the conference. The second, based on seven years of *Medline* data, the same ground as covered in this report, was published in *Current Science*, in its issue dated 25 June 1997. Within 45 days of its appearance, the paper formed the basis of news reports in *Science Now* (21 July 1997), *Nature* (31 July 1997), *Science* (1 August 1997), and *British Medical Journal* (2 August 1997). *The Hindu* of Chennai carried a detailed report on the findings. *Current Science* itself carried half a dozen commentaries, apart from editorial comments by Prof. P Balaram. A number of people from around the world have sent in reprint requests. While most commentators agreed with my methodology and conclusions, Prof. B Ramamurthi, the eminent neurosurgeon from Chennai, alone was critical of my paper. He said that I had "fallen into the familiar trap set by medico-politicians who seek to justify the inactivity of the Government in the field of Public Health, by putting the blame on medical researchers." I thought his views must be known widely, and persuaded him to publish his comments in *Current Science*. *The Hindu* also carried his comments. Prof. Ramamurthi was kind enough to discuss my paper in a meeting called by the Secretary of the Department of Biotechnology to consider new national level initiatives in neuroscience research. I was told that officials at the Indian Council of Medical Research were also unhappy with my paper - of course, not for the same reasons as Prof. Ramamurthi! Some of them thought that both my methods and conclusions were faulty. I urge them to make their views public.

The feedback I have received so far both on my 1995 River Forest conference paper and on my *Current Science* paper clearly points to the importance of such mapping studies. Unfortunately, both the Department of Science and Technology and the Department of Biotechnology have rejected my requests for funding. Could it be that extrascientific considerations are at play?

Despite the attitude of DST and DBT, I firmly believe that such studies by competent researchers are important and must be supported, and I am happy that many leading scientists I have spoken to agree with me.

Subbiah Arunachalam
1 October 1997

Mapping Medical Research in India: An Analysis Based on *Medline* Nov. 1987 - Dec. 1994

Subbiah Arunachalam*

M S Swaminathan Research Foundation
Third Cross Street, Taramani
Chennai 600 113, India

Abstract

This study aims to look at the state of health of medical research in India as reflected by the literature. Using seven years of *Medline* as the source, I have provided data on volume of research done in terms of number of papers published, the institutional and geographical distribution of these papers, the journals where these papers were published, the country of origin and impact factor of these journals, and the distribution of the papers by subfields. In all there were more than 19,900 papers published in 30 Indian journals and 1410 foreign journals. Of these 13,855 papers were published in journals belonging to 45 subfields of medicine. The largest number of papers were published in Indian journals. Journals published from the USA, UK and the Netherlands had also published a substantial number of papers from Indian institutions. Academic institutions were responsible for about two thirds of all papers. Combining these publication indicators with Government of India statistics on mortality and morbidity, I have attempted to determine how far Indian efforts in medical research are oriented to diseases that constitute the major health problems of the

* Also Part-time Visiting Professor, Department of Humanities & Social Sciences, Indian Institute of Technology, Chennai, 600 036, India.
Email: < arun@indy.iitm.ernet.in >. . Fax: 91-44-235 1319

country. India suffers most from diarrhoeal diseases, infancy diseases, respiratory diseases, tuberculosis and malaria. The journals in which Indian work is published most often indicate that Indian research are active in general and internal medicine, paediatrics, pharmacology, immunology, pathology, oncology, surgery, cardiovascular research, gastroenterology, and neurosciences. The most active ten fields do not include tropical medicine and respiratory diseases, two areas of great importance to India. Nor for that matter India is active in ophthalmologic research despite the fact that India has the world's largest number of the blind and a high incidence of glaucoma. But India carries certain volume of research in cancer and cardiovascular diseases, even though these are not priority areas. Reasons for the mismatch between the needs and the research priorities accorded are analysed. While the data provided here are accurate, there could be differences with regard to the inferences drawn. By and large most medical researchers seem to be in general agreement with the findings reported here and conclusions drawn.

Introduction

The scientific literature, it is often said, mirrors scientific research and provides an unobtrusive means of measuring a nation's research performance reasonably accurately. As part of a project funded by the Department of Science and Technology, Government of India, I have been trying to map scientific research in India using publications written by Indian scientists and indexed in major international bibliographic databases. In earlier parts of this series, I have mapped India's contribution to mathematics (and statistics) using *Mathsci*,[1] physics using *INSPEC-Physics*,[2] and materials science using *Materials Science Citation Index*.[3] In this part, I have made a detailed bibliometric analysis of all Indian publications (those bearing an Indian address) indexed in the CD-ROM version of *Medline* during November 1987 - December 1994. A few years ago I had examined India's contribution to medical research by analysing papers published in medical journals indexed in *Science Citation Index* in each one of the five years 1981-1985.[4] In another part, Arunachalam *et al.* have looked at India's contribution to the 'significant journal literature of the world' in all of science, technology and medicine, as seen from *Science Citation Index* 1989-1992.[5] I am currently mapping biological and agricultural research in India by analysing Indian publications indexed in *BIOSIS* and *CAB Abstracts.*

Thanks to the availability of these databases in CD-ROM form, one is able to carry out such studies with relative ease. About 15 years ago, one of my students, Mr Udai Narayan Singh -- now a professor at Birla Institute of Technology, Mesra, Ranchi, Bihar -- spent endless hours at the National Physical Laboratory and the Indian Agricultural Research Institute libraries in New Delhi collecting data on India's contribution to selected areas of high-tech physics, such as lasers, holography, liquid crystals, and superconductivity, manually from printed editions of *Physics Abstracts* and *Science Citation Index*! One of the earliest to combine publication and citation analyses in evaluating research performance at the national level, Singh was able to arrive at a measure of India's contribution to these specialities and compare India's record with that of several other countries including Australia, Canada, Israel, UK, Soviet Union and Japan.[6] In this series of studies, I and my collaborators have restricted ourselves to publication analysis.

The literature data downloaded from bibliographic databases permit one to answer a number of questions, such as where (in which journals) do Indian researchers publish their findings, which laboratories/institutions publish in large numbers, in which cities/states are these laboratories located and to which sectors (academic/government/ industry/societies) do they belong, how often do Indian scientists publish in high impact journals, in what subfields (tropical medicine, respiratory diseases, oncology, etc.) research is concentrated and so on. Such quantitative information on the output of the health research community is a valuable first step in the complex process of improving the contribution health research makes to the solution of a nation's health problems.[7] What is more, one could combine such information with statistics on morbidity and mortality and try to find out if India is performing research where it is needed. One can go beyond mere bibliometric analysis and apply it to questions of relevance to national policy. Such an attempt has been made in this study. Indeed, Arunachalam and Manorama[8] have shown that scientometric tools, developed and widely used in the West, can be adapted to study many aspects of scientific activity in India.

As Hicks *et al.*[7] point out, "it is important that health research priority setting be developed in tandem with existing research capacity. This underlines the importance of assessing the amount and nature of available expertise and positioning research output, both in the national health needs, and in the international science research contexts." It is clear that choice of research problems cannot be made at random; it has to be oriented to the health care priorities of the country, especially in a developing country where scarce resources have to be used judiciously. Unfortunately, points out Prof. S. Moncada, Director of the Cruciform Project at the University College London, an eminent medical researcher, the random nature of research and the lack of connections between research and the short/medium term needs of the country are typical of the Third World countries [private communication, 10 June 1997].

Methodology

I collected data from the DIALOG ondisc version of *Medline*, November 1987 - December 1994. I chose a fairly long period to avoid possible misleading conclusions that might arise from deviations that could result

from short-term fluctuations in emphasis in research in different medical specialities. As *Medline* does not always include the country name in the address field, I included the names of all Indian cities and towns where there are higher educational institutions and research laboratories in my search strategy. This led to capturing a few non-Indian papers as there are cities elsewhere in the world with the same names as some Indian cities! For example Salem (a large town in Tamil Nadu) brought in some papers from Winston-Salem in North Carolina, USA, and Kochi, a city in Kerala, brought in several papers from a Japanese city of the same name. These non-Indian papers were eliminated. For all entries originating in India, I downloaded the necessary bibliographic data and converted them into a database. The analysis of data for identifying prolific institutions and cities/towns, journals used for publishing papers from Indian institutions, etc. was carried out using Foxpro.

Problems pertaining to data analysis

There were a few issues to be resolved. The first related to the level of aggregation at which India's contribution to medical literature is classified. Should it be at the individual article level? That would be ideal, but next to impossible. I decided to look at India's contribution at the journal and institutional levels. Following the example of CHI Research, Inc.[9] and ISSRU of the Hungarian Academy of Sciences,[10] I allotted whole journals to subfields and subfields to major fields, and classified each paper into the field/subfield of the journal in which it was published. The second concerned the classification of diseases and journals. Diseases are usually classified as pertaining to different systems such as respiratory system, circulatory system, and nervous system, whereas journals are classified under fields and subfields such as allergy, andrology, gastroenterology, and surgery. By and large I used the classification of journals followed by *SCI* and given in the *SCI Guide*.[11] For non-*SCI* journals, I used the classification used by Ulrich, the well-known reference source on serials literature. The world scientometric community is fully aware of the problems in all kinds of classification. These were discussed at a one-day workshop[12] immediately following the Fifth Biennial International Conference of the International Society of Scientometrics and Informetrics at River Forest, IL, USA, in June 1995. The third problem related to the

correctness of the mortality and morbidity data. These were collected from a report of the World Health Organization's South East Asia Regional Office,[13] New Delhi, and the report clearly states that the data were provided by Indian agencies and they were reliable to only a certain extent.

Results and Discussion

Journals used

In the seven years (as seen from *Medline* Nov. 1987 - Dec. 1994), Indian researchers had published 19,952 items in 1440 journals (Table 1). Of these, 19,916 were journal articles (as classified by *Medline*), nine were letters and eight clinical trials.

The 1440 journals in which Indian researchers had published their papers in the seven years are listed in Tables 2a (alphabetical) and 2b (in descending order of number of papers from India), along with the number of papers published from India in each one of them, the journal country and the subject category to which the journal belongs. Some journals belong to more than one medical subfield, e.g. *Indian Journal of Leprosy* is classified under three subfields, viz. dermatology, immunology and pathology. At the time of writing, a few journals were left unclassified, as they are neither indexed in *SCI* nor are they listed in the print version of Ulrich. Tables 2a and 2b also give the impact factors of the journals taken from *Journal Citation Reports* 1991. An impact factor of 0.0 means that the journal is not indexed in *SCI*.

Of the 40 journals in which at least 75 papers were published from Indian addresses, 21 are published in India. The top six in this list as well as 13 out of the top 15 are Indian journals. There were nine other Indian journals from which *Medline* had indexed at least one paper during the period studied. These are: *Tropical Gastroenterology* (69 papers), *Hindustan Antibiotics Bulletin* (33), *Journal of the Indian Society of Pedod Prev Dent* (28), *Indian Journal of Dental Research* (27), *Journal of the Pierre Fauchard Academy* (14), *Fed Oper Dent* (12), *Journal of the Indian Dental Association* (11), *Indian Journal of Dermatology* (9), and *Acta Anthropogenetica* (6). Thus *Medline* had covered thirty Indian journals during the period under study. Not all 30 were, however, covered in each one of the seven years. For instance, in 1992, it covered only 22 of them. Three of the 30 Indian journals indexed in *Medline* (viz. *Indian*

Journal of Biochemistry and Biophysics, *Indian Journal of Experimental Biology* and *Acta Anthropogenetica*) are not mainstream medical journals.

Most Indian papers indexed in *Medline* had appeared in low-impact journals. Nearly three-fourths (14,822 out of 19,952) were published in journals whose impact factor (*JCR* 1991) was less than 1.0 or in journals which were not indexed in *SCI*. These include 9,525 papers in 530 non-*SCI* journals (impact factor taken to be 0.0) and 5,297 papers in 419 journals with impact factor less than 1.0. Only 58 papers were published in journals whose impact factor was higher than 8.0. Besides, some of these papers in high impact journals, such as the 12 papers in the *Proceedings of the National Academy of Sciences, USA*, may not be mainstream medical research papers and are most likely to be in related areas such as new biology/biomedical research.

Analysis by subfield

Medline covers not only the literature of medicine, but also related fields such as biochemistry, biophysics and even chemistry and materials science (biomaterials). In Tables 3a (in descending order of the number of Indian papers) and 3b (alphabetical), I have included only journals that are classified under 45 subfields of medicine and papers published in those journals. In these subfields authors from Indian institutions have used 1013 journals to publish 13,855 articles. As some journals are included in more than one subfield, totalling by subfield leads to 1368 journals and 18,244 articles as seen from Table 3. There is a large difference between the two sets of numbers. Take, for example, pharmacology. If we include Indian articles in all journals under the subfield, there are 1367 papers published in 94 journals. But, if we avoid duplicate counting, the number of journals drops to 53 and articles to 398. There is a reason for this large drop: whenever a journal is classified under pharmacology and one or more other categories, pharmacology is the one which gets left out as most of the times the subfields under which a journal falls are arranged alphabetically.

In many cases, the additional category is not among the 45 subfields listed in Table 3.*

Indian researchers have used 101 journals to publish 584 papers in neurosciences, and 94 journals to publish 1367 papers in pharmacology. In contrast, at the other end of the spectrum, they have used just one epidemiology journal to publish two papers, and two nursing journals to publish two papers. In Table 4 I list the journals under subfields along with journal country and number of Indian papers in those journals. In terms of number of papers published, general medicine tops the list with 2,394 papers. Research medicine (208 papers) and general medicine (2,394 papers) together account for 2,602 papers. One can take this number as India's contribution in the area of general and internal medicine.+ Paediatrics comes next with 1,420 papers, followed by pharmacology (1,367), immunology (928), pathology (916), oncology (821), surgery (750), cardiovascular research (663), gastroenterology (606) and neurosciences (584).

The top ten fields in Indian medical research, in terms of number of papers published, do not include tropical medicine and respiratory system diseases, two areas which are very important in India, as seen from mortality and morbidity statistics provided by the Government of India to

---

* For example, the Swiss journal *Agents and Actions* is covered under chemistry and pharmacology. The six papers published by Indian authors in this journal are not included in the 13,855. Unincluded, similarly, are the six articles in the German journal *Archives der Pharmazie (Weinheim)* and the 27 papers published in the Belgian journal *Archives Internationales de Pharmacodynamie et de Therapie*, both of which are covered under chemistry, which is not covered in Table 2. Again the 92 papers Indian authors had published in the Swiss journal, *Journal of Ethnopharmacology* do not figure in the 13,855 papers, as this journal is classified under botany, another subject not included in the 45 subfields shown in Table 2. However, these missing articles are captured in lists of journals under appropriate subfields, not minding duplication. For want of space, these lists are not shown here.

+ It is for convenience these journals are classified under General and Internal Medicine. Indeed, many papers in these journals may deal with topics which may legitimately be classified under other specialities such as Tropical medicine, Ophthalmology, Paediatrics, and Gastroenterology. However, errors introduced by this classification will not affect our overall conclusions.

the World Health Organization (Table 5). Cancer/oncology and cardiovascular diseases do not figure in Table 5, and yet relatively considerable amount of research is being carried out in India in these areas. Again, with more than nine million blind, including two million children, India tops the world in the incidence of blindness. India also suffers from a very high incidence of glaucoma and cataract. But, there is very little research in ophthalmology.

Analysis by journal country

In Table 6 I have classified all Indian papers by subfield and country of publication of the journals in which the papers were published. Only papers falling under the 45 medical subfields and journal countries above a threshold of Indian papers are included. Indian, US and British journals are the ones used most often. Table 7 lists the 30 Indian journals giving the number of papers published in them as seen from *Medline*. In Table 8 I have classified Indian papers indexed in *Medline* by journal country. Unlike in Table 6, here all journals indexed in *Medline*, irrespective of whether they are classified under medical subfields or not, are considered. The number of Indian journals covered by *Medline* is only a small fraction of the more than 250 Indian journals received at the National Library of Medicine, National Institutes of Health, Bethesda, MD, USA, the publishers of *Medline*. Thus, while *Medline* covers a larger number of Indian journals than *SCI* - which covers only one medical journal from India, viz. *Indian Journal of Medical Research*, and a few others in the related areas of new biology and biomedical research - it also leaves out a very large number of Indian journals. The fact is, simply, many Indian journals do not meet the criteria for selection for inclusion in *Medline* or *SCI*. Editors and publishers of Indian journals should examine why Indian journals do not measure up to the expectations of international database producers. Prof. Samiran Nundy and colleagues of the All India Institute of Medical Sciences have carried out a study on the quality of Indian medical journals and they found that most of them are poor.[14,15] On a request from the Indian Council of Medical Research, Nundy and colleagues examined 113 serious English-language journals published in India covering a wide range of subjects such as anaesthesiology, genetics, parasitology, social and preventive medicine and urology.[15] Most of these

journals were sponsored by professional societies and academic bodies and all but a handful were not coming out on time and only a few were indexed in international secondary services (three in *Current Contents*, 22 in cumulated *Index Medicus* and 26 in *Excerpta Medica*). Says Nundy[14]: "most journals not included in the international indexing services did not deserve to be included."

Nundy and co-workers have also found from an analysis of the publication output of more than 125 Indian medical institutions, as seen from eight years of *SCI*, that most of these institutions are not active in research.[16] The view that medical research in India is in bad shape general is in agreement with the opinion of Prof. M S Valiathan, former Director of Sree Chitra Tirunal Institute at Thiruvananthapuram and currently Vice Chancellor of the Manipal Academy of Higher Education, who points out that India has hardly contributed anything to modern surgery.[17] Noting that starting from the late nineteenth century a number of Indian physicians and surgeons had gone to Britain, and lately to the US as well, for training and that many of them had won respect and acceptance all over the world for their competence and universality of outlook, Valiathan wonders why, despite all the achievements, "India's name did not figure in the honour roll of nations which contributed to the advancement of surgical knowledge despite her wholehearted adoption of European medicine and surgery." In his view, "India enjoyed a free ride in surgery from the nineteenth century, borrowing Western theory and practice and contributing nothing." Valiathan is emphatic in asserting that "in surgery India lives on borrowed intellectual capital" and that "no concept, no discovery, no technology or procedure originated in India which shaped or directed the course of global surgery."[17]

Overall, Indian researchers use Indian journals the most, followed by US, UK, Dutch, German and Swiss journals (Table 8). A very large percentage of Indian papers in paediatrics (1,088 out of 1,420), general medicine (2,151 out of 2,394) and physiology (377 out of 533) had appeared in Indian journals. In tropical medicine, an area of considerable importance to India, Indian research publications had appeared mainly in British journals: 69 in Indian journals and 238 in UK journals. In neurosciences, India had published all her papers in foreign journals, mostly in US and UK journals.

Use of British vs. American journals

There were six papers in *British Medical Journal* and 22 in *Lancet* in our *Medline* sample, but none at all in the *Journal of American Medical Association* and only one in the *New England Journal of Medicine*. There were two papers in *Nature* and one in *Science*. Two points are evident. One, not all papers published in *Nature* and *Science* are indexed in *Medline*. This is understandable as those not indexed may not pertain to medicine. What is surprising is that not all papers from India in *Lancet* are also being indexed in *Medline*! For example, *SCI* 1992 (CD-ROM version) has indexed 30 papers published in *Lancet* from India,[5] but *Medline* has indexed only 22 in seven years. It is indeed surprising that even such a prestigious journal as *Lancet* is not indexed cover-to-cover in *Medline*. Two, it appears to be far more difficult for Indian researchers to get their papers published in leading American journals than in British journals. Data from four years of *SCI* (1989-1992) show this fact not only with respect to *Lancet* and *NEJM* but also with respect to *Nature* and *Science*.[5] There could be many reasons, such as page charges levied by American journals, editors' attitudes and India's historical links with the UK.

Editors' attitudes do matter. The editor of the *Lancet* Dr Richard Horton and the former editor of *BMJ* Stephen Lock and his colleague Jane Smith are known to be sympathetic to Third World researchers. The *BMJ* editors have come to India more than once to exchange views with Indian editors and to conduct training programmes on medical writing. They are coming again in early 1998 to conduct a workshop at Manipal. Richard Horton, as chair of the World Association of Medical Editors, assembled a global network of researchers to assist editors of Third World journals in establishing peer review processes. Horton believes that often cultural differences are misinterpreted as bad science.[18] In contrast, the editor of *NEJM* Jerome P Kassirer is on record as having said that "what developing countries should receive is guidance on nutrition and immunizations before getting advice on medical editing." He says that "very poor countries have much more to worry about than doing high quality research," and that "there is no science there."[18] Similar is the attitude of Floyd E Bloom of *Science*. For him, poor language skills also mean poor science! "If you see people making multiple mistakes in spelling, syntax and semantics, you

have to wonder whether when they did their science they weren't also making similar errors of inattention."[18]

The academic links are also equally important. For historical reasons many Indians go to Britain for higher education in medicine and unlike those who go to the USA most of them return to India to set up practice and pursue research. Indian students use many British textbooks, many of them available as ELBS low-cost editions. The British Council libraries located in major Indian cities have excellent collections of medical books, journals and reference sources, and doctors form a substantial segment of the membership.

Analysis by institution

The distribution of papers by institutional type is given in Table 9. Academic institutions (universities and colleges) are the leading publishers of medical research papers. Central government institutions have published more papers than state government institutions. Interestingly, Council of Scientific and Industrial Research laboratories have published more papers than Indian Council of Medical Research (ICMR) laboratories. But then ICMR receives very little funding. The Department of Atomic Energy (DAE) accounts for more papers than the institutions under the Ministry of Health and Family Welfare. This is not only because DAE is a far more high profile outfit but also because it has two institutions, viz. Tata Memorial Centre and Cancer Research Institute, Bombay, which publishes a large number of papers, and Bhabha Atomic Research Centre, Bombay, the flagship of DAE, which also contributes a good deal in the area of radiology and nuclear medicine.

Indian institutions which had contributed more than 50 papers in the period under study are listed in Table 10. Only two institutions, viz. All India Institute of Medical Sciences, New Delhi, and Post Graduate Institute of Medical Education and Research, Chandigarh, had published more than 1000 papers each in the seven years studied, and two more, viz. Banaras Hindu University, Varanasi, and Tata Memorial Centre and Cancer Research Institute, Bombay, had published more than 500 papers Seven other institutions have published more than 250 papers each.

Analysis by city

The distribution of papers by state is given in Table 11 and by city is given in Table 12. Delhi (including New Delhi) tops the list with 4021 papers. This is largely due to the concentration of institutions performing research in the capital and their proximity to funding agencies, almost all of which are also located in the same city. Why should there be so much concentration of medical research centres in the nation's capital? Sane voices like that of Nundy advocate decentralisation of health care and health research facilities. The major institutions contributing to medical research in Delhi are the All India Institute of Medical Sciences, Maulana Azad Medical College, Jawaharlal Nehru University, G. B. Pant Hospital, University College of Medical Sciences, University of Delhi, and National Institute of Immunology. Note that both Jawaharlal Nehru University and University of Delhi figure in the list largely because of their contribution to new biology and biomedical research which are also indexed in *Medline*; in fact, their contribution to medical research proper is rather meagre. The same is the case with the Indian Institute of Science, the seventh leading Indian institution in terms of number of papers indexed in *Medline*. Delhi is followed by Bombay, Chandigarh, Calcutta and Lucknow, all of which had contributed more than 1,250 papers each in the seven years. The other major contributors are Bangalore, Hyderabad, Madras, Varanasi, Vellore and Thiruvananthapuram. Delhi, Maharashtra, Uttar Pradesh and West Bengal are the leading states. Maharashtra and West Bengal owe their positions largely to Bombay and Calcutta respectively. Aligarh, Lucknow, Varanasi and Aligarh are the main contributors in Uttar Pradesh.

Comparison of analysis based on *SCI* and *Medline*

While by and large the conclusion drawn from the earlier study based on *SCI* data -- that a large part of the medical research carried out in India is not in areas where research is needed the most -- is validated by this study, there are a few significant differences. In Table 13 I list different subfields of medicine in which India is active in research. There are three lists in descending order of number of papers from India, the first two based on medical journals (under 45 subfields) indexed in *Science Citation Index* in two different periods, and the third based on *Medline* data discussed in this paper.

1. The *Medline*-based study, unlike the *SCI*-based study, indicates that India performs considerable amount of research in paediatrics, an area where much research is truly warranted by mortality statistics. This is largely because most paediatrics papers from Indian institutions have appeared mainly in two Indian journals, viz. *Indian Paediatrician* and *Indian Journal of Paediatrics,* which are covered by *Medline* but not by *SCI*. Another area of considerable importance to India where research is shown to be done in India by our analysis of *Medline* data is gastroenterology. This area did not figure as an active area in our analysis of *SCI* data[5] (see Table 13).

2. The *SCI* data showed that India was doing relatively well in tropical medicine,[5] but in the *Medline* data tropical medicine is not among the top ten fields, in terms of number of papers published. In the *Medline* ranked list it has dropped to the 16th place; it holds the sixth rank in *SCI* 1981-1985 list and fifth rank in the *SCI* 1991-1993 list (see Table 13). While general and internal medicine and pharmacology occupy roughly the same ranks, viz. within the top three positions, there is considerable variation in the ranks of some fields, e.g. microbiology, pathology and neurosciences. While some of these differences could be attributed to shifting emphasis over time, one cannot ignore the effect of the degree of comprehensiveness with which a database covers Indian research in different fields. It is important, therefore, to know the limitations of the databases used before we draw conclusions!

The interest in cancer and cardiovascular research is not surprising. Although these are not diseases that affect most people in India, i.e. relative to other diseases such as respiratory, diarrhoeal and infectious and parasitic diseases, there are enough rich patients with these ailments who are willing to pay any amount in selected urban hospitals. Doctors in such hospitals are better endowed to carry out research and publish their findings. Many of them have had overseas training, especially in the UK and the USA, where cancer and cardiovascular diseases are rather important. Also, unlike in less expensive hospitals, doctors in such hospitals are not overworked and they can find time to do research and write up their findings.

Lack of co-ordination

Overall, researchers seem to enjoy a lot of freedom in the matter of choice of research problems. There seems to be no co-ordination by an apex agency on what is being pursued. Analysing data from *Medline* on medical research publications from India's southern state of Kerala, Kartha and Mohandas[19] have come to similar conclusions: "There is a striking contrast between major health problems and those that attract attention of researchers. While infection, parasitic diseases, perinatal and pregnancy related problems, skin diseases, respiratory diseases and nutritional disorders are the major health problems in the state, a large number of publications are related to cardiovascular problems and cancer. This may be because there are three institutions completely devoted to these disciplines. Even in these areas it is debatable whether research efforts are matched with the needs of the beneficiaries." Echoing Valiathan's concern on the lack of original contributions from India, Kartha and Mohandas[19] lament that "simple diagnostic tests for case detection, new modalities for treatment, strategies for identifying high risk population for a specific disease, or methods for prevention of a disease have not been so far originally reported from Kerala." In their view, "emerging health problems related to substance abuse, behavioural, environmental and occupational diseases, and mental health problems have not attracted the attention of investigators. Research efforts to a large measure appear to be along beaten tracks, thus leading to very few facts of strategic value being collected."[19]

Conclusion

What Valiathan[17] has said in the context of surgery may very well apply to all of medicine, and what Kartha and Mohandas[19] have stated out of their experience in Kerala may very well apply to all of India. As Samiran Nundy points out succinctly, Indian health care is not good and we should try and improve it; we want our medical profession to have higher standards; and we should not copy Western countries, but do research into our own problems and spend a little more money on health.[20] Laments Sunil Pandya,[21] a Bombay-based neurosurgeon: "Clinical research in India is woefully deficient and inadequate in spite of the availability of an almost unmatched reservoir of patients and illnesses, i.e., clinical and pathological

material." The most important reason for this, says Pandya, is the absence of a culture of research.[21] Prof. Balaram,[22] Editor of *Current Science* agrees: "medical research in India is limping and off target. This is hardly surprising since biomedical research has never been a major thrust area in our medical institutions, with one or two exceptions. The jealous guarding of 'turf' in medical colleges and higher institutions by medical degree holders has ensured that basic science, an important pre-requisite for creating a research ambience, is largely excluded from the teaching of medicine. Pharmacology, microbiology, immunology and genetics are the step-children in medical course lists, leading to the production of a large number of clinicians with only a limited appreciation of the capabilities of modern science in biomedical research. The spatial separation of research institutions and hospitals hinders fruitful interactions between researchers and clinicians. This gulf has hindered the growth of modern biology in India directed towards the purposeful attack of problems of local importance." Besides, says Balaram, the network of ICMR laboratories "is hardly suited to the demands of modern science."

Indian medical schools, says Dr Arjun Rajagopalan[23] of the Chennai-based Sundaram Medical Foundation, lack publishing and research culture. In his view, "medical trainees have virtually no exposure to the basics of scientific methodology, study design and biostatistics." What is more, "we have not even the barest data on the epidemiology of diseases that are common in India. Much of Indian medical allopathic practice is based on Western data when it is patently obvious that there are very many major cultural and ethnic differences between Indians and Caucasians."[23]

Prof. Valiathan[24] attributes the poor correlation between major health problems and the preferences of investigators to reasons which go deeper into the history and evolution of medicine in India. According to him, after losing the early advantage of the originality and spirit of inquiry of which *Charaka Samhita* is a fine example, India, "long starved for new knowledge, welcomed western medicine in the 19th century and quickly learnt to use its tools and methods without bothering to learn how to make the tools and methods. This failure, like a birth defect, became a handicap and ensured that successive waves of tools and methods from the West, and not societal needs, determined the medical agenda in India." It would be useful to investigate the role played by professional bodies such as the

Indian Medical Association, the Indian Medical Council, and the government's apex agency for medical research, the Indian Council of Medical Research, in orienting research in the country.

Fifty years after Independence is an opportune time to look back and take stock of things. What has been the role of indigenous scientific research in the creation of new and useful knowledge and in finding solutions to problems? It will be instructive to compare research performance in medicine with that in other sectors, especially agriculture -- which like medicine draws heavily on the life sciences. Agriculture research in India, largely thanks to ICAR, has certainly played a key role in transforming a food-deficient country into a food-surplus country. In contrast, medical research in India, but for a few exceptions such as Sambhu De's work on cholera[25] and the development of synthetic heart valves and bloodbags at the Sree Chitra Tirunal Institute[26] - both of these being examples of outstanding work relevant to the needs of India -has not covered itself with glory. This despite the fact that medicine enjoys a better status and image than agriculture in the Indian society. How can one explain this anomaly?

The lack of leadership and the lack of clarity of the goals may be important reasons. Nundy has drawn attention to another facet of this problem, viz. the nexus formed between self-seeking doctors and 'powerful' politicians, seriously harming academic standards in medical education and research.[27] In contrast, the Indian Council of Agricultural Research (ICAR) had the benefit of some excellent political, administrative and scientific leaders who had both the vision and the commitment to achieve the goals, and the capacity to work together.[28] They could articulate their ideas well and motivate the rank and file. Besides, the country's goals on the food and agriculture front were well defined and well understood, and the Indian farmer, with his abundant common sense, contributed a great deal to the success on the food front. In India goal setting in medicine is not done as well as it is done in agriculture, and what is achieved in research - say, for example, in immunology - has very little influence on health care delivery. Matching ICMR's research programmes and what is being published by Indian medical researchers on the one hand with their relevance to the health care delivery objectives of the Department of Health and Family Welfare on the other would be revealing.

Things might take a while to change. Delivering the Dr Y Nayudamma memorial lecture in December 1996, Prof. J S Bajaj, member of India's Planning Commission in charge of health related issues, said that AIDS, cancer, tuberculosis, hepatitis and malaria in that order would be the thrust areas for research, while admitting that communicable diseases, disorders due to nutritional deficiencies and pregnancy-related illnesses would continue to be major causes of morbidity and mortality in the first decade of the 21st century.

One may also refer to ICMR's attitude to research on medical research in India. Arora *et al.* reported in their paper on the best medical colleges in India that ICMR was unwilling to give them information on grants given to medical colleges (on the grounds that it would serve no purpose).[29] My own limited experience in trying to get data on library and information budgets for a study on their impact on research performance was no better: ICAR sent the data within a few weeks for most of its laboratories and ICMR has not.

One other problem deserves attention. The peer review processes, the very linchpin of the scientific and scholarly enterprise, does not function all that well in India. But the situation in medicine seems to be worse than in other fields. How else can one explain a Nobel-class researcher like Sambhu Nath De, who made not one but at least three major discoveries in cholera and diarrhoeal research which forever altered the fields,[25] going unsung and being little known in the Indian scientific community in his lifetime?

I would be happy if this unobtrusive literature-based analysis opens up a discussion on the steps to be taken to improve both medical research and health care delivery in India. This study, together with my earlier study based on *SCI* data[4] along with analysis based on more recent publication and citation data, I believe, can be of considerable value in mapping medical research in India. A study on India's contribution to research in different specialities of medicine, based on *Excerpta Medica*, is being carried out at ICMR with funding from the Department of Scientific and Industrial Research. Such scientometric studies will become even more valuable when used in conjunction with quality peer opinion.

Finally, research performance in any field cannot be viewed in isolation. There are many factors that have a bearing on both the quantity

and quality of research output, such as funds invested. Investment in medical research in India is indeed deplorably low and should be increased immediately. However, unless such increased funding is matched by enthusiasm and skill of the researchers and sprucing up of the Indian Council of Medical Research, the nodal agency responsible for biomedical research in the country, it would not lead to substantial improvement.

Acknowledgement

Financial assistance from the NSTMIS Division of the Department of Science and Technology, New Delhi, is gratefully acknowledged. The work was commenced when the author was an INSA Visiting Fellow at the National Centre for Science Information, Indian Institute of science, Bangalore. The *Medline* data were provided by the National Centre for Science Information. Mr G S Sridhar and Ms K Umarani assisted in data processing. Prof. S Parthasarathy, former Director of the Indian National Scientific Documentation Centre, Prof. S K Rangarajan of the Institute of Mathematical Sciences, Madras, and Prof. M S Swaminathan, Chairman of the MSSRF, were kind enough to share their perceptions of scientific research in India.

References

1. Arunachalam S, *India's contribution to the literature of mathematics and related fields: An analysis based on Mathsci 1988-mid 1995*, Report submitted to the Department of Science and Technology, New Delhi, August 1996.

2. Arunachalam S and Dhawan S M, *Physics research in India: An analysis based on Physics Abstracts 1992*, Report submitted to the Department of Science and Technology, New Delhi, July 1996.

3. Arunachalam S, Meyyappan N and Sridhar G S, *India's contribution to the literature of materials science and related fields: An analysis based on Materials Science Citation Index 1991-1994*, Report submitted to the department of Science and Technology, New Delhi, August 1996.

4. Arunachalam S, "Research as if relevance mattered: Medical research in India as reflected by *SCI* 1981-85", paper presented at the Fifth International Conference on Scientometrics and Informetrics, River Forest, IL, USA, June 1995.

5. Arunachalam S, Srinivasan R and Vidyalakshmi Raman, *Science in India -- A profile based on India's publications as covered by Science Citation Index 1989-1992*, Report submitted to the Department of Science and Technology, New Delhi, October 1997.

6. Singh U N, Ph D thesis, Birla Institute of Technology, Mesra, Ranchi, Bihar, India

7. Hicks E K, Cabo P G & Rikken F, Country research capacity in the areas of malaria, schistosmiasis, and leprosy, *Knowledge and Policy : The International Journal of Knowledge Transfer and Utilization*, **6** (No. 3 & 4) 79 - 98.

8. Arunachalam S and Manorama K, Are citation-based quantitative techniques adequate for measuring science on the periphery? *Scientometrics*, **15** (1989), 393-408.

9. National Science Foundation's Science Literature Data Base, Computer Horizons, Inc., Cherry Hill, NJ, USA. See also E Noma, *Subject classification and influence weights for 3,000 journals*, report submitted to National Institutes of Health, Bethesda, MD, USA, May 29, 1986.

10. Schubert A, Glanzel W, and Braun T, Scientometric datafiles. A comprehensive set of indicators on 2649 journals and 96 countries in all major science fields and subfields 1981-1985, Scientometrics, **16** (June 1989), pp. 3-478.

11. *Science Citation Index 1994 Guide & List of Source Publications*, Institute for Scientific Information, Philadelphia, PA, USA, 1995.

12. Workshop on Scientometric standardisation, immediately following the Fifth Biennial Conference of the International Society for Scientometrics and Informetrics, River Forest, IL, USA, June 1995. *Scientometrics* (1996).

13. *Health situation in the South-East Asia region 1991-1993*, WHO Regional Office for South-East Asia, New Delhi, 1995, pp. 40-41.

14. Nundy S, Medical journals in developing countries, in Lock S ed. *The future of medical journals* (British Medical Journal, London), 1991, pp. 74-80.

15. Sahni P, Reddy P P, Ravi Kiran, Reddy K S, Pande G K, and Nundy S, Indian medical journals, *Lancet*, **339** (1992), 1589-1591.

16. Sudhakar Reddy K, Sahni P, Pandey G K, and Nundy S, Research in Indian medical institutes, *Nat Med J India*, **4** (1991) 90-92.

17. Valiathan M S, *Surgery in India*, Sir A L Mudaliar Endowment Lectures, Madras University, 1987.
18. DeKoker B, Editing science, *Sci Am*, **273** (No.2)(August 1995), 80-81.
19. Kartha C C and Mohandas K, Medical research in Kerala. personal communication (letter from C C Kartha dated 15 March 1995).
20. Nundy S, Indian medicine, guest editorial, *Arch Emergency Med*, **3** (1986), 1-3.
21. Pandya S, Why is the output of medical research from India low? *Br Med J*, **301** (1990), 333.
22. Balaram P, Medical research in India: In need of intensive care, *Curr Sci*, **72** (1997), 912-922.
23. Rajagopalan A, Medical research in India, *Curr Sci*, **73** (1997), 397.
24. Valiathan M S, Medical research in the sick list, *Curr Sci*, **72** (1997), 911.
25. Balaram P, editorial comments in the special issue on S N De and cholera enterotoxin, *Curr Sci*, **59** (July 1990), 623.
26. Valiathan M S, Convergence of medical science and technology -- Sree Chitra Tirunal Institute, *Curr Sci*, **59** (1990), 14-17.
27. Nundy S, The politician-doctor nexus, editorial, *Trop Gastroenterol*, 7 (1986), 41-42.
28. Srinivasan M R, Growth of science and technology in post-Independence era, *Yojana* (Republic Day Special Issue), **41** (1997), 14-18.
29. Arora M, Banerjee J K, Sahni P, Pande G K, and Nundy S, Which are the best medical colleges in India? *Nat Med J India*, **9** (1996), 135-140.

Tables

Table 1: Publication types
***Medline* Nov 87 - Dec 94**

Publication types	# of Papers
JOURNAL ARTICLE	19916
LETTER	9
CLINICAL TRIAL	8
HISTORICAL ARTICLE	6
BIBLIOGRAPHY	3
CONGRESS	3
EDITORIAL	3
CLASSICAL ARTICLE	1
GUIDELINE	1
MEETING REPORT	1
TECHNICAL REPORT	1
Total	19952

Table 2a: Journals used by Indian researchers *Medline* Nov 87 - Dec 94
(Alphabatically arranged)

Sl #	Journal title	Country	Subject	Imp Fact	# of Papers
1	AIDS Care	UKD	IMMUNOL	0.000	1
2	AIDS	USA	IMMUNOL	4.305	1
3	AJNR Am J Neuroradiol	USA	NEUROSCI //RADIOL	0.000	4
4	AJR Am J Roentgenol	USA	RADIOL	0.000	10
5	APMIS	DEN	IMMUNOL //MICROBIOL //PATHOLOGY	0.956	12
6	ASDC J Dent Child	USA	DENTISTRY //PEDIAT	0.000	1
7	Abdom Imaging	USA	GASTRO //RADIOL	0.000	6
8	Acad Med	USA	EDUC SCI //MED, MIS	0.839	1
9	Act Nerv Super (Praha)	CSK	NEUROSCI	0.000	2
10	Acta Anaesthesiol Scand	DEN	ANESTHES	0.974	3
11	Acta Anat (Basel)	CHE	ANATOMY	0.392	24
12	Acta Anthropogenet	IND	GENETICS	0.000	6
13	Acta Biochim Pol	POL	BIOCH, MOL //BIOPHYS	0.000	1
14	Acta Biol Hung	HUN	BIOLOGY	0.090	5
15	Acta Cardiol	BEL	CARDIOVASC	0.000	7
16	Acta Chir Plast	CSK	SURGERY	0.000	8
17	Acta Chir Scand	SWE	SURGERY	0.405	4
18	Acta Crystallogr B	DEN	CRYSTAL	1.514	4
19	Acta Crystallogr C	DEN	CRYSTAL	0.459	12
20	Acta Cytol	USA	CYTOLOGY	0.856	69
21	Acta Derm Venereol (Stockh)	SWE	DERMATOL	0.980	4
22	Acta Derm Venereol	NOR	DERMATOL	0.980	1
23	Acta Diabetol Lat	ITA	ENDOCR	0.215	9
24	Acta Diabetol	DEU	ENDOCR	0.215	1
25	Acta Endocrinol (Copenh)	DEN	ENDOCR	1.375	9
26	Acta Eur Fertil	ITA	OBST GYNE	0.000	31
27	Acta Genet Med Gemellol (Roma)	ITA	GENETICS	0.000	5
28	Acta Haematol	CHE	HEMATOL	0.625	7
29	Acta Leiden	NLD		0.000	1
30	Acta Leprol	CHE	DERMATOL //IMMUNOL //PATHOLOGY	0.000	20
31	Acta Med Okayama	JPN	MED, RES	0.250	1
32	Acta Microbiol Hung	HUN	MICROBIOL	0.317	19
33	Acta Microbiol Pol	POL	MICROBIOL	0.000	7
34	Acta Morphol Hung	HUN	ANATOMY	0.000	3
35	Acta Morphol Neerl Scand	NLD	ANATOMY	0.000	2
36	Acta Neurobiol Exp (Warsz)	POL	NEUROSCI	0.000	1
37	Acta Neurochir (Wien)	AUT	NEUROSCI //SURGERY	0.638	30
38	Acta Neurol (Napoli)	ITA	NEUROSCI	0.000	2
39	Acta Neurol Belg	BEL	NEUROSCI	0.000	2
40	Acta Neurol Scand	DEN	NEUROSCI	0.963	22
41	Acta Neuropathol (Berl)	DEU	NEUROSCI	2.225	2
42	Acta Obstet Gynecol Scand	SWE	OBST GYNE	0.963	6
43	Acta Oncol	SWE	ONCOLOGY	0.769	20
44	Acta Ophthalmol (Copenh)	DEN	OPHTHAL	0.543	42
45	Acta Orthop Belg	BEL	ORTHOPED	0.000	1
46	Acta Orthop Scand	DEN	ORTHOPED	0.617	10

Table 2a (continued)

47	Acta Otolaryngol (Stockh)	SWE	OTORHINO	1.052	2
48	Acta Paediatr Hung	HUN	PEDIAT	0.000	1
49	Acta Paediatr Jpn	JPN	PEDIAT	0.000	1
50	Acta Paediatr Scand	SWE	PEDIAT	0.763	20
51	Acta Paediatr	NOR	PEDIAT	0.000	6
52	Acta Paedopsychiatr	DEU	PEDIAT //PSYCHIAT	0.000	1
53	Acta Physiol Hung	HUN	PHYSIOL	0.228	21
54	Acta Physiol Pharmacol Bulg	BGR	PHARMACOL //PHYSIOL	0.000	1
55	Acta Physiol Pol	POL	PHYSIOL	0.000	1
56	Acta Physiol Scand	UKD	PHYSIOL	1.504	2
57	Acta Psychiatr Scand	DEN	PSYCHIAT	0.984	23
58	Acta Radiol	SWE	RADIOL	0.506	10
59	Acta Trop (Basel)	CHE	BIOLOGY //PARASITOL //TROP, MED	0.000	17
60	Acta Trop	NLD	BIOLOGY //PARASITOL //TROP, MED	0.972	2
61	Acta Vet Hung	HUN	VET MED	0.000	14
62	Acta Vet Scand Suppl	NOR	VET MED	0.000	2
63	Acta Vet Scand	DEN	VET MED	0.620	1
64	Acta Virol (Praha)	CSK	VIROLOGY	0.438	29
65	Addict Behav	UKD	BEHAVIOR	0.000	1
66	Addiction	UKD	SUB ABUSE	0.000	1
67	Adolescence	USA	OBST GYNE	0.000	1
68	Adv Appl Microbiol	USA	BIOTECH //MICROBIOL	0.000	5
69	Adv Biochem Eng Biotechnol	DEU	BIOCH, MOL //BIOTECH	0.000	2
70	Adv Contracept	NLD	OBST GYNE	0.000	7
71	Adv Exp Med Biol	USA	MED, RES	0.000	5
72	Adv Microb Physiol	UKD	BIOCH, MOL	2.636	1
73	Adv Neurol	USA	NEUROSCI	0.000	1
74	Adv Otorhinolaryngol	CHE	OTORHINO	0.000	1
75	Adverse Drug React Toxicol Rev	UKD	PHARMACOL //TOXICOL	0.400	1
76	Age Ageing	UKD	GERIATRICS	0.937	1
77	Agents Actions	CHE	CHEMISTRY //PHARMACOL	1.094	6
78	Aging (Milano)	ITA	GERIATRICS	0.000	1
79	Alcohol Alcohol	UKD	SUB ABUSE	1.022	3
80	Alcohol Clin Exp Res	USA	SUB ABUSE	1.089	1
81	Alcohol	USA	PHARMACOL //SUB ABUSE //TOXICOL	1.048	7
82	Aliment Pharmacol Ther	UKD	PHARMACOL	0.000	1
83	Allergy	DEN	ALLERGY	1.088	7
84	Am Heart J	USA	CARDIOVASC	1.762	51
85	Am Ind Hyg Assoc J	USA	PUB HEALTH	0.350	3
86	Am J Cardiol	USA	CARDIOVASC	2.286	21
87	Am J Cardiovasc Pathol	USA	CARDIOVASC //PATHOLOGY	0.000	1
88	Am J Chin Med	USA	MED, GEN	0.000	1
89	Am J Clin Hypn	USA	PSYCHOL	0.000	1
90	Am J Clin Nutr	USA	NUTRI DIET	2.366	9
91	Am J Clin Oncol	USA	ONCOLOGY	0.724	5
92	Am J Clin Pathol	USA	PATHOLOGY	1.959	4
93	Am J Community Psychol	USA	PSYCHOL	0.000	1
94	Am J Dis Child	USA	PEDIAT	1.803	4
95	Am J Emerg Med	USA	MED, MIS	0.000	1
96	Am J Epidemiol	USA	PUB HEALTH	3.190	1
97	Am J Forensic Med Pathol	USA	MED, LEG //PATHOLOGY	0.000	4
98	Am J Gastroenterol	USA	GASTRO	1.477	53

Table 2a (continued).

99	Am J Hematol	USA	HEMATOL	1.210	
100	Am J Hum Genet	USA	GENETICS	7.642	1
101	Am J Ind Med	USA	PUB HEALTH	0.996	
102	Am J Kidney Dis	USA	UROL NEPH	1.581	
103	Am J Med Genet	USA	GENETICS	1.413	7
104	Am J Med Sci	USA	MED, GEN	0.866	
105	Am J Med	USA	MED, GEN	2.672	
106	Am J Nephrol	CHE	UROL NEPH	1.261	1
107	Am J Obstet Gynecol	USA	OBST GYNE	2.000	2
108	Am J Ophthalmol	USA	OPHTHAL	1.958	
109	Am J Orthod Dentofacial Orthop	USA	DENTISTRY	0.000	2
110	Am J Otolaryngol	USA	OTORHINO	0.000	1
111	Am J Otol	USA	OTORHINO	0.636	1
112	Am J Pediatr Hematol Oncol	USA	HEMATOL //PEDIAT //ONCOLOGY	0.782	2
113	Am J Phys Anthropol	USA	BIOL, MISC	1.589	10
114	Am J Physiol	USA	PHYSIOL	3.259	2
115	Am J Prev Med	USA	MED, GEN	0.000	1
116	Am J Psychiatry	USA	PSYCHIAT	4.345	6
117	Am J Psychother	USA	PSYCHIAT //PSYCHOL	0.457	2
118	Am J Public Health	USA	PUB HEALTH	2.459	1
119	Am J Reprod Immunol Microbiol	USA	IMMUNOL //OBST GYNE	0.000	5
120	Am J Reprod Immunol	DEN	IMMUNOL //OBST GYNE	2.118	5
121	Am J Surg	USA	SURGERY	1.300	4
122	Am J Trop Med Hyg	USA	PUB HEALTH //TROP MED	1.963	15
123	Am Rev Respir Dis	USA	RESP SYS	5.507	4
124	Anaesth Intensive Care	AUS	ANESTHES //MED, MIS	0.798	11
125	Anaesthesia	UKD	ANESTHES	2.045	25
126	Anal Biochem	USA	BIOCH, MOL	2.231	29
127	Analyst	UKD	CHEM, ANAL	1.325	15
128	Anat Anz	DEU	ANATOMY	0.223	8
129	Anat Rec	USA	ANATOMY	1.654	14
130	Andrologia	DEU	ANDROLOGY	0.317	33
131	Anesth Analg	USA	ANESTHES	2.242	3
132	Anesthesiology	USA	ANESTHES	2.986	3
133	Angew Parasitol	DEU	PARASITOL	0.000	10
134	Angiology	USA	UROL NEPH	0.546	18
135	Angle Orthod	USA	DENTISTRY	0.222	1
136	Anim Genet	UKD	GENETICS //VET MED	1.222	1
137	Ann Acad Med Singapore	SGP	MED, GEN	0.000	18
138	Ann Allergy	USA	ALLERGY	0.755	7
139	Ann Biol Clin (Paris)	FRA	MED, RES	0.431	2
140	Ann Clin Biochem	UKD	BIOCH, MOL //MED, RES	0.848	2
141	Ann Dent	USA	DENTISTRY	0.000	9
142	Ann Genet	FRA	GENETICS	0.491	7
143	Ann Hematol	DEU	HEMATOL	0.000	2
144	Ann Hum Biol	UKD	BIOLOGY //PUB HEALTH	0.720	23
145	Ann Inst Pasteur Immunol	FRA	IMMUNOL	0.000	1
146	Ann Inst Pasteur Microbiol	FRA	MICROBIOL	0.000	2
147	Ann Intern Med	USA	MED, GEN	9.211	1
148	Ann Med	FIN	MED, GEN	0.721	1
149	Ann N Y Acad Sci	USA	MULTIDIS	0.784	12
150	Ann Neurol	USA	NEUROSCI	0.547	1
151	Ann Nutr Metab	CHE	ENDOCR //NUTRI DIET	0.506	17
152	Ann Occup Hyg	UKD	PUB HEALTH //TOXICOL	0.398	4

Table 2a (continued)

153	Ann Oncol	NLD	ONCOLOGY	2.250	1
154	Ann Ophthalmol	USA	OPHTHAL	0.155	27
155	Ann Otol Rhinol Laryngol	USA	OTORHINO	0.968	2
156	Ann Plast Surg	USA	SURGERY	0.431	15
157	Ann R Coll Surg Engl	UKD	SURGERY	0.755	6
158	Ann Rech Vet	FRA	VET MED	0.284	2
159	Ann Rheum Dis	UKD	RHEUMATOL	2.085	9
160	Ann Soc Belg Med Trop	BEL	TROP MED	0.245	1
161	Ann Surg	USA	SURGERY	3.625	1
162	Ann Thorac Surg	USA	SURGERY	1.259	6
163	Ann Trop Med Parasitol	UKD	PARASITOL //TROP MED	0.408	44
164	Ann Trop Paediatr	UKD	PEDIAT //TROP MED	0.000	43
165	Anthropol Anz	DEU	BIOL, MISC	0.000	30
166	Anticancer Drug Des	UKD	ONCOLOGY //PHARMACOL	1.727	2
167	Anticancer Drugs	UKD	ONCOLOGY //PHARMACOL	0.000	10
168	Anticancer Res	GRC	ONCOLOGY	1.107	4
169	Antimicrob Agents Chemother	USA	MICROBIOL //PHARMACOL	3.268	9
170	Antonie Van Leeuwenhoek	NLD	MICROBIOL	0.543	11
171	Appl Biochem Biotechnol	USA	BIOCH, MOL //BIOTECH	1.066	23
172	Appl Environ Microbiol	USA	MICROBIOL	2.560	20
173	Appl Parasitol	DEU	PARASITOL	0.000	1
174	Appl Radiat Isot	UKD	NUCL SCI //RADIOL	0.590	2
175	Arch Anat Histol Embryol	FRA	ANATOMY	0.000	3
176	Arch Anat Microsc Morphol Exp	FRA	ANATOMY	0.000	1
177	Arch Androl	USA	ANDROLOGY	0.453	23
178	Arch Biochem Biophys	USA	BIOCH, MOL //BIOPHYS	2.425	41
179	Arch Dermatol Res	DEU	DERMATOL	1.300	3
180	Arch Dermatol	USA	DERMATOL	1.788	4
181	Arch Dis Child	UKD	PEDIAT	1.470	8
182	Arch Emerg Med	UKD	MED, MIS	0.000	2
183	Arch Environ Contam Toxicol	USA	ENV SCI //TOXICOL	1.519	12
184	Arch Environ Health	USA	ENV SCI //PUB HEALTH	1.245	8
185	Arch Esp Urol	ESP	UROL NEPH	0.000	10
186	Arch Exp Veterinarmed	DEU	VET MED	0.091	7
187	Arch Gerontol Geriatr	NLD	GERIATRICS	0.590	4
188	Arch Geschwulstforsch	DEU		0.000	3
189	Arch Gynecol Obstet	DEU	OBST GYNE	0.000	1
190	Arch Histol Cytol	JPN	CYTOLOGY	0.883	1
191	Arch Histol Jpn	JPN	CYTOLOGY	0.000	1
192	Arch Immunol Ther Exp (Warsz)	POL	IMMUNOL	0.000	7
193	Arch Insect Biochem Physiol	USA	BIOCH, MOL //ENTOMOL //PHYSIOL	1.480	2
194	Arch Int Pharmacodyn Ther	BEL	CHEMISTRY //PHARMACOL	0.934	27
195	Arch Int Physiol Biochim Biophys	BEL	BIOCH, MOL //BIOPHYS //PHYSIOL	0.589	11
196	Arch Int Physiol Biochim	BEL	BIOCH, MOL //PHYSIOL	0.000	11
197	Arch Invest Med (Mex)	MEX	MED, RES	0.000	1
198	Arch Ital Anat Embriol	ITA	ANATOMY	0.000	2
199	Arch Latinoam Nutr	VEN	NUTRI DIET	0.000	2
200	Arch Med Res	MEX	MED, RES	0.000	4
201	Arch Microbiol	DEU	MICROBIOL	1.640	7
202	Arch Neurol	USA	NEUROSCI	3.152	2
203	Arch Ophthalmol	USA	OPHTHAL	1.832	6
204	Arch Oral Biol	UKD	DENTISTRY	0.713	1
205	Arch Orthop Trauma Surg	DEU	ORTHOPED //SURGERY	0.287	7

Table 2a (continued)

206	Arch Otolaryngol Head Neck Surg	USA	OTORHINO	0.981	4
207	Arch Pathol Lab Med	USA	MED, LAB //MED, RES //PATHOLOGY	1.586	1
208	Arch Pharm (Weinheim)	DEU	CHEMISTRY //PHARMACOL	0.611	6
209	Arch Phys Med Rehabil	USA	MED, MIS	0.831	1
210	Arch Sex Behav	USA	BEHAVIOR	0.000	2
211	Arch Toxicol	DEU	TOXICOL	1.660	21
212	Arch Virol	AUT	VIROLOGY	1.592	9
213	Arh Hig Rada Toksikol	YUG	TOXICOL	0.000	2
214	Arq Gastroenterol	BRA	GASTRO	0.000	1
215	Arthritis Rheum	USA	RHEUMATOL	4.715	1
216	Artif Organs	USA	ENG, BIOM	0.650	7
217	Arzneimittelforschung	DEU	CHEMISTRY //PHARMACOL	0.557	25
218	Asia Oceania J Obstet Gynaecol	JPN	OBST GYNE	0.000	30
219	Asia Pac J Public Health	HKG	PUB HEALTH	0.000	3
220	Asian Pac J Allergy Immunol	THA	ALLERGY //IMMUNOL	0.000	15
221	Atherosclerosis	NLD	CARDIOVASC	2.462	6
222	Auris Nasus Larynx	JPN	OTORHINO	0.000	6
223	Aust Dent J	AUS	DENTISTRY	0.000	1
224	Aust J Biol Sci	AUS	BIOLOGY	0.000	2
225	Aust N Z J Med	AUS	MED, GEN	0.784	4
226	Aust N Z J Obstet Gynaecol	AUS	OBST GYNE	0.000	32
227	Aust N Z J Ophthalmol	AUS	OPHTHAL	0.273	8
228	Aust N Z J Psychiatry	AUS	PSYCHIAT	0.689	3
229	Aust N Z J Surg	AUS	SURGERY	0.000	37
230	Aust Paediatr J	AUS	PEDIAT	0.000	2
231	Aust Vet J	AUS	VET MED	0.345	8
232	Australas J Dermatol	AUS	DERMATOL	0.000	5
233	Australas Phys Eng Sci Med	AUS	MULTIDIS	0.000	1
234	Australas Radiol	AUS	RADIOL	0.000	46
235	Autoimmunity	CHE	IMMUNOL	0.000	1
236	Avian Dis	USA	VET MED	0.997	1
237	Aviat Space Environ Med	USA	MED, MIS	0.569	6
238	BMJ	UKD	MED, GEN	3.871	18
239	Baillieres Clin Endocrinol Metab	UKD	ENDOCR	0.419	1
240	Baillieres Clin Gastroenterol	UKD	GASTRO	0.400	1
241	Basic Appl Histochem	ITA	CYTOLOGY	0.000	1
242	Basic Life Sci	USA	BIOLOGY //MED, RES	0.000	1
243	Behav Brain Res	NLD	NEUROSCI	1.602	1
244	Behav Genet	USA	BEHAVIOR //NEUROSCI	1.495	2
245	Behav Neural Biol	USA	BEHAVIOR //NEUROSCI	1.859	2
246	Beitr Trop Landwirtsch Veterinarmed	DEU	VET MED	0.000	2
247	Biochem Biophys Res Commun	USA	BIOCH, MOL //BIOPHYS	3.803	145
248	Biochem Cell Biol	CAN	BIOCH, MOL	1.151	10
249	Biochem Genet	USA	BIOCH, MOL //GENETICS	0.809	10
250	Biochem Int	AUS	BIOCH, MOL	0.690	314
251	Biochem J	UKD	BIOCH, MOL	3.749	59
252	Biochem Med Metab Biol	USA	MED, RES	0.724	34
253	Biochem Mol Biol Int	AUS	BIOCH, MOL	0.000	58
254	Biochem Pharmacol	UKD	BIOCH, MOL //PHARMACOL	2.148	62
255	Biochem Soc Trans	UKD	BIOCH, MOL	1.465	5
256	Biochemistry	USA	BIOCH, MOL	4.919	45

Table 2a (continued)

257	Biochim Biophys Acta	NLD	BIOCH, MOL //BIOPHYS	2.460	137
258	Biochimie	FRA	BIOCH, MOL	1.352	5
259	Bioconjug Chem	USA	BIOCH, MOL //CHEMISTRY	0.000	1
260	Bioessays	UKD	BIOLOGY	2.881	1
261	Biofactors	UKD	BIOCH, MOL //BIOLOGY //MED, RES	0.000	1
262	Biofeedback Self Regul	USA	MED, MIS	0.000	1
263	Biol Cell	FRA	BIOCH, MOL //CYTOLOGY	0.000	2
264	Biol Chem Hoppe Seyler	DEU	BIOCH, MOL	1.836	1
265	Biol Cybern	DEU	COMPUTER	1.060	1
266	Biol Met	DEU	BIOCH, MOL //BIOLOGY	0.000	6
267	Biol Neonate	CHE	PEDIAT	0.589	3
268	Biol Pharm Bull	JPN	BIOCH, MOL //PHARMACOL	0.000	1
269	Biol Psychiatry	USA	PSYCHIAT	2.300	16
270	Biol Reprod	USA	OBST GYNE	2.970	8
271	Biol Rev Camb Philos Soc	UKD	BIOLOGY	1.600	1
272	Biol Struct Morphog	FRA	BIOCH, MOL	0.000	6
273	Biol Trace Elem Res	UKD	BIOCH, MOL	0.599	25
274	Biologicals	UKD	BIOLOGY //MED, RES	0.638	4
275	Biomater Artif Cells Artif Organs	USA	ENG, BIOM	0.254	2
276	Biomater Artif Cells Immobilization Biotechnol	USA	ENG, BIOM	0.254	8
277	Biomaterials	UKD	ENG, BIOM	0.777	21
278	Biomed Biochim Acta	DEU	BIOCH, MOL	0.371	7
279	Biomed Chromatogr	UKD	BIOCH, MOL //CHEM, ANAL	0.678	11
280	Biomed Environ Sci	USA	ENV SCI	0.000	54
281	Biomed Mater Eng	USA	ENG, BIOM //MATER	0.000	5
282	Biomed Pharmacother	FRA	MED, RES	0.557	1
283	Biometals	UKD	MATER SCI	0.000	11
284	Bioorg Med Chem	UKD	BIOCH, MOL //CHEM, ORG //MED, RES	0.000	2
285	Biopharm Drug Dispos	UKD	PHARMACOL	0.619	1
286	Biophys Chem	NLD	BIOCH, MOL //BIOPHYS	1.075	10
287	Biophys J	USA	BIOPHYS	4.668	1
288	Biopolymers	USA	BIOCH, MOL	1.718	19
289	Biorheology	UKD	BIOPHYS	0.568	14
290	Biosci Rep	UKD	BIOCH, MOL	1.048	20
291	Biosens Bioelectron	UKD	BIOTECH	2.404	2
292	Biosystems	NLD	BIOLOGY	0.645	18
293	Biotech Histochem	USA	BIOTECH //CYTOLOGY	0.000	12
294	Biotechniques	USA	BIOCH, MOL	3.000	11
295	Biotechnol Appl Biochem	USA	BIOCH, MOL //BIOTECH	0.791	18
296	Birth Defects	USA	OBST GYNE	0.000	9
297	Blood Coagul Fibrinolysis	UKD	HEMATOL //MED, RES	0.000	1
298	Blut	DEU	HEMATOL	1.581	1
299	Bol Chil Parasitol	CHL	PARASITOL	0.000	6
300	Boll Chim Farm	ITA	PHARMACOL	0.000	7
301	Bone	USA	ORTHOPED	2.169	1
302	Br Heart J	UKD	CARDIOVASC	1.792	9
303	Br J Addict	UKD	PSYCHIAT //SUB ABUSE	1.122	1
304	Br J Anaesth	UKD	ANESTHES	1.724	4
305	Br J Audiol	UKD	OTORHINO	0.000	1
306	Br J Biomed Sci	UKD	ENG, BIOM	0.000	2
307	Br J Cancer	UKD	ONCOLOGY	2.779	19

Table 2a (continued)

308	Br J Clin Pharmacol	UKD	PHARMACOL	2.037	3
309	Br J Clin Pract	UKD	MED, GEN	0.103	10
310	Br J Clin Psychol	UKD	PSYCHOL	0.000	2
311	Br J Dermatol	UKD	DERMATOL	1.875	3
312	Br J Exp Pathol	UKD	PATHOLOGY	0.000	2
313	Br J Haematol	UKD	HEMATOL	3.017	3
314	Br J Ind Med	UKD	PUB HEALTH	1.416	8
315	Br J Med Psychol	UKD	PSYCHIAT //PSYCHOL	0.595	2
316	Br J Neurosurg	USA	NEUROSCI //SURGERY	0.000	44
317	Br J Nutr	UKD	NUTRI DIET	1.424	25
318	Br J Obstet Gynaecol	UKD	OBST GYNE	1.705	10
319	Br J Ophthalmol	UKD	OPHTHAL	0.829	16
320	Br J Oral Maxillofac Surg	UKD	DENTISTRY	0.545	5
321	Br J Pharmacol	UKD	PHARMACOL	4.786	5
322	Br J Plast Surg	UKD	SURGERY	0.484	55
323	Br J Psychiatry	UKD	PSYCHIAT	2.056	32
324	Br J Radiol	UKD	RADIOL	0.841	22
325	Br J Rheumatol	UKD	RHEUMATOL	2.063	3
326	Br J Sports Med	UKD	MED, MIS	0.000	4
327	Br J Surg	UKD	SURGERY	1.697	29
328	Br J Urol	UKD	UROL NEPH	0.695	76
329	Br Med J (Clin Res Ed)	UKD	MED, GEN	0.000	6
330	Br Poult Sci	UKD	AGRI, DAIR	0.715	9
331	Br Vet J	UKD	VET MED	0.411	9
332	Brain Behav Evol	CHE	NEUROSCI	1.090	1
333	Brain Dev	JPN	NEUROSCI	0.785	1
334	Brain Lang	USA	NEUROSCI	1.298	1
335	Brain Res Bull	USA	NEUROSCI	1.746	9
336	Brain Res Dev Brain Res	NLD	NEUROSCI	0.000	1
337	Brain Res Mol Brain Res	NLD	NEUROSCI	0.000	1
338	Brain Res	NLD	NEUROSCI	2.590	26
339	Brain	UKD	NEUROSCI	3.383	1
340	Braz J Med Biol Res	BRA	MED, RES	0.374	2
341	Bull Cancer (Paris)	FRA	ONCOLOGY	0.362	1
342	Bull Environ Contam Toxicol	USA	ENV SCI	0.766	321
343	Bull Kanagawa Dent Coll	JPN	DENTISTRY	0.000	1
344	Bull Math Biol	USA	BIOL, MISC //MATHS, MIS	0.800	2
345	Bull Med Libr Assoc	USA	INFO SCI	0.000	1
346	Bull Narc	USA	SUB ABUSE	0.000	2
347	Bull World Health Organ	CHE	PUB HEALTH	1.333	18
348	Burns Incl Therm Inj	UKD	MED, MIS	0.000	2
349	Burns	UKD	MED, MIS	0.000	32
350	Calcif Tissue Int	USA	ENDOCR //ORTHOPED	3.602	3
351	Can Assoc Radiol J	CAN	RADIOL	0.000	12
352	Can J Anaesth	CAN	ANESTHES	1.183	7
353	Can J Cardiol	CAN	CARDIOVASC	0.000	2
354	Can J Microbiol	CAN	BIOCH, MOL //BIOTECH //MICROBIOL	1.240	16
355	Can J Ophthalmol	CAN	OPHTHAL	0.221	15
356	Can J Physiol Pharmacol	CAN	PHARMACOL //PHYSIOL	1.337	4
357	Can J Psychiatry	CAN	PSYCHIAT	0.644	3
358	Can J Surg	CAN	SURGERY	0.344	2
359	Cancer Biochem Biophys	UKD	BIOCH, MOL //BIOPHYS //ONCOLOGY	0.700	3
360	Cancer Causes Control	UKD	ONCOLOGY	0.000	1

Table 2a (continued)

361	Cancer Detect Prev Suppl	USA	ONCOLOGY	0.000	1
362	Cancer Genet Cytogenet	USA	GENETICS //ONCOLOGY	2.167	12
363	Cancer Immunol Immunother	DEU	IMMUNOL //ONCOLOGY	1.789	7
364	Cancer Invest	USA	ONCOLOGY	0.744	1
365	Cancer Lett	NLD	ONCOLOGY	1.075	97
366	Cancer Res	USA	ONCOLOGY	4.383	1
367	Cancer	USA	ONCOLOGY	2.343	31
368	Carbohydr Res	NLD	CHEM, ORG	1.299	26
369	Carcinogenesis	USA	ONCOLOGY	2.820	22
370	Cardiology	CHE	CARDIOVASC	0.704	4
371	Cardioscience	ITA	CARDIOVASC	0.762	3
372	Cardiovasc Drugs Ther	USA	CARDIOVASC	0.000	1
373	Cardiovasc Intervent Radiol	USA	CARDIOVASC	0.000	13
374	Cardiovasc Res	UKD	CARDIOVASC	1.471	2
375	Cardiovasc Surg	UKD	CARDIOVASC //SURGERY	0.000	2
376	Cathet Cardiovasc Diagn	USA	CARDIOVASC	0.837	17
377	Cell Biochem Funct	UKD	BIOCH, MOL	0.859	1
378	Cell Biol Int Rep	UKD	CYTOLOGY	0.887	12
379	Cell Biol Int	UKD	CYTOLOGY	0.000	3
380	Cell Biol Toxicol	USA	CYTOLOGY //TOXICOL	1.328	1
381	Cell Biophys	UKD	BIOPHYS //CYTOLOGY	0.761	1
382	Cell Calcium	UKD	CYTOLOGY	4.297	1
383	Cell Differ Dev	IRL	CYTOLOGY //DEV, BIOL	1.627	1
384	Cell Immunol	USA	CYTOLOGY //IMMUNOL	2.178	5
385	Cell Mol Biol (Noisy-le-grand)	FRA	BIOCH, MOL //CYTOLOGY	0.000	4
386	Cell Mol Biol Res	USA	BIOCH, MOL //CYTOLOGY	0.000	2
387	Cell Mol Biol	USA	BIOCH, MOL //CYTOLOGY	0.655	4
388	Cell Motil Cytoskeleton	USA	BIOCH, MOL //CYTOLOGY	2.937	1
389	Cell Signal	UKD	BIOCH, MOL	6.430	6
390	Cell Tissue Res	DEU	CYTOLOGY	1.724	2
391	Ceylon Med J	LKA	MED, GEN	0.000	3
392	Chem Biol Interact	NLD	MULTIDIS	0.000	12
393	Chem Phys Lipids	NLD	BIOCH, MOL	1.269	1
394	Chem Res Toxicol	USA	CHEMISTRY //TOXICOL	2.526	1
395	Chemotherapy	CHE	ONCOLOGY //PHARMACOL	0.642	9
396	Chest	USA	RESP SYS	1.557	36
397	Child Nephrol Urol	CHE	PEDIAT //UROL NEPH	0.073	2
398	Child Welfare	USA	PEDIAT	0.000	1
399	Childs Nerv Syst	DEU	NEUROSCI //PEDIAT	0.538	17
400	Chromosoma	DEU	GENETICS	2.601	4
401	Chronobiol Int	UKD	BIOL, MISC	0.000	8
402	Chronobiologia	ITA	BIOL, MISC	0.000	1
403	Chung Kuo Yao Li Hsueh Pao	PRC		0.000	5
404	Ciba Found Symp	NLD	MED, GEN	1.641	4
405	Circulation	USA	CARDIOVASC //HEMATOL	9.038	6
406	Cleft Palate Craniofac J	USA	DENTISTRY //SURGERY	0.845	1
407	Clin Biochem	CAN	MED, RES	0.805	2
408	Clin Cardiol	USA	CARDIOVASC	0.570	13
409	Clin Chem	USA	MED, RES	1.886	6
410	Clin Chim Acta	NLD	MED, RES	1.042	15
411	Clin Dermatol	USA	DERMATOL	0.000	2
412	Clin Dysmorphol	UKD	ANATOMY	0.000	1
413	Clin Endocrinol (Oxf)	UKD	ENDOCR	1.923	2
414	Clin Exp Allergy	UKD	ALLERGY	0.000	6
415	Clin Exp Dermatol	UKD	DERMATOL	0.632	6

Table 2a (continued)

416	Clin Exp Immunol	UKD	IMMUNOL	2.142	
417	Clin Exp Pharmacol Physiol	UKD	PHARMACOL //PHYSIOL	1.020	
418	Clin Exp Rheumatol	ITA	RHEUMATOL	0.947	
419	Clin Genet	DEN	GENETICS	1.126	
420	Clin Imaging	USA	COMPUTER //RADIOL	0.225	
421	Clin Immunol Immunopathol	USA	IMMUNOL //PATHOLOGY	2.352	
422	Clin J Pain	USA	NEUROSCI	0.000	
423	Clin Lab Haematol	UKD	HEMATOL	0.469	
424	Clin Neurol Neurosurg	ITA	NEUROSCI	0.000	3
425	Clin Neuropharmacol	USA	NEUROSCI //PHARMACOL	1.349	
426	Clin Nucl Med	USA	RADIOL	0.296	
427	Clin Oncol (R Coll Radiol)	UKD	ONCOLOGY	0.000	
428	Clin Otolaryngol	UKD	OTORHINO	0.452	
429	Clin Pediatr (Phila)	USA	PEDIAT	0.320	
430	Clin Pharmacokinet	NZL	PHARMACOL	2.951	
431	Clin Pharmacol Ther	USA	PHARMACOL	3.329	
432	Clin Phys Physiol Meas	UKD	BIOPHYS //ENG, BIOM	0.543	
433	Clin Physiol Biochem	CHE	BIOCH, MOL	0.265	
434	Clin Radiol	UKD	RADIOL	0.815	3
435	Clin Reprod Fertil	UKD	OBST GYNE	0.000	
436	Clin Sci (Colch)	UKD	MED, RES	2.100	
437	Clin Ther	USA	PHARMACOL	0.000	1
438	Community Dent Oral Epidemiol	DEN	DENTISTRY //PUB HEALTH	0.000	
439	Comp Biochem Physiol A	UKD	BIOCH, MOL	0.760	
440	Comp Biochem Physiol [B]	UKD	BIOCH, MOL	0.832	5
441	Comp Biochem Physiol [C]	UKD	BIOCH, MOL	0.780	1
442	Comp Immunol Microbiol Infect Dis	UKD	IMMUNOL //MICROBIOL // VET MED	0.167	1
443	Compr Gerontol [A]	DEN	GERIATRICS	0.000	1
444	Compr Psychiatry	USA	PSYCHIAT //PUB HEALTH	1.250	
445	Comput Appl Biosci	UKD	BIOL, MISC //COMPUTER	2.086	
446	Comput Biol Med	USA	COMPUTER //ENG, BIOM	0.535	8
447	Comput Biomed Res	USA	COMPUTER //ENG, BIOM	0.523	
448	Comput Med Imaging Graph	USA	COMPUTER //RADIOL	0.000	
449	Comput Methods Programs Biomed	NLD	COMPUTER //ENG, BIOM	0.421	3
450	Connect Tissue Res	UKD	CYTOLOGY	1.453	1
451	Contact Dermatitis	DEN	ALLERGY //DERMATOL	0.792	3
452	Contraception	USA	OBST GYNE	1.038	8
453	Contrib Gynecol Obstet	CHE	OBST GYNE	0.000	1
454	Contrib Nephrol	CHE	UROL NEPH	0.000	
455	Convuls Ther	USA	OPHTHAL	0.000	
456	Cornea	USA	OPHTHAL	0.000	5
457	Cortex	ITA	BEHAVIOR //NEUROSCI	1.026	
458	Crisis	CAN		0.000	
459	Crit Care Med	USA	MED, MIS	1.573	5
460	Crit Rev Biomed Eng	USA	ENG, BIOM	1.833	1
461	Crit Rev Biotechnol	USA	BIOTECH	2.231	3
462	Crit Rev Clin Lab Sci	USA	MED, LAB	0.000	1
463	Crit Rev Food Sci Nutr	USA	FOOD SCI //NUTRI DIET	1.815	11
464	Crit Rev Immunol	USA	IMMUNOL	6.926	1
465	Crit Rev Microbiol	USA	MICROBIOL	3.423	4
466	Crit Rev Neurobiol	USA	NEUROSCI	2.000	1
467	Crit Rev Toxicol	USA	TOXICOL	4.094	1
468	Curr Eye Res	UKD	OPHTHAL	1.048	3
469	Curr Genet	USA	GENETICS	2.347	2

Table 2a (continued)

470	Curr Med Res Opin	UKD	MED, GEN //MED, RES //PHARMACOL	0.551	3
471	Curr Opin Immunol	UKD	IMMUNOL	1.099	4
472	Curr Opin Neurobiol	UKD	NEUROSCI	0.000	1
473	Curr Top Cell Regul	USA	CYTOLOGY	0.000	1
474	Cutis	USA	DERMATOL	0.320	11
475	Cytobios	UKD	CYTOLOGY	0.252	32
476	Cytogenet Cell Genet	CHE	CYTOLOGY //GENETICS	5.760	4
477	Cytometry	USA	CYTOLOGY	2.556	1
478	Cytopathology	UKD	CYTOLOGY //PATHOLOGY	0.000	6
479	DNA Cell Biol	USA	BIOCH, MOL //CYTOLOGY //GENETICS	4.317	1
480	Demography	USA	DEMOGRAPHY	0.000	1
481	Dermatologica	CHE	DERMATOL	0.686	3
482	Dermatology	CHE	DERMATOL	0.000	2
483	Dev Biol Stand	CHE	DEV, BIOL	0.000	3
484	Dev Biol	USA	BIOLOGY //DEV, BIOL	4.017	3
485	Dev Comp Immunol	USA	IMMUNOL	0.988	10
486	Dev Neurosci	CHE	NEUROSCI	2.151	2
487	Dev Ophthalmol	CHE	OPHTHAL	0.000	6
488	Dev Pharmacol Ther	CHE	PHARMACOL	0.617	3
489	Dev Suppl	UKD		0.000	1
490	Development	UKD	DEV, BIOL	5.479	1
491	Diabet Med	UKD	ENDOCR	0.655	2
492	Diabetes Care	USA	ENDOCR //MED, GEN //PUB HEALTH	3.148	3
493	Diabetes Res Clin Pract	NLD	ENDOCR //MED, GEN	0.305	10
494	Diabetes	USA	ENDOCR //MED, GEN //PUB HEALTH	4.965	1
495	Diabetologia	DEU	ENDOCR //MED, GEN	4.480	4
496	Diagn Clin Immunol	USA	IMMUNOL	0.000	2
497	Diagn Cytopathol	USA	CYTOLOGY //PATHOLOGY	0.000	42
498	Diagn Microbiol Infect Dis	USA	MED, LAB //MICROBIOL	0.882	5
499	Differentiation	DEU	CYTOLOGY //DEV, BIOL	2.113	1
500	Dig Dis Sci	USA	GASTRO	1.784	12
501	Dig Dis	CHE	GASTRO	0.000	1
502	Digestion	CHE	GASTRO	1.294	3
503	Dis Colon Rectum	USA	GASTRO	0.938	8
504	Dis Markers	NLD	GENETICS //PATHOLOGY	0.000	1
505	Doc Ophthalmol	NLD	OPHTHAL	0.254	3
506	Drug Alcohol Depend	CHE	SUB ABUSE	0.688	7
507	Drug Chem Toxicol	USA	CHEMISTRY //PHARMACOL //TOXICOL	0.531	13
508	Drug Des Deliv	CHE	TOXICOL	0.000	9
509	Drug Des Discov	CHE	TOXICOL	0.000	3
510	Drug Metab Dispos Biol Fate Chem	USA	PHARMACOL	1.784	3
511	Drug Metab Rev	USA	PHARMACOL	1.490	2
512	Drug Nutr Interact	USA	TOXICOL //NUTRI DIET	0.000	1
513	Drugs Exp Clin Res	CHE	PHARMACOL	0.341	1
514	Drugs	USA	PHARMACOL //TOXICOL	1.658	1
515	EXS	CHE		0.000	2
516	Ear Nose Throat J	USA	OTORHINO	0.000	11
517	Early Hum Dev	NLD	OBST GYNE //PEDIAT	0.938	1
518	East Afr Med J	KEN	MED, GEN	0.000	1

Table 2a (continued)

519	Ecotoxicol Environ Safety	USA	ENV SCI //TOXICOL	1.155	78
520	Electroencephalogr Clin Neurophysiol	IRL	NEUROSCI	2.126	2
521	Electromyogr Clin Neurophysiol	BEL	NEUROSCI //PHYSIOL	0.000	6
522	Electrophoresis	DEU	BIOCH, MOL	1.935	2
523	Endocr Res	USA	ENDOCR	1.015	8
524	Endocrinol Exp	CSK	ENDOCR	0.000	3
525	Endocrinol Jpn	JPN	ENDOCR	0.346	6
526	Endocrinology	USA	ENDOCR	4.534	2
527	Endod Dent Traumatol	DEN	GASTRO //DENTISTRY	0.000	3
528	Endoscopy	DEU	GASTRO	1.262	4
529	Environ Health Perspect	USA	ENV SCI //PUB HEALTH	1.647	4
530	Environ Mol Mutagen	USA	ENV SCI //GENETICS	2.419	15
531	Environ Res	USA	ENV SCI	1.293	19
532	Enzyme	CHE	BIOCH, MOL	0.496	1
533	Epidemiol Infect	UKD	MICROBIOL //PUB HEALTH	1.632	17
534	Epilepsia	USA	NEUROSCI	2.229	14
535	Epilepsy Res	NLD	NEUROSCI	1.641	1
536	Equine Vet J	UKD	VET MED	0.717	2
537	Ergonomics	UKD	ERGONOMICS	0.349	3
538	Eur Arch Otorhinolaryngol	DEU	OTORHINO	0.336	1
539	Eur Arch Psychiatry Clin Neurosci	DEU	NEUROSCI //PSYCHIAT	0.760	1
540	Eur Biophys J	DEU	BIOPHYS	1.553	1
541	Eur Heart J	UKD	CARDIOVASC	1.938	4
542	Eur J Anaesthesiol	UKD	ANESTHES	0.000	2
543	Eur J Appl Physiol	DEU	PHYSIOL	0.000	6
544	Eur J Biochem	DEU	BIOCH, MOL	3.171	29
545	Eur J Cancer B Oral Oncol	UKD	ONCOLOGY	0.000	6
546	Eur J Cancer Clin Oncol	UKD	ONCOLOGY	0.000	1
547	Eur J Cancer Prev	UKD	ONCOLOGY	0.000	2
548	Eur J Cancer	UKD	ONCOLOGY	2.137	4
549	Eur J Cardiothorac Surg	DEU	CARDIOVASC	0.000	1
550	Eur J Cell Biol	DEU	CYTOLOGY	2.528	2
551	Eur J Clin Chem Clin Biochem	DEU	MED, RES	0.000	3
552	Eur J Clin Invest	UKD	MED, RES	1.723	2
553	Eur J Clin Microbiol Infect Dis	DEU	IMMUNOL //MICROBIOL	0.000	1
554	Eur J Clin Nutr	UKD	NUTRI DIET	0.950	29
555	Eur J Clin Pharmacol	DEU	PHARMACOL	1.288	11
556	Eur J Drug Metab Pharmacokinet	FRA	PHARMACOL	0.615	5
557	Eur J Endocrinol	NOR	ENDOCR	0.000	1
558	Eur J Epidemiol	ITA	PUB HEALTH	0.000	4
559	Eur J Gynaecol Oncol	ITA	OBST GYNE //ONCOLOGY	0.000	8
560	Eur J Haematol	DEN	HEMATOL	1.324	1
561	Eur J Immunol	DEU	IMMUNOL	5.008	4
562	Eur J Morphol	NLD	ANATOMY	0.630	3
563	Eur J Nucl Med	DEU	RADIOL	1.355	6
564	Eur J Obstet Gynecol Reprod Biol	NLD	OBST GYNE	0.418	4
565	Eur J Pediatr	DEU	PEDIAT	0.651	1
566	Eur J Pharmacol	NLD	PHARMACOL	3.516	14
567	Eur J Radiol	NLD	RADIOL	0.000	1
568	Eur J Respir Dis	DEN	RESP SYS	0.000	1
569	Eur J Surg Oncol	UKD	SURGERY //ONCOLOGY	0.000	3

Table 2a (continued)

570	Eur J Surg	SWE	SURGERY	0.000	3
571	Eur Respir J	DEN	RESP SYS	1.273	5
572	Eur Urol	CHE	UROL NEPH	0.474	11
573	Exp Biol	DEU	BIOLOGY	0.000	3
574	Exp Brain Res	DEU	NEUROSCI	2.425	1
575	Exp Cell Biol	CHE	CYTOLOGY	0.000	4
576	Exp Cell Res	USA	CYTOLOGY //ONCOLOGY	2.527	10
577	Exp Clin Endocrinol	DEU	ENDOCR	0.279	12
578	Exp Eye Res	UKD	OPHTHAL	1.675	2
579	Exp Gerontol	UKD	GERIATRICS	0.000	1
580	Exp Lung Res	USA	RESP SYS	1.188	1
581	Exp Mol Pathol	USA	PATHOLOGY	0.928	11
582	Exp Neurol	USA	NEUROSCI	3.328	3
583	Exp Parasitol	USA	PARASITOL	1.896	8
584	Exp Pathol	DEU	PATHOLOGY	0.425	8
585	Exp Physiol	UKD	PHYSIOL	1.000	1
586	Experientia	CHE	MULTIDIS	1.580	29
587	Eye	UKD	OPHTHAL	0.720	3
588	FASEB J	USA	BIOLOGY	18.675	1
589	FEBS Lett	NLD	BIOCH, MOL //BIOPHYS	3.479	77
590	FEMS Immunol Med Microbiol	NLD	IMMUNOL //MICROBIOL	0.000	4
591	FEMS Microbiol Immunol	NLD	IMMUNOL //MICROBIOL	0.000	8
592	FEMS Microbiol Lett	NLD	MICROBIOL	1.374	53
593	Fam Pract	UKD	MED, GEN	0.000	1
594	Farmaco [Sci]	ITA	PHARMACOL	0.000	1
595	Farmaco	ITA	PHARMACOL	0.297	4
596	Fed Oper Dent	IND	DENTISTRY	0.000	12
597	Fertil Steril	USA	OBST GYNE	1.937	4
598	Folia Biol (Krakow)	POL	BIOLOGY	0.439	1
599	Folia Histochem Cytobiol	POL	CYTOLOGY	0.042	1
600	Folia Microbiol (Praha)	CSK	BIOTECH //MICROBIOL	0.200	44
601	Folia Morphol (Praha)	CSK	ANATOMY	0.000	13
602	Folia Parasitol (Praha)	CSK	PARASITOL	0.263	19
603	Folia Primatol (Basel)	CHE	ZOOLOGY	1.263	6
604	Food Addit Contam	UKD	PUB HEALTH	0.000	8
605	Food Chem Toxicol	UKD	FOOD SCI //TOXICOL	1.087	45
606	Foot Ankle	USA	ORTHOPED	0.000	4
607	Forensic Sci Int	CHE	MED, LEG	0.853	22
608	Fortschr Chem Org Naturst	AUT	CHEM, ORG	0.000	2
609	Free Radic Biol Med	USA	BIOCH, MOL	0.000	10
610	Free Radic Res Commun	CHE	BIOCH, MOL	1.518	4
611	Free Radic Res	CHE	BIOCH, MOL	0.000	1
612	Front Med Biol Eng	NLD	ENG, BIOM	0.000	2
613	Funct Dev Morphol	CSK	ANATOMY	0.000	21
614	Funct Neurol	ITA	NEUROSCI	0.000	2
615	Fundam Appl Toxicol	USA	TOXICOL	0.000	3
616	Fundam Clin Pharmacol	FRA	PHARMACOL	0.597	3
617	Gamete Res	USA	CYTOLOGY //OBST GYNE	0.000	2
618	Gan To Kagaku Ryoho	JPN		0.000	1
619	Gastroenterol Jpn	JPN	GASTRO	0.000	18
620	Gastroenterology	USA	GASTRO	5.733	6
621	Gastrointest Endosc	USA	GASTRO	1.974	24
622	Gastrointest Radiol	USA	GASTRO //RADIOL	0.635	11
623	Gegenbaurs Morphol Jahrb	DEU	ANATOMY	0.000	11
624	Gen Comp Endocrinol	USA	ENDOCR	1.776	55

Table 2a (continued)

625	Gen Hosp Psychiatry	USA	PSYCHIAT	0.840	6
626	Gen Pharmacol	UKD	PHARMACOL	0.915	1
627	Gen Physiol Biophys	CSK	BIOPHYS //MICROBIOL //PHYSIOL	0.593	1
628	Gene Geogr	ITA	GENETICS	0.000	9
629	Genet Anal Tech Appl	USA	BIOTECH //GENETICS	0.321	2
630	Genet Epidemiol	USA	GENETICS //PUB HEALTH	1.643	3
631	Genetica	NLD	GENETICS	0.374	8
632	Gene	NLD	GENETICS	3.064	26
633	Genitourin Med	UKD	DERMATOL //PUB HEALTH //UROL NEPH	1.050	14
634	Genome	CAN	GENETICS	1.273	9
635	Geogr Med	HUN	TROP MED	0.000	9
636	Ger J Ophthalmol	DEU	OPHTHAL	0.000	1
637	Gerontology	CHE	GERIATRICS	0.586	11
638	Glycobiology	UKD	BIOLOGY	0.000	1
639	Graefes Arch Clin Exp Ophthalmol	DEU	OPHTHAL	0.768	1
640	Growth Dev Aging	USA	BIOLOGY //DEV, BIOL //GERIATRICS	0.023	1
641	Gut	UKD	GASTRO	3.200	31
642	Gynecol Obstet Invest	CHE	OBST GYNE	0.481	7
643	Gynecol Oncol	USA	OBST GYNE //ONCOLOGY	1.082	8
644	HPB Surg	CHE	SURGERY	0.000	5
645	Haematologia (Budap)	HUN	HEMATOL	0.000	2
646	Hansenol Int	BRA		0.000	4
647	Head Neck	USA	SURGERY	0.000	9
648	Headache	USA	NEUROSCI	1.152	1
649	Health Phys	USA	RADIOL	0.689	19
650	Heart Vessels Suppl	JPN	CARDIOVASC	0.000	4
651	Hematol Oncol	UKD	HEMATOL //ONCOLOGY	1.634	4
652	Hematol Pathol	USA	HEMATOL //PATHOLOGY	0.000	1
653	Hemoglobin	USA	BIOCH, MOL //HEMATOL	0.931	3
654	Hepatogastroenterology	DEU	GASTRO //SURGERY	0.645	3
655	Hepatology	USA	GASTRO	4.107	10
656	Hereditas	SWE	GENETICS	0.000	7
657	Heredity (Edinburgh)	UKD	GENETICS	0.000	1
658	Heredity	UKD	GENETICS	1.113	1
659	Hindustan Antibiot Bull	IND	IMMUNOL //PHARMACOL	0.000	33
660	Histochemistry	DEU	CYTOLOGY	1.540	2
661	Histopathology	UKD	CYTOLOGY //PATHOLOGY	1.631	6
662	Horm Metab Res	DEU	ENDOCR	0.493	17
663	Horm Res	CHE	ENDOCR	0.640	3
664	Hum Biol	USA	BIOLOGY //GENETICS	0.675	7
665	Hum Exp Toxicol	UKD	TOXICOL	0.475	22
666	Hum Genet	DEU	GENETICS	2.656	11
667	Hum Hered	CHE	GENETICS	0.652	18
668	Hum Immunol	USA	IMMUNOL	3.684	2
669	Hum Mutat	USA	GENETICS	0.000	1
670	Hum Neurobiol	DEU	NEUROSCI	0.000	1
671	Hum Pathol	USA	PATHOLOGY	2.665	3
672	Hum Reprod	UKD	OBST GYNE	0.000	12
673	Hum Toxicol	UKD	TOXICOL	0.000	5
674	Hybridoma	USA	IMMUNOL	1.149	9
675	Hygie	FRA		0.000	3

Table 2a (continued)

676	IARC Sci Publ	FRA		0.000	8
677	IEEE Trans Biomed Eng	USA	ENG, BIOM	1.073	8
678	IMA J Math Appl Med Biol	UKD	BIOL, MISC //MATHEMAT //MATHS, MIS	0.514	5
679	Immunol Cell Biol	AUS	IMMUNOL //CYTOLOGY	1.318	13
680	Immunol Invest	USA	IMMUNOL	1.017	15
681	Immunol Lett	NLD	IMMUNOL	1.513	29
682	Immunology	UKD	IMMUNOL	2.952	14
683	Immunopharmacol Immunotoxicol	USA	IMMUNOL //TOXICOL	0.373	19
684	Immunopharmacology	NLD	IMMUNOL //PHARMACOL	1.284	3
685	In Vitro Cell Dev Biol	USA	CYTOLOGY //DEV, BIOL	1.780	1
686	In Vivo	GRC		0.000	11
687	Ind Health	JPN	ENV SCI //PUB HEALTH //TOXICOL	0.680	4
688	Indian Heart J	IND	CARDIOVASC	0.000	234
689	Indian J Biochem Biophys	IND	BIOCH, MOL //BIOPHYS	0.000	298
690	Indian J Cancer	IND	ONCOLOGY	0.000	167
691	Indian J Chest Dis Allied Sci	IND	RESP SYS	0.000	137
692	Indian J Dent Res	IND	DENTISTRY	0.000	27
693	Indian J Dermatol	IND	DERMATOL	0.000	9
694	Indian J Exp Biol	IND	BIOLOGY	0.000	777
695	Indian J Gastroenterol	IND	GASTRO	0.000	235
696	Indian J Lepr	IND	DERMATOL //IMMUNOL //PATHOLOGY	0.000	237
697	Indian J Malariol	IND		0.000	125
698	Indian J Med Res	IND	MED, GEN	0.000	569
699	Indian J Med Sci	IND	MED, GEN	0.000	119
700	Indian J Ophthalmol	IND	OPHTHAL	0.000	152
701	Indian J Pathol Microbiol	IND	PATHOLOGY	0.000	279
702	Indian J Pediatr	IND	PEDIAT	0.000	287
703	Indian J Physiol Pharmacol	IND	PHYSIOL //PHARMACOL	0.000	377
704	Indian J Public Health	IND	PUB HEALTH	0.000	83
705	Indian Pediatr	IND	PEDIAT	0.000	801
706	Infect Immun	USA	IMMUNOL	3.433	14
707	Infection	DEU	IMMUNOL //MICROBIOL	0.936	4
708	Injury	UKD	SURGERY	0.000	22
709	Insect Biochem Mol Biol	UKD	BIOCH, MOL //ENTOMOL	0.000	1
710	Int Angiol	ITA	UROL NEPH	0.000	4
711	Int Arch Allergy Appl Immunol	CHE	ALLERGY //IMMUNOL	1.101	10
712	Int Arch Allergy Immunol	CHE	ALLERGY //IMMUNOL	0.000	6
713	Int Arch Occup Environ Health	DEU	PUB HEALTH	0.847	8
714	Int Clin Psychopharmacol	UKD	PHARMACOL	0.514	1
715	Int Disabil Stud	UKD		0.000	1
716	Int Immunol	UKD	IMMUNOL	0.000	2
717	Int J Androl	UKD	ANDROLOGY	1.048	24
718	Int J Artif Organs	ITA	ENG, BIOM	0.495	10
719	Int J Biochem	UKD	BIOCH, MOL	0.975	5
720	Int J Biol Macromol	UKD	BIOCH, MOL	0.975	13
721	Int J Biol Markers	ITA		0.000	1
722	Int J Biomed Comput	UKD	BIOCH, MOL //COMPUTER	0.884	7
723	Int J Biometeorol	NLD	BIOPHYS //METEOR	0.246	13
724	Int J Cancer	USA	ONCOLOGY	2.968	21
725	Int J Card Imaging	USA	CARDIOVASC //RADIOL	0.000	1
726	Int J Cardiol	NLD	CARDIOVASC	0.545	186
727	Int J Clin Monit Comput	NLD	COMPUTER	0.000	3

Table 2a (continued)

728	Int J Clin Pharmacol Res	CHE	PHARMACOL	0.364	1
729	Int J Clin Pharmacol Ther Toxicol	DEU	PHARMACOL //TOXICOL	0.811	35
730	Int J Dermatol	USA	DERMATOL	0.534	101
731	Int J Dev Biol	ESP	DEV, BIOL	0.000	1
732	Int J Dev Neurosci	UKD	NEUROSCI	1.712	10
733	Int J Epidemiol	UKD	PUB HEALTH	1.316	13
734	Int J Exp Pathol	UKD	PATHOLOGY	0.422	15
735	Int J Fertil	SWE	OBST GYNE	0.697	21
736	Int J Food Microbiol	NLD	FOOD SCI	0.343	9
737	Int J Gynaecol Obstet	SWE	OBST GYNE	0.254	58
738	Int J Gynecol Pathol	USA	OBST GYNE //PATHOLOGY	1.713	1
739	Int J Health Serv	USA	PUB HEALTH	0.000	4
740	Int J Hyperthermia	UKD	RADIOL	13.376	8
741	Int J Immunopharmacol	UKD	IMMUNOL //PHARMACOL	1.013	20
742	Int J Lepr Other Mycobact Dis	USA	PATHOLOGY	0.000	85
743	Int J Med Microbiol Virol Parasitol Infect Dis	DEU	MICROBIOL //VIROLOGY //PARASITOL	0.000	6
744	Int J Med Microbiol	DEU	MICROBIOL	0.000	12
745	Int J Neurosci	UKD	NEUROSCI	0.493	10
746	Int J Oral Maxillofac Surg	DEN	DENTISTRY	0.859	12
747	Int J Orthod	USA	ORTHOPED	0.000	2
748	Int J Pancreatol	USA	ENDOCR //PHYSIOL	0.643	3
749	Int J Parasitol	UKD	PARASITOL	0.834	28
750	Int J Pediatr Otorhinolaryngol	NLD	OTORHINO	0.248	9
751	Int J Pept Protein Res	DEN	BIOCH, MOL	1.587	38
752	Int J Psychiatry Med	USA	PSYCHIAT	0.000	4
753	Int J Psychophysiol	NLD	NEUROSCI //PHYSIOL //PSYCHOL	0.549	2
754	Int J Rad Appl Instrum [A]	USA	RADIOL	0.000	9
755	Int J Rad Appl Instrum [B]	USA	RADIOL	0.000	21
756	Int J Radiat Biol Relat Stud Phys Chem Med	UKD	RADIOL	0.000	3
757	Int J Radiat Biol	UKD	NUCL SCI //RADIOL	2.006	14
758	Int J Radiat Oncol Biol Phys	USA	ONCOLOGY //RADIOL	1.988	15
759	Int J Rehabil Res	DEU		0.000	4
760	Int J STD AIDS	UKD	IMMUNOL	0.000	8
761	Int J Soc Psychiatry	UKD	PSYCHIAT	0.000	20
762	Int J Tissue React	CHE	CYTOLOGY	0.354	2
763	Int J Vitam Nutr Res	CHE	NUTRI DIET	0.551	25
764	Int Nurs Rev	CHE	NURSING	0.000	1
765	Int Ophthalmol	NLD	OPHTHAL	0.550	1
766	Int Orthop	DEU	ORTHOPED	0.000	26
767	Int Rev Cytol	USA	CYTOLOGY	5.095	2
768	Int Surg	ITA	SURGERY	0.000	17
769	Int Urol Nephrol	HUN	UROL NEPH	0.000	11
770	Intervirology	CHE	VIROLOGY	1.253	5
771	Isr J Med Sci	ISR	MED, GEN	0.227	1
772	Ital J Biochem	ITA	BIOCH, MOL	0.536	4
773	Ital J Gastroenterol	ITA	GASTRO	0.664	2
774	Ital J Neurol Sci	ITA	NEUROSCI	0.000	2
775	Ital J Orthop Traumatol	ITA	ORTHOPED	0.000	1
776	J AOAC Int	USA		0.000	3
777	J Acoust Soc Am	USA	ACOUSTICS	1.263	4
778	J Acquir Immune Defic Syndr	USA	IMMUNOL	3.735	4

Table 2a (continued)

779	J Adolesc Health	USA	PUB HEALTH	0.000	1
780	J Affect Disord	NLD	PSYCHIAT	1.472	6
781	J Allergy Clin Immunol	USA	ALLERGY //IMMUNOL	3.278	6
782	J Am Acad Dermatol	USA	DERMATOL	1.521	1
783	J Am Coll Cardiol	USA	CARDIOVASC	6.114	4
784	J Am Coll Nutr	USA	NUTRI DIET	0.805	6
785	J Am Coll Surg	USA	SURGERY	0.000	1
786	J Am Mosq Control Assoc	USA	ENTOMOL	0.610	20
787	J Anal Toxicol	USA	TOXICOL	1.594	1
788	J Anat	UKD	ANATOMY	0.727	18
789	J Androl	USA	ANDROLOGY	1.389	2
790	J Antibiot (Tokyo)	JPN	IMMUNOL //PHARMACOL	1.554	12
791	J Antimicrob Chemother	UKD	MICROBIOL //PHARMACOL	2.034	7
792	J Appl Bacteriol	UKD	BIOTECH //MICROBIOL	1.141	18
793	J Appl Physiol	USA	PHYSIOL	2.059	2
794	J Appl Toxicol	USA	TOXICOL	0.794	36
795	J Arthroplasty	USA	SURGERY	0.000	1
796	J Assoc Off Anal Chem	USA	CHEM, ANAL	0.000	11
797	J Assoc Physicians India	IND	MED, GEN	0.000	705
798	J Asthma	USA	RESP SYS	0.000	15
799	J Autoimmun	UKD	IMMUNOL	1.577	1
800	J Auton Nerv Syst	NLD	NEUROSCI	1.187	1
801	J Bacteriol	USA	MICROBIOL	3.759	24
802	J Basic Microbiol	DEU	MICROBIOL	0.253	6
803	J Biochem (Tokyo)	JPN	BIOCH, MOL	2.110	6
804	J Biochem Biophys Methods	NLD	BIOCH, MOL //BIOPHYS	0.798	16
805	J Biochem Toxicol	USA	BIOCH, MOL	0.987	13
806	J Bioenerg Biomembr	USA	BIOCH, MOL //BIOPHYS	0.535	2
807	J Biol Chem	USA	BIOCH, MOL	6.714	65
808	J Biol Photogr	USA		0.000	1
809	J Biol Regul Homeost Agents	USA	BIOLOGY //MED, RES	0.000	5
810	J Biol Rhythms	USA	BEHAVIOR //BIOLOGY	2.441	1
811	J Biol Stand	UKD	BIOL, MISC	0.000	5
812	J Biolumin Chemilumin	UKD	BIOCH, MOL	1.338	3
813	J Biomater Appl	USA	ENG, BIOM //MATER	0.000	15
814	J Biomater Sci Polym Ed	NLD	ENG, BIOM //MATER // MED, RES	0.000	1
815	J Biomech Eng	USA	BIOPHYS //ENG, BIOM	0.000	2
816	J Biomech	USA	BIOPHYS //ENG, BIOM	0.720	8
817	J Biomed Eng	UKD	ENG, BIOM	0.434	6
818	J Biomed Mater Res	USA	ENG, BIOM //MATER	1.376	8
819	J Biomol NMR	NLD	BIOCH, MOL	0.000	4
820	J Biomol Struct Dyn	USA	BIOCH, MOL //BIOPHYS	1.905	53
821	J Biosoc Sci	UKD	BIOSCI //PUB HEALTH	0.284	2
822	J Bone Joint Surg [Am]	USA	ORTHOPED //SURGERY	0.916	5
823	J Bone Joint Surg [Br]	UKD	ORTHOPED //SURGERY	0.689	20
824	J Cancer Educ	USA	IMMUNOL	0.000	2
825	J Cancer Res Clin Oncol	DEU	ONCOLOGY	1.895	19
826	J Cardiothorac Vasc Anesth	USA	CARDIOVASC //ANESTHES	0.000	2
827	J Cardiovasc Pharmacol	USA	CARDIOVASC //PHARMACOL //RESP SYS	2.176	1
828	J Cardiovasc Surg (Torino)	ITA	CARDIOVASC //SURGERY	0.000	5
829	J Cataract Refract Surg	USA	OPHTHAL //SURGERY	0.000	6
830	J Cell Biochem	USA	BIOCH, MOL	4.466	3
831	J Cell Physiol	USA	CYTOLOGY //PHYSIOL	0.000	1

Table 2a (continued)

832	J Cell Sci	UKD	CYTOLOGY	3.293	3
833	J Child Lang	UKD	PEDIAT	0.000	1
834	J Child Psychol Psychiatry	UKD	PEDIAT //PSYCHOL //PSYCHIAT	0.000	1
835	J Chromatogr B Biomed Appl	NLD	CHEM, ANAL	1.020	1
836	J Chromatogr	NLD	CHEM, ANAL	1.706	35
837	J Clin Chem Clin Biochem	DEU	MED, RES	0.890	1
838	J Clin Endocrinol Metab	USA	ENDOCR	3.493	2
839	J Clin Epidemiol	UKD	EPIDEMIOL //MED, GEN //PUB HEALTH	1.493	2
840	J Clin Gastroenterol	USA	GASTRO	0.696	24
841	J Clin Immunol	USA	IMMUNOL	1.982	4
842	J Clin Invest	USA	MED, RES	8.217	1
843	J Clin Lab Anal	USA	MED, LAB	0.921	9
844	J Clin Lab Immunol	ITA	MED, LAB //IMMUNOL	0.000	5
845	J Clin Microbiol	USA	MICROBIOL	2.724	21
846	J Clin Neuroophthalmol	USA	NEUROSCI //OPHTHAL	0.000	6
847	J Clin Oncol	USA	ONCOLOGY	8.162	1
848	J Clin Orthod	USA	ORTHOPED	0.000	1
849	J Clin Pathol	UKD	PATHOLOGY	2.470	8
850	J Clin Pediatr Dent	USA	PEDIAT //DENTISTRY	0.000	3
851	J Clin Periodontol	DEN	DENTISTRY	1.573	1
852	J Clin Ultrasound	USA	ACOUSTICS //RADIOL	0.589	13
853	J Commun Disord	USA		0.000	3
854	J Commun Dis	IND		0.000	135
855	J Comp Pathol	UKD	PATHOLOGY //VET MED	0.415	7
856	J Comp Physiol [B]	DEU	PHYSIOL //ZOOLOGY	1.372	6
857	J Comput Assist Tomogr	USA	RADIOL	1.213	5
858	J Comput Tomogr	USA	RADIOL	0.000	1
859	J Craniomaxillofac Surg	DEU	DENTISTRY //SURGERY	0.780	3
860	J Cutan Pathol	DEN	DERMATOL //PATHOLOGY	0.938	2
861	J Dairy Res	UKD	AGRI, DAIR //FOOD SCI	0.969	1
862	J Dairy Sci	USA	AGRI, DAIR //FOOD SCI	1.522	2
863	J Dermatol Sci	NLD	DERMATOL	0.000	1
864	J Dermatol Surg Oncol	USA	DERMATOL //ONCOLOGY //SURGERY	0.555	1
865	J Dermatol	JPN	DERMATOL	0.000	22
866	J Dev Physiol	UKD	DEV, BIOL //PHYSIOL	0.892	1
867	J Diabet Complications	USA	ENDOCR	0.000	2
868	J Diarrhoeal Dis Res	BGD		0.000	25
869	J Drug Target	CHE	PHARMACOL	0.000	4
870	J Egypt Soc Parasitol	EGY	PARASITOL	0.000	1
871	J Electron Microsc (Tokyo)	JPN	MICROSCOPY	0.922	2
872	J Electron Microsc Tech	USA	BIOLOGY //MICROSCOPY	0.982	1
873	J Emerg Med	USA	MED, MIS	0.000	3
874	J Endocrinol Invest	ITA	ENDOCR	0.788	4
875	J Endocrinol	UKD	ENDOCR	3.000	11
876	J Endod	USA	DENTISTRY	0.507	2
877	J Endourol	USA	UROL NEPH	0.000	4
878	J Environ Pathol Toxicol Oncol	USA	ENV SCI //PATHOLOGY //TOXICOL //ONCOLOGY	0.000	15
879	J Environ Sci Health [B]	USA	AGRICUL //ENV SCI //PUB HEALTH	0.864	18
880	J Enzym Inhib	CHE		0.000	2
881	J Epidemiol Community Health	UKD	PUB HEALTH	1.697	6

Table 2a (continued)

882	J Ethnopharmacol	CHE	BOTANY //PHARMACOL	0.412	92
883	J Eukaryot Microbiol	USA	MICROBIOL	0.000	2
884	J Exp Biol	UKD	BIOLOGY	1.804	3
885	J Exp Pathol (Oxford)	UKD	PATHOLOGY	0.000	2
886	J Exp Pathol	USA	PATHOLOGY	0.000	8
887	J Exp Zool	USA	ZOOLOGY	1.241	6
888	J Forensic Sci Soc	UKD	MED, LEG //PATHOLOGY	1.250	1
889	J Forensic Sci	USA	MED, LEG	1.103	2
890	J Gastroenterol Hepatol	AUS	GASTRO	0.331	45
891	J Gen Intern Med	USA	MED, GEN	0.000	1
892	J Gen Microbiol	UKD	MICROBIOL	1.960	23
893	J Gen Psychol	USA	PSYCHOL	5.111	3
894	J Gen Virol	UKD	VIROLOGY	3.358	9
895	J Genet Psychol	USA	GENETICS //PSYCHOL	0.000	1
896	J Hand Surg [Am]	USA	SURGERY	0.000	3
897	J Hand Surg [Br]	UKD	SURGERY	0.000	18
898	J Heart Valve Dis	UKD	CARDIOVASC	0.000	2
899	J Helminthol	UKD	PARASITOL //ZOOLOGY	0.364	29
900	J Hepatol	NLD	GASTRO	2.673	4
901	J Hered	USA	GENETICS	0.889	6
902	J Hirnforsch	DEU	NEUROSCI	0.457	4
903	J Hosp Infect	USA	MED, MIS //PUB HEALTH	1.267	13
904	J Hum Ergol (Tokyo)	JPN		0.000	6
905	J Hum Hypertens	UKD	CARDIOVASC	0.000	2
906	J Hyg Epidemiol Microbiol Immunol	CSK	MICROBIOL //IMMUNOL	0.000	28
907	J Hypertens	UKD	CARDIOVASC	2.133	1
908	J Immunoassay	USA	IMMUNOL	0.730	18
909	J Immunol Methods	NLD	IMMUNOL	1.837	17
910	J Immunol	USA	IMMUNOL	7.004	4
911	J In Vitro Fert Embryo Transf	USA	OBST GYNE	0.000	2
912	J Indian Dent Assoc	IND	DENTISTRY	0.000	11
913	J Indian Med Assoc	IND	MED, GEN	0.000	396
914	J Indian Soc Pedod Prev Dent	IND	DENTISTRY	0.000	28
915	J Infect Dis	USA	IMMUNOL	4.869	10
916	J Infect	UKD	IMMUNOL //MICROBIOL	1.464	9
917	J Inorg Biochem	USA	BIOCH, MOL //CHEM, INOR	1.018	42
918	J Int Med Res	UKD	MED, RES //PHARMACOL	0.411	3
919	J Interferon Res	USA	BIOCH, MOL	0.743	1
920	J Intern Med	UKD	MED, GEN	1.342	3
921	J Invertebr Pathol	USA	ZOOLOGY	0.902	4
922	J Korean Med Sci	KOR	MED, GEN	0.000	3
923	J Laryngol Otol	UKD	OTORHINO	0.317	88
924	J Learn Disabil	USA		0.000	1
925	J Lipid Mediat	NLD	BIOCH, MOL	2.908	1
926	J Math Biol	DEU	BIOL, MISC //MATHS, MIS	0.571	5
927	J Med Chem	USA	CHEMISTRY //PHARMACOL	2.872	12
928	J Med Entomol	USA	ENTOMOL	0.976	5
929	J Med Genet	UKD	GENETICS	1.664	4
930	J Med Microbiol	UKD	MICROBIOL	1.750	40
931	J Med Primatol	USA	VET MED //ZOOLOGY	0.907	5
932	J Med Syst	USA	MED, GEN	0.000	1
933	J Med Vet Mycol	UKD	MYCOLOGY	0.870	12
934	J Med Virol	USA	VIROLOGY	2.076	17
935	J Med	USA	MED, GEN	0.000	1

Table 2a (continued)

936	J Membr Biol	USA	BIOPHYS	3.436	1
937	J Ment Defic Res	UKD	GENETICS //NEUROSCI	0.657	3
938	J Microencapsul	UKD	CHEM, APPL //ENG, CHEM //PHARMACOL	0.000	55
939	J Mol Biol	UKD	BIOCH, MOL	5.495	18
940	J Mol Cell Cardiol	UKD	CARDIOVASC	3.108	2
941	J Mol Endocrinol	UKD	ENDOCR	0.000	1
942	J Mol Graph	USA	BIOCH, MOL //COMPUTER //CRYSTAL	1.603	1
943	J Mol Recognit	UKD		0.000	3
944	J Morphol	USA	ANATOMY	0.679	4
945	J Nat Prod	USA	BOTANY //CHEMISTRY //PHARMACOL	1.204	18
946	J Natl Cancer Inst	USA	ONCOLOGY	0.000	3
947	J Neural Transm Gen Sect	AUT	NEUROSCI	1.134	8
948	J Neural Transplant Plast	UKD	NEUROSCI	0.000	2
949	J Neurobiol	USA	NEUROSCI	2.015	1
950	J Neurochem	USA	BIOCH, MOL //NEUROSCI	3.975	11
951	J Neurogenet	UKD	GENETICS //NEUROSCI	1.875	3
952	J Neuroimmunol	NLD	IMMUNOL //NEUROSCI	2.497	3
953	J Neurol Neurosurg Psychiatry	UKD	NEUROSCI //PSYCHIAT	2.350	16
954	J Neurol Sci	NLD	NEUROSCI	0.000	9
955	J Neurol	DEU	NEUROSCI	1.355	3
956	J Neurooncol	NLD	NEUROSCI //ONCOLOGY	0.000	4
957	J Neuroradiol	FRA	NEUROSCI //RADIOL	0.000	1
958	J Neurosci Methods	NLD	NEUROSCI	1.587	3
959	J Neurosci Res	USA	NEUROSCI	2.679	1
960	J Neurosurg Anesthesiol	USA	NEUROSCI //SURGERY //ANESTHES	0.000	4
961	J Neurosurg Sci	ITA	NEUROSCI //SURGERY	0.000	3
962	J Neurosurg	USA	NEUROSCI //SURGERY	2.256	13
963	J Nihon Univ Sch Dent	JPN	DENTISTRY	0.000	1
964	J Nucl Biol Med	ITA	NUCL SCI	0.000	1
965	J Nucl Med	USA	RADIOL	4.689	2
966	J Nurse Midwifery	USA	NURSING	0.000	1
967	J Nutr Sci Vitaminol (Tokyo)	JPN	NUTRI DIET	0.444	6
968	J Nutr	USA	NUTRI DIET	1.814	4
969	J Oral Maxillofac Surg	USA	DENTISTRY	0.665	5
970	J Oral Pathol Med	DEN	DENTISTRY //PATHOLOGY	1.437	10
971	J Oral Pathol	DEN	PATHOLOGY	0.000	1
972	J Orthop Trauma	USA	ORTHOPED	0.000	9
973	J Otolaryngol	CAN	OTORHINO	0.000	1
974	J Paediatr Child Health	AUS	PEDIAT	0.263	2
975	J Parasitol	USA	PARASITOL	0.852	15
976	J Parenter Sci Technol	USA	ENG, CHEM //PHARMACOL	0.000	1
977	J Pathol	UKD	PATHOLOGY	3.348	3
978	J Pediatr Gastroenterol Nutr	USA	GASTRO //NUTRI DIET //PEDIAT	0.916	18
979	J Pediatr Ophthalmol Strabismus	USA	PEDIAT //OPHTHAL	0.000	11
980	J Pediatr Orthop	USA	PEDIAT //ORTHOPED	0.000	3
981	J Pediatr Surg	USA	PEDIAT //SURGERY	0.741	44
982	J Pediatr	USA	PEDIAT	2.377	1
983	J Pedod	USA		0.000	1
984	J Periodontol	USA	DENTISTRY	1.167	1

Table 2a (continued)

985	J Pharm Biomed Anal	UKD	PHARMACOL	0.515	13
986	J Pharm Pharmacol	UKD	PHARMACOL	0.907	30
987	J Pharm Sci	USA	CHEMISTRY //PHARMACOL	1.171	18
988	J Pharmacobiodyn	JPN	PHARMACOL	0.720	1
989	J Pharmacol Exp Ther	USA	PHARMACOL	3.507	4
990	J Pharmacol Methods	USA	PHARMACOL	1.322	2
991	J Pharmacol Toxicol Methods	USA	PHARMACOL //TOXICOL	0.000	2
992	J Photochem Photobiol B	CHE	BIOCH, MOL //BIOPHYS	1.677	6
993	J Physiol (Lond)	UKD	PHYSIOL	5.231	3
994	J Physiol Pharmacol	POL	PHYSIOL //PHARMACOL	0.000	2
995	J Pierre Fauchard Acad	IND		0.000	14
996	J Pineal Res	USA	ANATOMY //ENDOCR //NEUROSCI	0.790	16
997	J Postgrad Med	IND	MED, GEN	0.000	254
998	J Prosthet Dent	USA	DENTISTRY	0.553	3
999	J Protein Chem	USA	BIOCH, MOL	1.234	10
1000	J Protozool	USA	ZOOLOGY	1.382	6
1001	J Psychiatr Res	UKD	PSYCHIAT	0.895	3
1002	J Psychoactive Drugs	USA	PSYCHOL //PHARMACOL	0.000	1
1003	J Psychol	USA	PSYCHOL	0.000	3
1004	J Psychosom Obstet Gynaecol	UKD	PSYCHOL //OBST GYNE	0.000	2
1005	J Psychosom Res	UKD	PSYCHIAT	1.014	2
1006	J R Coll Surg Edinb	UKD	SURGERY	0.000	3
1007	J R Soc Health	UKD	PUB HEALTH	0.000	9
1008	J R Soc Med	UKD	MED, GEN	0.741	2
1009	J Radiat Res (Tokyo)	JPN	RADIOL	0.488	4
1010	J Recept Res	USA	CYTOLOGY	0.889	1
1011	J Refract Corneal Surg	USA	OPHTHAL //SURGERY	0.000	1
1012	J Rehabil Res Dev	USA		0.000	4
1013	J Reprod Fertil	UKD	OBST GYNE	2.336	19
1014	J Reprod Immunol	NLD	IMMUNOL	1.761	17
1015	J Reprod Med	USA	OBST GYNE	0.597	4
1016	J Rheumatol	CAN	RHEUMATOL	1.965	1
1017	J Soc Occup Med	UKD	PUB HEALTH	0.000	4
1018	J Soc Psychol	USA	PSYCHOL	0.000	5
1019	J Sports Med Phys Fitness	ITA	MED, MIS	0.000	4
1020	J Steroid Biochem Mol Biol	UKD	BIOCH, MOL //ENDOCR	1.151	9
1021	J Steroid Biochem	UKD	BIOCH, MOL //BIOLOGY //ENDOCR	0.000	7
1022	J Stud Alcohol	USA	SUB ABUSE	1.153	1
1023	J Submicrosc Cytol Pathol	ITA	CYTOLOGY //PATHOLOGY	0.530	4
1024	J Submicrosc Cytol	ITA	MICROSCOPY //CYTOLOGY	0.000	1
1025	J Subst Abuse Treat	USA	SUB ABUSE	0.000	1
1026	J Surg Oncol	USA	ONCOLOGY //SURGERY	0.492	82
1027	J Surg Res	USA	SURGERY	1.082	1
1028	J Theor Biol	UKD	BIOL, MISC	1.061	15
1029	J Thorac Cardiovasc Surg	USA	CARDIOVASC //RESP SYS //SURGERY	2.230	4
1030	J Toxicol Clin Toxicol	USA	TOXICOL	0.453	2
1031	J Toxicol Environ Health	USA	ENV SCI //PUB HEALTH //TOXICOL	0.922	12
1032	J Toxicol Sci	JPN	TOXICOL	0.000	1
1033	J Trace Elem Electrolytes Health Dis	DEU	BIOCH, MOL	0.635	2
1034	J Trauma	USA	SURGERY	1.099	14

Table 2a (continued)

1035	J Trop Med Hyg	UKD	PUB HEALTH //TROP MED	0.455	53
1036	J Trop Pediatr	UKD	PEDIAT //TROP MED	0.288	58
1037	J Ultrasound Med	USA	ACOUSTICS //RADIOL	0.960	3
1038	J Urol	USA	UROL NEPH	1.750	33
1039	J Vasc Interv Radiol	USA	RADIOL	0.000	1
1040	J Vet Pharmacol Ther	UKD	PHARMACOL //VET MED	0.563	6
1041	J Virol Methods	NLD	VIROLOGY	1.489	7
1042	J Virol	USA	VIROLOGY	6.070	3
1043	JAMA	USA	MED, GEN	0.000	1
1044	JCU J Clin Ultrasound	USA	ACOUSTICS //RADIOL	0.000	3
1045	JPMA J Pak Med Assoc	PAK	MED, GEN	0.000	5
1046	Jinrui Idengaku Zasshi	JPN		0.000	1
1047	Jpn Heart J	JPN	CARDIOVASC	0.000	15
1048	Jpn J Cancer Res	JPN	ONCOLOGY	1.686	5
1049	Jpn J Clin Oncol	JPN	ONCOLOGY	0.000	1
1050	Jpn J Exp Med	JPN	MED, RES	1.215	15
1051	Jpn J Genet	JPN	GENETICS	0.776	1
1052	Jpn J Hum Genet	JPN	GENETICS	0.940	2
1053	Jpn J Med Sci Biol	JPN	MED, GEN	0.310	8
1054	Jpn J Med	JPN	MED, GEN	0.000	2
1055	Jpn J Ophthalmol	JPN	OPHTHAL	0.393	6
1056	Jpn J Pharmacol	JPN	PHARMACOL	1.294	2
1057	Jpn J Physiol	JPN	PHYSIOL	0.794	13
1058	Jpn J Psychiatry Neurol	JPN	PSYCHIAT //NEUROSCI	0.000	1
1059	Jpn J Surg	JPN	SURGERY	0.000	18
1060	Kidney Int	USA	UROL NEPH	5.703	2
1061	Kobe J Med Sci	JPN	MED, GEN	0.000	1
1062	Lab Anim Sci	USA	VET MED	0.630	1
1063	Lab Anim	UKD	VET MED	0.781	3
1064	Lancet	UKD	MED, GEN	15.871	22
1065	Laryngoscope	USA	INSTRUM //OTORHINO // RESP SYS	0.994	4
1066	Lasers Surg Med	USA	MED, LAB //SURGERY	1.688	1
1067	Lens Eye Toxic Res	USA	OPHTHAL //TOXICOL	0.000	1
1068	Lepr Rev	UKD	DERMATOL //IMMUNOL //PATHOLOGY	1.209	44
1069	Leuk Lymphoma	CHE	HEMATOL	0.000	4
1070	Leuk Res	UKD	HEMATOL //ONCOLOGY	1.293	16
1071	Life Sci	UKD	BIOLOGY //MED, RES	1.766	35
1072	Lipids	USA	BIOCH, MOL	1.748	11
1073	Liver	DEN	GASTRO	0.000	5
1074	Lung	USA	RESP SYS	0.378	1
1075	Lupus	UKD		0.000	5
1076	Lymphology	USA	PHYSIOL	0.328	4
1077	Magn Reson Imaging	USA	RADIOL	0.000	5
1078	Magn Reson Med	USA	RADIOL	2.935	1
1079	Magnes Res	UKD	CHEMISTRY //SPECTROSCO	0.000	2
1080	Magnes Trace Elem	CHE	BIOCH, MOL //MED, RES	0.000	4
1081	Magnesium	CHE	BIOCH, MOL	0.000	1
1082	Malays J Pathol	MYS	PATHOLOGY	0.000	1
1083	Mater Med Pol	POL	MATER	0.000	11
1084	Math Biosci	USA	BIOL, MISC //MATHS, MIS	0.875	7
1085	Mech Ageing Dev	CHE	GERIATRICS	1.411	15
1086	Med Biol Eng Comput	UKD	ENG, BIOM	0.600	12
1087	Med Dosim	USA		0.000	1

Table 2a (continued)

1088	Med Educ	UKD	EDUC SCI	0.671	4
1089	Med Hist	UKD	HIS PHIL	0.186	1
1090	Med Hypotheses	UKD	MED, RES	0.444	17
1091	Med Lab Sci	UKD	MED, LAB	0.523	5
1092	Med Law	ZAF	MED, LEG	0.000	1
1093	Med Microbiol Immunol (Berl)	DEU	IMMUNOL //MICROBIOL	1.082	15
1094	Med Oncol Tumor Pharmacother	UKD	ONCOLOGY //PHARMACOL	0.000	2
1095	Med Pediatr Oncol	USA	ONCOLOGY //PEDIAT	1.220	2
1096	Med Phys	USA	RADIOL	1.207	1
1097	Med Res Rev	USA	MED, RES //PHARMACOL	7.133	4
1098	Med Sci Law	UKD	MED, LEG //PATHOLOGY	0.402	8
1099	Med Teach	UKD	EDUC SCI	0.000	4
1100	Med Vet Entomol	UKD	VET MED //ENTOMOL	0.000	14
1101	Medicine (Baltimore)	USA	MED, GEN	4.852	1
1102	Melanoma Res	UKD	ONCOLOGY	0.000	1
1103	Mem Inst Oswaldo Cruz	BRA	MED, RES	0.267	3
1104	Membr Biochem	USA	BIOCH, MOL //CYTOLOGY	0.758	3
1105	Metab Brain Dis	USA	ENDOCR //NEUROSCI	1.063	2
1106	Metabolism	USA	ENDOCR	2.037	7
1107	Methods Enzymol	USA	BIOCH, MOL //CYTOLOGY	3.306	1
1108	Methods Find Exp Clin Pharmacol	ESP	PHARMACOL	0.577	39
1109	Microb Pathog	UKD	IMMUNOL //MICROBIOL	1.872	4
1110	Microbiol Immunol	JPN	IMMUNOL //MICROBIOL	0.578	14
1111	Microbiol Rev	USA	MICROBIOL	33.250	1
1112	Microbiol Sci	USA	MICROBIOL	0.000	1
1113	Microbiologia	ESP	MICROBIOL	0.000	1
1114	Microbiologica	ITA	MICROBIOL	0.000	1
1115	Microbiology	UKD	MICROBIOL	0.194	3
1116	Microbios	UKD	MICROBIOL	0.295	9
1117	Microsurgery	USA	SURGERY	0.000	2
1118	Microvasc Res	USA	CARDIOVASC	1.694	2
1119	Minerva Med	ITA		0.000	1
1120	Minerva Psichiatr	ITA	PSYCHIAT	0.000	1
1121	Mod Pathol	USA	PATHOLOGY	0.000	1
1122	Mol Biochem Parasitol	NLD	BIOCH, MOL //PARASITOL	3.066	15
1123	Mol Biol Rep	NLD	BIOCH, MOL	0.827	10
1124	Mol Biother	USA		0.000	1
1125	Mol Cell Biochem	NLD	BIOCH, MOL	1.149	103
1126	Mol Cell Biol	USA	BIOCH, MOL	7.584	3
1127	Mol Cell Endocrinol	NLD	CYTOLOGY //ENDOCR	2.777	4
1128	Mol Cell Probes	UKD	BIOCH, MOL //MED, RES	1.542	2
1129	Mol Chem Neuropathol	USA	NEUROSCI //PATHOLOGY	0.734	4
1130	Mol Gen Genet	DEU	BIOCH, MOL //GENETICS	3.262	13
1131	Mol Immunol	UKD	BIOCH, MOL //IMMUNOL	1.946	8
1132	Mol Microbiol	UKD	MICROBIOL	0.000	1
1133	Mol Neurobiol	USA	NEUROSCI	4.800	1
1134	Mol Reprod Dev	USA	BIOCH, MOL //DEV, BIOL	0.000	8
1135	Monogr Atheroscler	CHE	CARDIOVASC	0.000	2
1136	Morphol Embryol (Bucur)	ROM		0.000	1
1137	Mov Disord	USA	NEUROSCI	0.000	1
1138	Mt Sinai J Med	USA	MED, GEN	0.000	1
1139	Mutagenesis	UKD	GENETICS	1.941	18
1140	Mutat Res	NLD	GENETICS	1.727	159
1141	Mycopathologia	NLD	MYCOLOGY	0.525	45

Table 2a (continued)

1142	Mycoses	DEU	DERMATOL //MYCOLOGY	0.366	19
1143	N Engl J Med	USA	MED, GEN	23.223	1
1144	NIDA Res Monogr	USA		0.000	7
1145	Nahrung	DEU	FOOD SCI	0.178	15
1146	Nat Immun Cell Growth Regul	CHE	IMMUNOL //CYTOLOGY	0.000	5
1147	Nat Immun	CHE	IMMUNOL	0.000	1
1148	Nat Prod Rep	UKD	CHEM, ORG	3.091	2
1149	Nat Toxins	USA	TOXICOL	0.000	1
1150	Natl Med J India	IND	MED, GEN	0.000	108
1151	Nature	UKD	MULTIDIS	19.337	2
1152	Naturwissenschaften	DEU	MULTIDIS	0.782	1
1153	Naunyn Schmiedebergs Arch Pharmacol	DEU	PHARMACOL	0.000	6
1154	Neoplasma	CSK	ONCOLOGY	0.375	65
1155	Nephrol Dial Transplant	DEU	UROL NEPH	1.331	15
1156	Nephron	CHE	UROL NEPH	1.551	13
1157	Neth J Med	NLD	MED, GEN	0.586	1
1158	Neurobiol Aging	USA	NEUROSCI	2.724	3
1159	Neurochem Int	UKD	BIOCH, MOL //NEUROSCI	1.607	9
1160	Neurochem Res	USA	BIOCH, MOL //NEUROSCI	1.418	15
1161	Neurochirurgia (Stuttg)	DEU	NEUROSCI //SURGERY	0.455	2
1162	Neuroepidemiology	CHE	NEUROSCI	0.000	9
1163	Neurofibromatosis	CHE	NEUROSCI	0.000	1
1164	Neurol Res	UKD	NEUROSCI	0.000	5
1165	Neurologija	YUG	NEUROSCI	0.000	1
1166	Neurology	USA	NEUROSCI	3.937	7
1167	Neuropsychobiology	CHE	NEUROSCI //PSYCHIAT	0.700	1
1168	Neuropsychologia	UKD	NEUROSCI //PSYCHOL	1.440	1
1169	Neuroradiology	DEU	NEUROSCI //RADIOL	0.992	18
1170	Neuroreport	UKD	NEUROSCI	0.000	10
1171	Neurosci Lett	NLD	NEUROSCI	2.496	30
1172	Neurosci Res	IRL	NEUROSCI	1.490	4
1173	Neuroscience	UKD	NEUROSCI	3.589	5
1174	Neurosurgery	USA	NEUROSCI //SURGERY	1.421	15
1175	Neurotoxicol Teratol	USA	NEUROSCI //TOXICOL	1.509	2
1176	Neurotoxicology	USA	NEUROSCI //PHARMACOL	1.045	2
1177	Nouv Rev Fr Hematol	DEU	HEMATOL	0.447	2
1178	Nucl Med Biol	USA	RADIOL	0.875	2
1179	Nucl Med Commun	UKD	RADIOL	0.000	4
1180	Nucleic Acids Res	UKD	BIOCH, MOL	3.039	36
1181	Nucleic Acids Symp Ser	UKD	BIOCH, MOL	0.000	1
1182	Nuklearmedizin	DEU	RADIOL	0.857	1
1183	Nutr Cancer	USA	NUTRI DIET //ONCOLOGY	0.000	8
1184	Nutrition	USA	NUTRI DIET	0.827	12
1185	Obstet Gynecol	USA	OBST GYNE	1.824	2
1186	Occup Med (Oxf)	UKD	PUB HEALTH	0.000	2
1187	Okajimas Folia Anat Jpn	JPN	ANATOMY	0.000	2
1188	Oncology	CHE	ONCOLOGY	1.156	21
1189	Online J Curr Clin Trials	USA	MED, GEN	0.000	2
1190	Oper Dent	USA	DENTISTRY	0.000	1
1191	Ophthalmic Paediatr Genet	NLD	OPHTHAL //PEDIAT //GENETICS	0.000	2
1192	Ophthalmic Surg	USA	OPHTHAL //SURGERY	0.543	25
1193	Ophthalmology	USA	OPHTHAL	1.686	2
1194	Oral Surg Oral Med Oral Pathol	USA	DENTISTRY //PATHOLOGY	0.694	16

Table 2a (continued)

			//SURGERY		
1195	Orig Life Evol Biosph	NLD	BIOLOGY	0.810	1
1196	Orthop Rev	USA	ORTHOPED	0.000	1
1197	Orthopedics	USA	ORTHOPED	0.000	4
1198	Otolaryngol Head Neck Surg	USA	OTORHINO //SURGERY	0.713	2
1199	PACE Pacing Clin Electrophysiol	USA	CARDIOVASC //ENG, BIOM	1.414	3
1200	Pain	NLD	NEUROSCI	3.492	3
1201	Palliat Med	UKD	MED, GEN	0.000	1
1202	Pancreas	USA	ENDOCR //PHYSIOL	0.000	4
1203	Panminerva Med	ITA	MED, GEN	0.000	7
1204	Paraplegia	UKD	NEUROSCI //ORTHOPED //SURGERY	0.000	15
1205	Parasite Immunol	UKD	IMMUNOL //PARASITOL	1.907	1
1206	Parasitol Res	DEU	PARASITOL	0.914	5
1207	Parasitology	UKD	PARASITOL	1.527	13
1208	Parassitologia	ITA	PARASITOL	0.084	2
1209	Pathobiology	CHE	CYTOLOGY //PATHOLOGY	1.098	2
1210	Pathol Res Pract	DEU	PATHOLOGY	1.195	1
1211	Pathology	AUS	PATHOLOGY	0.000	8
1212	Pediatr Cardiol	USA	CARDIOVASC //PEDIAT	0.247	4
1213	Pediatr Dent	USA	PEDIAT //DENTISTRY	0.000	1
1214	Pediatr Dermatol	USA	PEDIAT	0.000	10
1215	Pediatr Hematol Oncol	USA	HEMATOL //PEDIAT	0.440	3
1216	Pediatr Infect Dis J	USA	PEDIAT	1.260	8
1217	Pediatr Nephrol	DEU	PEDIAT //UROL NEPH	0.000	8
1218	Pediatr Neurosurg	CHE	NEUROSCI //PEDIAT //SURGERY	0.500	3
1219	Pediatr Pathol	USA	PEDIAT //PATHOLOGY	0.000	3
1220	Pediatr Radiol	DEU	PEDIAT //RADIOL	0.509	18
1221	Pediatr Res	USA	PEDIAT	2.771	2
1222	Peptides	USA	BIOCH, MOL	2.033	1
1223	Percept Mot Skills	USA		0.000	3
1224	Pharm Res	USA	CHEMISTRY //PHARMACOL	1.816	9
1225	Pharmacol Biochem Behav	USA	PHARMACOL //PSYCHOL	1.679	11
1226	Pharmacol Res Commun	USA	PHARMACOL	0.000	8
1227	Pharmacol Res	UKD	PHARMACOL	0.418	18
1228	Pharmacol Ther	UKD	PHARMACOL	3.951	2
1229	Pharmacol Toxicol	DEN	PHARMACOL //TOXICOL	0.997	27
1230	Pharmacology	CHE	PHARMACOL	0.978	10
1231	Pharmacopsychiatry	DEU	PHARMACOL //PSYCHIAT	1.107	1
1232	Pharmatherapeutica	UKD	PHARMACOL	0.000	1
1233	Pharmazie	DEU	CHEMISTRY //PHARMACOL	0.344	62
1234	Philos Trans R Soc Lond [Biol]	UKD	BIOLOGY	0.000	1
1235	Photochem Photobiol	UKD	BIOCH, MOL //BIOPHYS	2.572	8
1236	Phys Med Biol	UKD	RADIOL	1.202	7
1237	Physiol Behav	USA	BEHAVIOR //PHYSIOL	1.238	22
1238	Physiol Bohemoslov	CSK	PHYSIOL	0.371	1
1239	Physiol Chem Phys Med NMR	USA	BIOCH, MOL //BIOPHYS	0.357	20
1240	Physiol Res	CSK	PHYSIOL	0.000	1
1241	Pigment Cell Res	USA	CYTOLOGY	0.862	2
1242	Placenta	UKD	DEV, BIOL //OBST GYNE	1.649	3
1243	Plant Foods Hum Nutr	NLD	NUTRI DIET	0.000	95
1244	Plant Mol Biol	NLD	BIOCH, MOL //BOTANY	3.959	6
1245	Plant Physiol	USA	BOTANY	2.888	1

Table 2a (continued)

1246	Planta Med	DEU	BOTANY //PHARMACOL	1.258	19
1247	Plasmid	USA	GENETICS	1.595	4
1248	Plast Reconstr Surg	USA	SURGERY	1.016	10
1249	Pol J Pharmacol Pharm	POL	PHARMACOL	0.000	5
1250	Postgrad Med J	UKD	MED, GEN	0.371	58
1251	Postgrad Med	USA	MED, GEN	0.250	3
1252	Poult Sci	USA	AGRI, DAIR	0.819	1
1253	Prep Biochem	USA	BIOCH, MOL	0.771	5
1254	Proc Annu Symp Comput Appl Med Care	USA	MED, GEN	0.000	1
1255	Proc Inst Mech Eng [H]	UKD	ENG, MECH	0.000	1
1256	Proc Natl Acad Sci U S A	USA	MULTIDIS	10.300	12
1257	Proc Nutr Soc	UKD	NUTRI DIET	0.000	2
1258	Proc R Soc Lond B Biol Sci	UKD	BIOLOGY	1.917	1
1259	Proc Soc Exp Biol Med	USA	MED, RES	1.362	4
1260	Prog Biophys Mol Biol	UKD	BIOCH, MOL //BIOPHYS	3.846	3
1261	Prog Clin Biol Res	USA		0.000	9
1262	Prog Drug Res	CHE	PHARMACOL	0.000	7
1263	Prog Food Nutr Sci	UKD	NUTRI DIET	0.952	2
1264	Prog Lipid Res	UKD	BIOCH, MOL	3.238	1
1265	Prog Med Chem	NLD		0.000	1
1266	Prog Neurobiol	UKD	NEUROSCI	5.547	1
1267	Prog Neuropsychopharmacol Biol Psychiatry	UKD	NEUROSCI //PHARMACOL //PSYCHIAT	0.891	7
1268	Prog Neuropsychopharmacol	USA	NEUROSCI //PSYCHOL //PHARMACOL	0.000	1
1269	Prog Urol	FRA	UROL NEPH	0.000	1
1270	Prog Vet Microbiol Immunol	CHE	VET MED //MICROBIOL //IMMUNOL	0.000	3
1271	Prostaglandins Leukot Essent Fatty Acids	UKD	ENDOCR //PHARMACOL	0.966	13
1272	Prostaglandins	USA	ENDOCR	1.674	3
1273	Prostate	USA	ENDOCR	2.164	9
1274	Prosthet Orthot Int	DEN	ORTHOPED	0.000	3
1275	Protein Eng	UKD	BIOCH, MOL	3.224	6
1276	Protein Expr Purif	USA	BIOCH, MOL	0.000	2
1277	Protein Sci	USA	BIOCH, MOL	0.000	2
1278	Protein Seq Data Anal	DEU	BIOCH, MOL	0.000	3
1279	Proteins	USA	BIOCH, MOL	0.000	2
1280	Psychiatry	USA	PSYCHIAT	0.649	1
1281	Psychol Rep	USA	PSYCHOL	0.000	3
1282	Psychopathology	CHE	PSYCHIAT	0.835	13
1283	Psychopharmacology (Berl)	DEU	NEUROSCI //PHARMACOL //PSYCHIAT	2.548	4
1284	Psychother Psychosom	CHE	PSYCHOL	0.000	3
1285	Public Health Rev	ISR	PUB HEALTH	0.000	2
1286	Q J Exp Physiol	UKD	PHYSIOL	0.000	3
1287	Q J Exp Psychol [A]	UKD	PSYCHOL	0.000	1
1288	Q J Med	UKD	MED, GEN	1.653	6
1289	Quad Sclavo Diagn	ITA		0.000	1
1290	Quintessence Int	DEU		0.000	3
1291	Radiat Environ Biophys	DEU	BIOPHYS //RADIOL	0.746	8
1292	Radiat Med	JPN	RADIOL	0.000	1
1293	Radiat Res	USA	RADIOL	1.899	12
1294	Radiobiol Radiother (Berl)	DEU	RADIOL	0.000	7

Table 2a (continued)

1295	Radioisotopes	JPN		0.000	3
1296	Radiol Med (Torino)	ITA	RADIOL	0.000	1
1297	Radiology	USA	RADIOL	3.630	4
1298	Radiother Oncol	NLD	ONCOLOGY //RADIOL	1.928	1
1299	Rapid Commun Mass Spectrom	UKD		0.000	1
1300	Reg Anesth	USA	ANESTHES	0.000	3
1301	Regul Pept	NLD	ENDOCR	2.231	3
1302	Regul Toxicol Pharmacol	USA	MED, LEG //PHARMACOL //TOXICOL	0.990	1
1303	Ren Fail	USA	UROL NEPH	0.000	11
1304	Reprod Fertil Dev	AUS	BIOLOGY //DEV, BIOL //ENDOCR	1.464	3
1305	Reprod Nutr Dev	FRA	BIOLOGY //DEV, BIOL //ENDOCR //NUTRI DIET	0.516	2
1306	Reprod Toxicol	USA	BIOLOGY //OBST GYNE //TOXICOL	0.729	14
1307	Res Commun Chem Pathol Pharmacol	USA	PATHOLOGY //PHARMACOL	0.770	15
1308	Res Exp Med (Berl)	DEU	MED, RES	0.663	9
1309	Res Microbiol	FRA	MICROBIOL	0.117	4
1310	Res Vet Sci	UKD	VET MED	0.714	17
1311	Respir Med	UKD	CARDIOVASC //RESP SYS	0.856	6
1312	Respiration	CHE	RESP SYS	0.386	7
1313	Resuscitation	IRL	MED, MIS	0.000	1
1314	Rev Biol Trop	CRI	TROP MED	0.000	2
1315	Rev Chir Orthop	FRA	ORTHOPED	0.000	1
1316	Rev Environ Health	ISR	ENV SCI	0.000	4
1317	Rev Fr Gynecol Obstet	FRA	OBST GYNE	0.000	1
1318	Rev Infect Dis	USA	IMMUNOL //MICROBIOL	2.916	9
1319	Rev Inst Med Trop Sao Paulo	BRA	MED, GEN	0.147	1
1320	Rev Int Trach Pathol Ocul Trop Subtrop Sante Publique	FRA	PATHOLOGY	0.000	2
1321	Rev Sci Tech	FRA		0.000	6
1322	Rheumatol Int	DEU	RHEUMATOL	1.412	6
1323	Risk Anal	USA		0.000	4
1324	S Afr J Surg	ZAF	SURGERY	0.000	2
1325	S Afr Med J	ZAF	MED, GEN	0.624	1
1326	Sangyo Ika Daigaku Zasshi	JPN		0.000	1
1327	Sarcoidosis	ITA		0.000	9
1328	Scand J Clin Lab Invest	UKD	MED, RES	0.628	2
1329	Scand J Gastroenterol	NOR	GASTRO	1.314	9
1330	Scand J Immunol	UKD	IMMUNOL	2.580	5
1331	Scand J Infect Dis	SWE	IMMUNOL	0.715	5
1332	Scand J Plast Reconstr Surg Hand Surg	SWE	SURGERY	0.447	1
1333	Scand J Rheumatol	SWE	RHEUMATOL	0.897	4
1334	Scand J Thorac Cardiovasc Surg	SWE	SURGERY	0.298	4
1335	Scand J Urol Nephrol	SWE	UROL NEPH	0.500	1
1336	Scand J Work Environ Health	FIN	ERGONOMICS //PUB HEALTH	1.313	1
1337	Scanning Microsc	USA	MICROSCOPY	0.707	4
1338	Schizophr Res	NLD	PSYCHIAT	1.797	4
1339	Sci Total Environ	NLD	ENV SCI	0.782	30
1340	Science	USA	MULTIDIS	19.607	1
1341	Sel Cancer Ther	USA	MED, RES //ONCOLOGY	0.690	6
1342	Semin Dermatol	USA	DERMATOL	0.000	1

Table 2a (continued)

1343	Semin Neurol	USA	NEUROSCI	0.000	1
1344	Semin Roentgenol	USA	RADIOL	0.737	1
1345	Semin Surg Oncol	USA	SURGERY //ONCOLOGY	0.000	15
1346	Singapore Dent J	SGP	DENTISTRY	0.000	3
1347	Singapore Med J	SGP	MED, GEN	0.000	7
1348	Skeletal Radiol	DEU	RADIOL	0.461	3
1349	Sleep	USA	BEHAVIOR	1.436	1
1350	Soc Biol	USA	ENTOMOL	0.000	5
1351	Soc Psychiatry Psychiatr Epidemiol	DEU	PSYCHIAT	0.000	1
1352	Soc Sci Med	UKD		0.000	11
1353	Somat Cell Mol Genet	USA	BIOCH, MOL //CYTOLOGY //GENETICS	1.721	1
1354	South Med J	USA	MED, GEN	0.373	2
1355	Southeast Asian J Trop Med Public Health	THA	TROP MED //PUB HEALTH	0.000	31
1356	Spine	USA	ORTHOPED	0.000	5
1357	Springer Semin Immunopathol	DEU	IMMUNOL //PATHOLOGY	1.576	1
1358	Stain Technol	USA	CYTOLOGY	0.404	8
1359	Steroids	USA	BIOCH, MOL //ENDOCR	0.000	26
1360	Strahlenther Onkol	DEU	ONCOLOGY	0.000	24
1361	Stroke	USA	CARDIOVASC //NEUROSCI	3.196	3
1362	Stud Fam Plann	USA	OBST GYNE	0.000	7
1363	Subcell Biochem	UKD	BIOCHEM	0.000	2
1364	Surg Endosc	DEU	SURGERY	0.000	6
1365	Surg Gynecol Obstet	USA	OBST GYNE //SURGERY	0.959	5
1366	Surg Neurol	USA	NEUROSCI //SURGERY	0.664	9
1367	Surg Radiol Anat	DEU	ANATOMY	0.102	1
1368	Surg Today	JPN	SURGERY	0.000	2
1369	Surgery	USA	SURGERY	1.711	3
1370	Targeted Diagn Ther	USA		0.000	1
1371	Teratogenesis Carcinog Mutagen	USA	GENETICS //ONCOLOGY //TOXICOL	0.831	7
1372	Teratology	USA	DEV, BIOL	1.600	2
1373	Tex Heart Inst J	USA	CARDIOVASC	0.000	2
1374	Thorac Cardiovasc Surg	DEU	CARDIOVASC //RESP SYS //SURGERY	0.548	7
1375	Thorax	UKD	RESP SYS	1.877	15
1376	Thromb Res	USA	CARDIOVASC //HEMATOL	1.248	8
1377	Thymus	NLD	IMMUNOL	1.011	6
1378	Thyroidol Clin Exp	ITA		0.000	1
1379	Thyroid	USA		0.000	1
1380	Tissue Antigens	DEN	CYTOLOGY //IMMUNOL	2.025	7
1381	Toxicol Appl Pharmacol	USA	PHARMACOL //TOXICOL	2.328	1
1382	Toxicol Ind Health	USA	PUB HEALTH //TOXICOL	0.347	6
1383	Toxicol Lett	NLD	TOXICOL	0.987	59
1384	Toxicology	NLD	PHARMACOL //TOXICOL	1.321	28
1385	Toxicon	UKD	PHARMACOL //TOXICOL	1.458	24
1386	Trans R Soc Trop Med Hyg	UKD	PUB HEALTH	1.175	94
1387	Transplant Proc	USA	IMMUNOL //SURGERY	1.064	22
1388	Transplantation	USA	IMMUNOL //SURGERY	2.991	12
1389	Trends Genet	UKD	GENETICS	9.297	1
1390	Trop Anim Health Prod	UKD	VET MED	0.135	16
1391	Trop Doct	UKD	TROP MED	0.000	40
1392	Trop Gastroenterol	IND	TROP MED //GASTRO	0.000	69

Table 2a (continued)

1393	Trop Geogr Med	NLD	PUB HEALTH //TROP MED	0.268	35
1394	Trop Med Parasitol	DEU	PARASITOL //TROP MED	1.058	32
1395	Tuber Lung Dis	UKD	RESP SYS	0.000	12
1396	Tubercle	UKD	RESP SYS	0.708	24
1397	Tumori	ITA	ONCOLOGY	0.571	16
1398	Tumour Biol	CHE	ONCOLOGY	1.258	1
1399	Ulster Med J	IRL	MED, GEN	0.000	1
1400	Ultrasonics	UKD	ACOUSTICS //RADIOL	0.482	2
1401	Ultrastruct Pathol	USA	MICROSCOPY //PATHOLOGY	1.315	3
1402	Undersea Biomed Res	USA	MED, MIS //OCEAN	0.829	1
1403	Urol Int	CHE	UROL NEPH	0.000	38
1404	Urol Radiol	USA	RADIOL //UROL NEPH	0.317	1
1405	Urol Res	DEU	UROL NEPH	0.731	2
1406	Urology	USA	UROL NEPH	0.530	2
1407	Vaccine	UKD	IMMUNOL	1.940	26
1408	Vet Hum Toxicol	USA	TOXICOL //VET MED	0.406	40
1409	Vet Immunol Immunopathol	NLD	IMMUNOL //VET MED	1.194	9
1410	Vet Microbiol	NLD	MICROBIOL //VET MED	1.165	11
1411	Vet Parasitol	NLD	PARASITOL //VET MED	0.420	38
1412	Vet Q	NLD	VET MED	0.545	1
1413	Vet Rec	UKD	VET MED	1.113	27
1414	Vet Res Commun	UKD	VET MED	0.304	32
1415	Virchows Arch B Cell Pathol	DEU	ANATOMY //CYTOLOGY //PATHOLOGY	1.360	1
1416	Virology	USA	VIROLOGY	4.392	11
1417	Virus Res	NLD	VIROLOGY	1.841	1
1418	Vision Res	UKD	NEUROSCI //OPHTHAL	1.607	3
1419	Vox Sang	CHE	HEMATOL	1.732	1
1420	West J Med	USA	MED, GEN	0.382	1
1421	World Health Forum	CHE	PUB HEALTH	0.000	11
1422	World Health Stat Q	CHE	PUB HEALTH	0.000	2
1423	World J Surg	USA	SURGERY	0.963	5
1424	World J Urol	DEU	UROL NEPH	0.410	1
1425	World Rev Nutr Diet	UKD	NUTRI DIET	0.000	1
1426	Xenobiotica	UKD	PHARMACOL	1.337	5
1427	Yeast	UKD	BIOCH, MOL //BIOTECH //MICROBIOL	2.184	3
1428	Yen Ko Hsueh Pao	PRC		0.000	1
1429	Yonsei Med J	KOR		0.000	2
1430	Z Ernahrungswiss	DEU	NUTRI DIET	0.000	3
1431	Z Gesamte Hyg	DEU		0.000	1
1432	Z Kinderchir	DEU	PEDIAT //SURGERY	0.100	3
1433	Z Mikrosk Anat Forsch	DEU	ANATOMY //MICROBIOL	0.145	1
1434	Z Naturforsch [C]	DEU	BIOCH, MOL	1.032	5
1435	Zentralbl Bakteriol Mikrobiol Hyg [A]	DEU	MICROBIOL	0.000	6
1436	Zentralbl Hyg Umweltmed	DEU	MICROBIOL //PUB HEALTH	0.437	2
1437	Zentralbl Mikrobiol	DEU	MICROBIOL	0.000	7
1438	Zentralbl Pathol	DEU	PATHOLOGY	0.000	1
1439	Zentralbl Veterinarmed [A]	DEU	VET MED	0.000	9
1440	Zentralbl Veterinarmed [B]	DEU	VET MED	0.000	2
	Total				19952

Table 2b: Journals used by Indian researchers *Medline* Nov 87 - Dec 94 (arranged in rank order)

Sl #	Journal title	Country	Subject	Imp Fact	# of Papers
1	Indian Pediatr	IND	PEDIAT	0.000	801
2	Indian J Exp Biol	IND	BIOLOGY	0.000	777
3	J Assoc Physicians India	IND	MED, GEN	0.000	705
4	Indian J Med Res	IND	MED, GEN	0.000	569
5	J Indian Med Assoc	IND	MED, GEN	0.000	396
6	Indian J Physiol Pharmacol	IND	PHYSIOL //PHARMACOL	0.000	377
7	Bull Environ Contam Toxicol	USA	ENV SCI	0.766	321
8	Biochem Int	AUS	BIOCH, MOL	0.690	314
9	Indian J Biochem Biophys	IND	BIOCH, MOL //BIOPHYS	0.000	298
10	Indian J Pediatr	IND	PEDIAT	0.000	287
11	Indian J Pathol Microbiol	IND	PATHOLOGY	0.000	279
12	J Postgrad Med	IND	MED, GEN	0.000	254
13	Indian J Lepr	IND	DERMATOL //IMMUNOL //PATHOLOGY	0.000	237
14	Indian J Gastroenterol	IND	GASTRO	0.000	235
15	Indian Heart J	IND	CARDIOVASC	0.000	234
16	Int J Cardiol	NLD	CARDIOVASC	0.545	186
17	Indian J Cancer	IND	ONCOLOGY	0.000	167
18	Mutat Res	NLD	GENETICS	1.727	159
19	Indian J Ophthalmol	IND	OPHTHAL	0.000	152
20	Biochem Biophys Res Commun	USA	BIOCH, MOL //BIOPHYS	3.803	145
21	Biochim Biophys Acta	NLD	BIOCH, MOL //BIOPHYS	2.460	137
22	Indian J Chest Dis Allied Sci	IND	RESP SYS	0.000	137
23	J Commun Dis	IND		0.000	135
24	Indian J Malariol	IND		0.000	125
25	Indian J Med Sci	IND	MED, GEN	0.000	119
26	Natl Med J India	IND	MED, GEN	0.000	108
27	Mol Cell Biochem	NLD	BIOCH, MOL	1.149	103
28	Int J Dermatol	USA	DERMATOL	0.534	101
29	Cancer Lett	NLD	ONCOLOGY	1.075	97
30	Plant Foods Hum Nutr	NLD	NUTRI DIET	0.000	95
31	Trans R Soc Trop Med Hyg	UKD	PUB HEALTH	1.175	94
32	J Ethnopharmacol	CHE	BOTANY //PHARMACOL	0.412	92
33	J Laryngol Otol	UKD	OTORHINO	0.317	88
34	Int J Lepr Other Mycobact Dis	USA	PATHOLOGY	0.000	85
35	Contraception	USA	OBST GYNE	1.038	83
36	Indian J Public Health	IND	PUB HEALTH	0.000	83
37	J Surg Oncol	USA	ONCOLOGY //SURGERY	0.492	82
38	Ecotoxicol Environ Safety	USA	ENV SCI //TOXICOL	1.155	78
39	FEBS Lett	NLD	BIOCH, MOL //BIOPHYS	3.479	77
40	Br J Urol	UKD	UROL NEPH	0.695	76
41	Acta Cytol	USA	CYTOLOGY	0.856	69
42	Trop Gastroenterol	IND	TROP MED //GASTRO	0.000	69
43	J Biol Chem	USA	BIOCH, MOL	6.714	65
44	Neoplasma	CSK	ONCOLOGY	0.375	65
45	Biochem Pharmacol	UKD	BIOCH, MOL //PHARMACOL	2.148	62
46	Pharmazie	DEU	CHEMISTRY //PHARMACOL	0.344	62
47	Biochem J	UKD	BIOCH, MOL	3.749	59
48	Toxicol Lett	NLD	TOXICOL	0.987	59

Table 2b (continued)

49	Biochem Mol Biol Int	AUS	BIOCH, MOL	0.000	5
50	Int J Gynaecol Obstet	SWE	OBST GYNE	0.254	5
51	J Trop Pediatr	UKD	PEDIAT //TROP MED	0.288	5
52	Postgrad Med J	UKD	MED, GEN	0.371	5
53	Br J Plast Surg	UKD	SURGERY	0.484	5
54	Gen Comp Endocrinol	USA	ENDOCR	1.776	5
55	J Microencapsul	UKD	CHEM, APPL //ENG, CHEM //PHARMACOL	0.000	5
56	Biomed Environ Sci	USA	ENV SCI	0.000	5
57	Am J Gastroenterol	USA	GASTRO	1.477	5
58	FEMS Microbiol Lett	NLD	MICROBIOL	1.374	5
59	J Biomol Struct Dyn	USA	BIOCH, MOL //BIOPHYS	1.905	5
60	J Trop Med Hyg	UKD	PUB HEALTH //TROP MED	0.455	5
61	Am Heart J	USA	CARDIOVASC	1.762	5
62	Australas Radiol	AUS	RADIOL	0.000	4
63	Biochemistry	USA	BIOCH, MOL	4.919	4
64	Food Chem Toxicol	UKD	FOOD SCI //TOXICOL	1.087	4
65	J Gastroenterol Hepatol	AUS	GASTRO	0.331	4
66	Mycopathologia	NLD	MYCOLOGY	0.525	4
67	Ann Trop Med Parasitol	UKD	PARASITOL //TROP MED	0.408	4
68	Br J Neurosurg	USA	NEUROSCI //SURGERY	0.000	4
69	Folia Microbiol (Praha)	CSK	BIOTECH //MICROBIOL	0.200	4
70	J Pediatr Surg	USA	PEDIAT //SURGERY	0.741	4
71	Lepr Rev	UKD	DERMATOL //IMMUNOL //PATHOLOGY	1.209	4
72	Ann Trop Paediatr	UKD	PEDIAT //TROP MED	0.000	4
73	Acta Ophthalmol (Copenh)	DEN	OPHTHAL	0.543	4
74	Diagn Cytopathol	USA	CYTOLOGY //PATHOLOGY	0.000	4
75	J Inorg Biochem	USA	BIOCH, MOL //CHEM, INOR	1.018	4
76	Arch Biochem Biophys	USA	BIOCH, MOL //BIOPHYS	2.425	4
77	J Med Microbiol	UKD	MICROBIOL	1.750	4
78	Trop Doct	UKD	TROP MED	0.000	4
79	Vet Hum Toxicol	USA	TOXICOL //VET MED	0.406	4
80	Methods Find Exp Clin Pharmacol	ESP	PHARMACOL	0.577	3
81	Int J Pept Protein Res	DEN	BIOCH, MOL	1.587	3
82	Urol Int	CHE	UROL NEPH	0.000	3
83	Vet Parasitol	NLD	PARASITOL //VET MED	0.420	3
84	Aust N Z J Surg	AUS	SURGERY	0.000	3
85	Chest	USA	RESP SYS	1.557	3
86	J Appl Toxicol	USA	TOXICOL	0.794	3
87	Nucleic Acids Res	UKD	BIOCH, MOL	3.039	3
88	Contact Dermatitis	DEN	ALLERGY //DERMATOL	0.792	3
89	Int J Clin Pharmacol Ther Toxicol	DEU	PHARMACOL //TOXICOL	0.811	3
90	J Chromatogr	NLD	CHEM, ANAL	1.706	3
91	Life Sci	UKD	BIOLOGY //MED, RES	1.766	3
92	Trop Geogr Med	NLD	PUB HEALTH //TROP MED	0.268	3
93	Biochem Med Metab Biol	USA	MED, RES	0.724	3
94	Andrologia	DEU	ANDROLOGY	0.317	3
95	Clin Radiol	UKD	RADIOL	0.815	3
96	Hindustan Antibiot Bull	IND	IMMUNOL //PHARMACOL	0.000	3
97	J Urol	USA	UROL NEPH	1.750	3
98	Aust N Z J Obstet Gynaecol	AUS	OBST GYNE	0.000	3
99	Br J Psychiatry	UKD	PSYCHIAT	2.056	3

Table 2b (continued)

100	Burns	UKD	MED, MIS	0.000	32
101	Cytobios	UKD	CYTOLOGY	0.252	32
102	Trop Med Parasitol	DEU	PARASITOL //TROP MED	1.058	32
103	Vet Res Commun	UKD	VET MED	0.304	32
104	Acta Eur Fertil	ITA	OBST GYNE	0.000	31
105	Cancer	USA	ONCOLOGY	2.343	31
106	Gut	UKD	GASTRO	3.200	31
107	Southeast Asian J Trop Med Public Health	THA	TROP MED //PUB HEALTH	0.000	31
108	Acta Neurochir (Wien)	AUT	NEUROSCI //SURGERY	0.638	30
109	Anthropol Anz	DEU	BIOL, MISC	0.000	30
110	Asia Oceania J Obstet Gynaecol	JPN	OBST GYNE	0.000	30
111	Clin Neurol Neurosurg	ITA	NEUROSCI	0.000	30
112	J Pharm Pharmacol	UKD	PHARMACOL	0.907	30
113	Neurosci Lett	NLD	NEUROSCI	2.496	30
114	Sci Total Environ	NLD	ENV SCI	0.782	30
115	Acta Virol (Praha)	CSK	VIROLOGY	0.438	29
116	Anal Biochem	USA	BIOCH, MOL	2.231	29
117	Br J Surg	UKD	SURGERY	1.697	29
118	Eur J Biochem	DEU	BIOCH, MOL	3.171	29
119	Eur J Clin Nutr	UKD	NUTRI DIET	0.950	29
120	Experientia	CHE	MULTIDIS	1.580	29
121	Immunol Lett	NLD	IMMUNOL	1.513	29
122	J Helminthol	UKD	PARASITOL //ZOOLOGY	0.364	29
123	Int J Parasitol	UKD	PARASITOL	0.834	28
124	J Hyg Epidemiol Microbiol Immunol	CSK	MICROBIOL //IMMUNOL	0.000	28
125	J Indian Soc Pedod Prev Dent	IND	DENTISTRY	0.000	28
126	Toxicology	NLD	PHARMACOL //TOXICOL	1.321	28
127	Ann Ophthalmol	USA	OPHTHAL	0.155	27
128	Arch Int Pharmacodyn Ther	BEL	CHEMISTRY //PHARMACOL	0.934	27
129	Indian J Dent Res	IND	DENTISTRY	0.000	27
130	Pharmacol Toxicol	DEN	PHARMACOL //TOXICOL	0.997	27
131	Vet Rec	UKD	VET MED	1.113	27
132	Brain Res	NLD	NEUROSCI	2.590	26
133	Carbohydr Res	NLD	CHEM, ORG	1.299	26
134	Gene	NLD	GENETICS	3.064	26
135	Int Orthop	DEU	ORTHOPED	0.000	26
136	Steroids	USA	BIOCH, MOL //ENDOCR	0.000	26
137	Vaccine	UKD	IMMUNOL	1.940	26
138	Anaesthesia	UKD	ANESTHES	2.045	25
139	Arzneimittelforschung	DEU	CHEMISTRY //PHARMACOL	0.557	25
140	Biol Trace Elem Res	UKD	BIOCH, MOL	0.599	25
141	Br J Nutr	UKD	NUTRI DIET	1.424	25
142	Int J Vitam Nutr Res	CHE	NUTRI DIET	0.551	25
143	J Diarrhoeal Dis Res	BGD		0.000	25
144	Ophthalmic Surg	USA	OPHTHAL //SURGERY	0.543	25
145	Acta Anat (Basel)	CHE	ANATOMY	0.392	24
146	Gastrointest Endosc	USA	GASTRO	1.974	24
147	Int J Androl	UKD	ANDROLOGY	1.048	24
148	J Bacteriol	USA	MICROBIOL	3.759	24
149	J Clin Gastroenterol	USA	GASTRO	0.696	24
150	Strahlenther Onkol	DEU	ONCOLOGY	0.000	24
151	Toxicon	UKD	PHARMACOL //TOXICOL	1.458	24
152	Tubercle	UKD	RESP SYS	0.708	24

Table 2b (continued)

153	Acta Psychiatr Scand	DEN	PSYCHIAT	0.984	2
154	Ann Hum Biol	UKD	BIOLOGY //PUB HEALTH	0.720	2
155	Appl Biochem Biotechnol	USA	BIOCH, MOL //BIOTECH	1.066	2
156	Arch Androl	USA	ANDROLOGY	0.453	2
157	J Gen Microbiol	UKD	MICROBIOL	1.960	2
158	Acta Neurol Scand	DEN	NEUROSCI	0.963	2
159	Br J Radiol	UKD	RADIOL	0.841	2
160	Carcinogenesis	USA	ONCOLOGY	2.820	2
161	Clin Exp Immunol	UKD	IMMUNOL	2.142	2
162	Forensic Sci Int	CHE	MED, LEG	0.853	2
163	Hum Exp Toxicol	UKD	TOXICOL	0.475	2
164	Injury	UKD	SURGERY	0.000	2
165	J Dermatol	JPN	DERMATOL	0.000	2
166	Lancet	UKD	MED, GEN	15.871	2
167	Physiol Behav	USA	BEHAVIOR //PHYSIOL	1.238	2
168	Transplant Proc	USA	IMMUNOL //SURGERY	1.064	2
169	Acta Physiol Hung	HUN	PHYSIOL	0.228	21
170	Am J Cardiol	USA	CARDIOVASC	2.286	21
171	Arch Toxicol	DEU	TOXICOL	1.660	21
172	Biomaterials	UKD	ENG, BIOM	0.777	21
173	Funct Dev Morphol	CSK	ANATOMY	0.000	21
174	Int J Cancer	USA	ONCOLOGY	2.968	21
175	Int J Fertil	SWE	OBST GYNE	0.697	21
176	Int J Rad Appl Instrum [B]	USA	RADIOL	0.000	21
177	J Clin Microbiol	USA	MICROBIOL	2.724	21
178	Oncology	CHE	ONCOLOGY	1.156	21
179	Acta Leprol	CHE	DERMATOL //IMMUNOL //PATHOLOGY	0.000	20
180	Acta Oncol	SWE	ONCOLOGY	0.769	20
181	Acta Paediatr Scand	SWE	PEDIAT	0.763	20
182	Appl Environ Microbiol	USA	MICROBIOL	2.560	20
183	Biosci Rep	UKD	BIOCH, MOL	1.048	20
184	Int J Immunopharmacol	UKD	IMMUNOL //PHARMACOL	1.013	20
185	Int J Soc Psychiatry	UKD	PSYCHIAT	0.000	20
186	J Am Mosq Control Assoc	USA	ENTOMOL	0.610	20
187	J Bone Joint Surg [Br]	UKD	ORTHOPED //SURGERY	0.689	20
188	Physiol Chem Phys Med NMR	USA	BIOCH, MOL //BIOPHYS	0.357	20
189	Acta Microbiol Hung	HUN	MICROBIOL	0.317	19
190	Biopolymers	USA	BIOCH, MOL	1.718	19
191	Br J Cancer	UKD	ONCOLOGY	2.779	19
192	Clin Exp Pharmacol Physiol	UKD	PHARMACOL //PHYSIOL	1.020	19
193	Environ Res	USA	ENV SCI	1.293	19
194	Folia Parasitol (Praha)	CSK	PARASITOL	0.263	19
195	Health Phys	USA	RADIOL	0.689	19
196	Immunopharmacol Immunotoxicol	USA	IMMUNOL //TOXICOL	0.373	19
197	J Cancer Res Clin Oncol	DEU	ONCOLOGY	1.895	19
198	J Reprod Fertil	UKD	OBST GYNE	2.336	19
199	Mycoses	DEU	DERMATOL //MYCOLOGY	0.366	19
200	Planta Med	DEU	BOTANY //PHARMACOL	1.258	19
201	Angiology	USA	UROL NEPH	0.546	18
202	Ann Acad Med Singapore	SGP	MED, GEN	0.000	18
203	BMJ	UKD	MED, GEN	3.871	18
204	Biosystems	NLD	BIOLOGY	0.645	18
205	Biotechnol Appl Biochem	USA	BIOCH, MOL //BIOTECH	0.791	18
206	Bull World Health Organ	CHE	PUB HEALTH	1.333	18

Table 2b (continued)

207	Gastroenterol Jpn	JPN	GASTRO	0.000	18
208	Hum Hered	CHE	GENETICS	0.652	18
209	J Anat	UKD	ANATOMY	0.727	18
210	J Appl Bacteriol	UKD	BIOTECH //MICROBIOL	1.141	18
211	J Environ Sci Health [B]	USA	AGRICUL //ENV SCI //PUB HEALTH	0.864	18
212	J Hand Surg [Br]	UKD	SURGERY	0.000	18
213	J Immunoassay	USA	IMMUNOL	0.730	18
214	J Mol Biol	UKD	BIOCH, MOL	5.495	18
215	J Nat Prod	USA	BOTANY //CHEMISTRY //PHARMACOL	1.204	18
216	J Pediatr Gastroenterol Nutr	USA	GASTRO //NUTRI DIET //PEDIAT	0.916	18
217	J Pharm Sci	USA	CHEMISTRY //PHARMACOL	1.171	18
218	Jpn J Surg	JPN	SURGERY	0.000	18
219	Mutagenesis	UKD	GENETICS	1.941	18
220	Neuroradiology	DEU	NEUROSCI //RADIOL	0.992	18
221	Pediatr Radiol	DEU	PEDIAT //RADIOL	0.509	18
222	Pharmacol Res	UKD	PHARMACOL	0.418	18
223	Acta Trop (Basel)	CHE	BIOLOGY //PARASITOL //TROP, MED	0.000	17
224	Ann Nutr Metab	CHE	ENDOCR //NUTRI DIET	0.506	17
225	Cathet Cardiovasc Diagn	USA	CARDIOVASC	0.837	17
226	Childs Nerv Syst	DEU	NEUROSCI //PEDIAT	0.538	17
227	Epidemiol Infect	UKD	MICROBIOL //PUB HEALTH	1.632	17
228	Horm Metab Res	DEU	ENDOCR	0.493	17
229	Int Surg	ITA	SURGERY	0.000	17
230	J Immunol Methods	NLD	IMMUNOL	1.837	17
231	J Med Virol	USA	VIROLOGY	2.076	17
232	J Reprod Immunol	NLD	IMMUNOL	1.761	17
233	Med Hypotheses	UKD	MED, RES	0.444	17
234	Res Vet Sci	UKD	VET MED	0.714	17
235	Biol Psychiatry	USA	PSYCHIAT	2.300	16
236	Br J Ophthalmol	UKD	OPHTHAL	0.829	16
237	Can J Microbiol	CAN	BIOCH, MOL //BIOTECH //MICROBIOL	1.240	16
238	J Biochem Biophys Methods	NLD	BIOCH, MOL //BIOPHYS	0.798	16
239	J Neurol Neurosurg Psychiatry	UKD	NEUROSCI //PSYCHIAT	2.350	16
240	J Pineal Res	USA	ANATOMY //ENDOCR //NEUROSCI	0.790	16
241	Leuk Res	UKD	HEMATOL //ONCOLOGY	1.293	16
242	Oral Surg Oral Med Oral Pathol	USA	DENTISTRY //PATHOLOGY //SURGERY	0.694	16
243	Trop Anim Health Prod	UKD	VET MED	0.135	16
244	Tumori	ITA	ONCOLOGY	0.571	16
245	Am J Trop Med Hyg	USA	PUB HEALTH //TROP MED	1.963	15
246	Analyst	UKD	CHEM, ANAL	1.325	15
247	Ann Plast Surg	USA	SURGERY	0.431	15
248	Asian Pac J Allergy Immunol	THA	ALLERGY //IMMUNOL	0.000	15
249	Can J Ophthalmol	CAN	OPHTHAL	0.221	15
250	Clin Chim Acta	NLD	MED, RES	1.042	15
251	Environ Mol Mutagen	USA	ENV SCI //GENETICS	2.419	15
252	Immunol Invest	USA	IMMUNOL	1.017	15
253	Int J Exp Pathol	UKD	PATHOLOGY	0.422	15
254	Int J Radiat Oncol Biol Phys	USA	ONCOLOGY //RADIOL	1.988	15

Table 2b (continued)

255	J Asthma	USA	RESP SYS	0.000	
256	J Biomater Appl	USA	ENG, BIOM //MATER	0.000	
257	J Environ Pathol Toxicol Oncol	USA	ENV SCI //PATHOLOGY //TOXICOL //ONCOLOGY	0.000	
258	J Parasitol	USA	PARASITOL	0.852	
259	J Theor Biol	UKD	BIOL, MISC	1.061	
260	Jpn Heart J	JPN	CARDIOVASC	0.000	1
261	Jpn J Exp Med	JPN	MED, RES	1.215	1
262	Mech Ageing Dev	CHE	GERIATRICS	1.411	1
263	Med Microbiol Immunol (Berl)	DEU	IMMUNOL //MICROBIOL	1.082	1
264	Mol Biochem Parasitol	NLD	BIOCH, MOL //PARASITOL	3.066	1
265	Nahrung	DEU	FOOD SCI	0.178	1
266	Nephrol Dial Transplant	DEU	UROL NEPH	1.331	1
267	Neurochem Res	USA	BIOCH, MOL //NEUROSCI	1.418	1
268	Neurosurgery	USA	NEUROSCI //SURGERY	1.421	1
269	Paraplegia	UKD	NEUROSCI //ORTHOPED //SURGERY	0.000	1
270	Res Commun Chem Pathol Pharmacol	USA	PATHOLOGY //PHARMACOL	0.770	1
271	Semin Surg Oncol	USA	SURGERY //ONCOLOGY	0.000	1
272	Thorax	UKD	RESP SYS	1.877	1
273	Acta Vet Hung	HUN	VET MED	0.000	1
274	Anat Rec	USA	ANATOMY	1.654	1
275	Biorheology	UKD	BIOPHYS	0.568	1
276	Epilepsia	USA	NEUROSCI	2.229	1
277	Eur J Pharmacol	NLD	PHARMACOL	3.516	1
278	Genitourin Med	UKD	DERMATOL //PUB HEALTH //UROL NEPH	1.050	1
279	Immunology	UKD	IMMUNOL	2.952	1
280	Infect Immun	USA	IMMUNOL	3.433	1
281	Int J Radiat Biol	UKD	NUCL SCI //RADIOL	2.006	1
282	J Pierre Fauchard Acad	IND		0.000	1
283	J Trauma	USA	SURGERY	1.099	1
284	Med Vet Entomol	UKD	VET MED //ENTOMOL	0.000	1
285	Microbiol Immunol	JPN	IMMUNOL //MICROBIOL	0.578	1
286	Reprod Toxicol	USA	BIOLOGY //OBST GYNE //TOXICOL	0.729	1
287	Cardiovasc Intervent Radiol	USA	CARDIOVASC	0.000	1
288	Clin Cardiol	USA	CARDIOVASC	0.570	1
289	Clin Nucl Med	USA	RADIOL	0.296	1
290	Drug Chem Toxicol	USA	CHEMISTRY //PHARMACOL //TOXICOL	0.531	1
291	Folia Morphol (Praha)	CSK	ANATOMY	0.000	1
292	Immunol Cell Biol	AUS	IMMUNOL //CYTOLOGY	1.318	1
293	Int J Biol Macromol	UKD	BIOCH, MOL	0.975	1
294	Int J Biometeorol	NLD	BIOPHYS //METEOR	0.246	1
295	Int J Epidemiol	UKD	PUB HEALTH	1.316	1
296	J Biochem Toxicol	USA	BIOCH, MOL	0.987	1
297	J Clin Ultrasound	USA	ACOUSTICS //RADIOL	0.589	1
298	J Hosp Infect	USA	MED, MIS //PUB HEALTH	1.267	1
299	J Neurosurg	USA	NEUROSCI //SURGERY	2.256	1
300	J Pharm Biomed Anal	UKD	PHARMACOL	0.515	1
301	Jpn J Physiol	JPN	PHYSIOL	0.794	1
302	Mol Gen Genet	DEU	BIOCH, MOL //GENETICS	3.262	1
303	Nephron	CHE	UROL NEPH	1.551	1

Table 2b (continued)

304	Parasitology	UKD	PARASITOL	1.527	13
305	Prostaglandins Leukot Essent Fatty Acids	UKD	ENDOCR //PHARMACOL	0.966	13
306	Psychopathology	CHE	PSYCHIAT	0.835	13
307	APMIS	DEN	IMMUNOL //MICROBIOL //PATHOLOGY	0.956	12
308	Acta Crystallogr C	DEN	CRYSTAL	0.459	12
309	Ann N Y Acad Sci	USA	MULTIDIS	0.784	12
310	Arch Environ Contam Toxicol	USA	ENV SCI //TOXICOL	1.519	12
311	Biotech Histochem	USA	BIOTECH //CYTOLOGY	0.000	12
312	Can Assoc Radiol J	CAN	RADIOL	0.000	12
313	Cancer Genet Cytogenet	USA	GENETICS //ONCOLOGY	2.167	12
314	Cell Biol Int Rep	UKD	CYTOLOGY	0.887	12
315	Chem Biol Interact	NLD	MULTIDIS	0.000	12
316	Comp Immunol Microbiol Infect Dis	UKD	IMMUNOL //MICROBIOL // VET MED	0.167	12
317	Dig Dis Sci	USA	GASTRO	1.784	12
318	Exp Clin Endocrinol	DEU	ENDOCR	0.279	12
319	Fed Oper Dent	IND	DENTISTRY	0.000	12
320	Hum Reprod	UKD	OBST GYNE	0.000	12
321	Int J Med Microbiol	DEU	MICROBIOL	0.000	12
322	Int J Oral Maxillofac Surg	DEN	DENTISTRY	0.859	12
323	J Antibiot (Tokyo)	JPN	IMMUNOL //PHARMACOL	1.554	12
324	J Med Chem	USA	CHEMISTRY //PHARMACOL	2.872	12
325	J Med Vet Mycol	UKD	MYCOLOGY	0.870	12
326	J Toxicol Environ Health	USA	ENV SCI //PUB HEALTH //TOXICOL	0.922	12
327	Med Biol Eng Comput	UKD	ENG, BIOM	0.600	12
328	Nutrition	USA	NUTRI DIET	0.827	12
329	Proc Natl Acad Sci U S A	USA	MULTIDIS	10.300	12
330	Radiat Res	USA	RADIOL	1.899	12
331	Transplantation	USA	IMMUNOL //SURGERY	2.991	12
332	Tuber Lung Dis	UKD	RESP SYS	0.000	12
333	Anaesth Intensive Care	AUS	ANESTHES //MED, MIS	0.798	11
334	Antonie Van Leeuwenhoek	NLD	MICROBIOL	0.543	11
335	Arch Int Physiol Biochim Biophys	BEL	BIOCH, MOL //BIOPHYS //PHYSIOL	0.589	11
336	Arch Int Physiol Biochim	BEL	BIOCH, MOL //PHYSIOL	0.000	11
337	Biomed Chromatogr	UKD	BIOCH, MOL //CHEM, ANAL	0.678	11
338	Biometals	UKD	MATER SCI	0.000	11
339	Biotechniques	USA	BIOCH, MOL	3.000	11
340	Crit Rev Food Sci Nutr	USA	FOOD SCI //NUTRI DIET	1.815	11
341	Cutis	USA	DERMATOL	0.320	11
342	Ear Nose Throat J	USA	OTORHINO	0.000	11
343	Eur J Clin Pharmacol	DEU	PHARMACOL	1.288	11
344	Eur Urol	CHE	UROL NEPH	0.474	11
345	Exp Mol Pathol	USA	PATHOLOGY	0.928	11
346	Gastrointest Radiol	USA	GASTRO //RADIOL	0.635	11
347	Gegenbaurs Morphol Jahrb	DEU	ANATOMY	0.000	11
348	Gerontology	CHE	GERIATRICS	0.586	11
349	Hum Genet	DEU	GENETICS	2.656	11
350	In Vivo	GRC		0.000	11
351	Int Urol Nephrol	HUN	UROL NEPH	0.000	11
352	J Assoc Off Anal Chem	USA	CHEM, ANAL	0.000	11
353	J Endocrinol	UKD	ENDOCR	3.000	11

Table 2b (continued)

354	J Indian Dent Assoc	IND	DENTISTRY	0.000	11
355	J Neurochem	USA	BIOCH, MOL //NEUROSCI	3.975	11
356	J Pediatr Ophthalmol Strabismus	USA	PEDIAT //OPHTHAL	0.000	11
357	Lipids	USA	BIOCH, MOL	1.748	11
358	Mater Med Pol	POL	MATER	0.000	11
359	Pharmacol Biochem Behav	USA	PHARMACOL //PSYCHOL	1.679	11
360	Ren Fail	USA	UROL NEPH	0.000	11
361	Soc Sci Med	UKD		0.000	11
362	Vet Microbiol	NLD	MICROBIOL //VET MED	1.165	11
363	Virology	USA	VIROLOGY	4.392	11
364	World Health Forum	CHE	PUB HEALTH	0.000	11
365	AJR Am J Roentgenol	USA	RADIOL	0.000	10
366	Acta Orthop Scand	DEN	ORTHOPED	0.617	10
367	Acta Radiol	SWE	RADIOL	0.506	10
368	Am J Phys Anthropol	USA	BIOL, MISC	1.589	10
369	Angew Parasitol	DEU	PARASITOL	0.000	10
370	Anticancer Drugs	UKD	ONCOLOGY //PHARMACOL	0.000	10
371	Arch Esp Urol	ESP	UROL NEPH	0.000	10
372	Biochem Cell Biol	CAN	BIOCH, MOL	1.151	10
373	Biochem Genet	USA	BIOCH, MOL //GENETICS	0.809	10
374	Biophys Chem	NLD	BIOCH, MOL //BIOPHYS	1.075	10
375	Br J Clin Pract	UKD	MED, GEN	0.103	10
376	Br J Obstet Gynaecol	UKD	OBST GYNE	1.705	10
377	Dev Comp Immunol	USA	IMMUNOL	0.988	10
378	Diabetes Res Clin Pract	NLD	ENDOCR //MED, GEN	0.305	10
379	Exp Cell Res	USA	CYTOLOGY //ONCOLOGY	2.527	10
380	Free Radic Biol Med	USA	BIOCH, MOL	0.000	10
381	Hepatology	USA	GASTRO	4.107	10
382	Int Arch Allergy Appl Immunol	CHE	ALLERGY //IMMUNOL	1.101	10
383	Int J Artif Organs	ITA	ENG, BIOM	0.495	10
384	Int J Dev Neurosci	UKD	NEUROSCI	1.712	10
385	Int J Neurosci	UKD	NEUROSCI	0.493	10
386	J Infect Dis	USA	IMMUNOL	4.869	10
387	J Oral Pathol Med	DEN	DENTISTRY //PATHOLOGY	1.437	10
388	J Protein Chem	USA	BIOCH, MOL	1.234	10
389	Mol Biol Rep	NLD	BIOCH, MOL	0.827	10
390	Neuroreport	UKD	NEUROSCI	0.000	10
391	Pediatr Dermatol	USA	PEDIAT	0.000	10
392	Pharmacology	CHE	PHARMACOL	0.978	10
393	Plast Reconstr Surg	USA	SURGERY	1.016	10
394	Acta Diabetol Lat	ITA	ENDOCR	0.215	9
395	Acta Endocrinol (Copenh)	DEN	ENDOCR	1.375	9
396	Am J Clin Nutr	USA	NUTRI DIET	2.366	9
397	Am J Hematol	USA	HEMATOL	1.210	9
398	Ann Dent	USA	DENTISTRY	0.000	9
399	Ann Rheum Dis	UKD	RHEUMATOL	2.085	9
400	Antimicrob Agents Chemother	USA	MICROBIOL //PHARMACOL	3.268	9
401	Arch Virol	AUT	VIROLOGY	1.592	9
402	Birth Defects	USA	OBST GYNE	0.000	9
403	Br Heart J	UKD	CARDIOVASC	1.792	9
404	Br Poult Sci	UKD	AGRI, DAIR	0.715	9
405	Br Vet J	UKD	VET MED	0.411	9
406	Brain Res Bull	USA	NEUROSCI	1.746	9
407	Chemotherapy	CHE	ONCOLOGY //PHARMACOL	0.642	9

Table 2b (continued)

408	Clin Pediatr (Phila)	USA	PEDIAT	0.320	9
409	Comput Appl Biosci	UKD	BIOL, MISC //COMPUTER	2.086	9
410	Drug Des Deliv	CHE	TOXICOL	0.000	9
411	Gene Geogr	ITA	GENETICS	0.000	9
412	Genome	CAN	GENETICS	1.273	9
413	Geogr Med	HUN	TROP MED	0.000	9
414	Head Neck	USA	SURGERY	0.000	9
415	Hybridoma	USA	IMMUNOL	1.149	9
416	Indian J Dermatol	IND	DERMATOL	0.000	9
417	Int J Food Microbiol	NLD	FOOD SCI	0.343	9
418	Int J Pediatr Otorhinolaryngol	NLD	OTORHINO	0.248	9
419	Int J Rad Appl Instrum [A]	USA	RADIOL	0.000	9
420	J Clin Lab Anal	USA	MED, LAB	0.921	9
421	J Gen Virol	UKD	VIROLOGY	3.358	9
422	J Infect	UKD	IMMUNOL //MICROBIOL	1.464	9
423	J Neurol Sci	NLD	NEUROSCI	0.000	9
424	J Orthop Trauma	USA	ORTHOPED	0.000	9
425	J R Soc Health	UKD	PUB HEALTH	0.000	9
426	J Steroid Biochem Mol Biol	UKD	BIOCH, MOL //ENDOCR	1.151	9
427	Microbios	UKD	MICROBIOL	0.295	9
428	Neurochem Int	UKD	BIOCH, MOL //NEUROSCI	1.607	9
429	Neuroepidemiology	CHE	NEUROSCI	0.000	9
430	Pharm Res	USA	CHEMISTRY //PHARMACOL	1.816	9
431	Prog Clin Biol Res	USA		0.000	9
432	Prostate	USA	ENDOCR	2.164	9
433	Res Exp Med (Berl)	DEU	MED, RES	0.663	9
434	Rev Infect Dis	USA	IMMUNOL //MICROBIOL	2.916	9
435	Sarcoidosis	ITA		0.000	9
436	Scand J Gastroenterol	NOR	GASTRO	1.314	9
437	Surg Neurol	USA	NEUROSCI //SURGERY	0.664	9
438	Vet Immunol Immunopathol	NLD	IMMUNOL //VET MED	1.194	9
439	Zentralbl Veterinarmed [A]	DEU	VET MED	0.000	9
440	Acta Chir Plast	CSK	SURGERY	0.000	8
441	Anat Anz	DEU	ANATOMY	0.223	8
442	Arch Dis Child	UKD	PEDIAT	1.470	8
443	Arch Environ Health	USA	ENV SCI //PUB HEALTH	1.245	8
444	Aust N Z J Ophthalmol	AUS	OPHTHAL	0.273	8
445	Aust Vet J	AUS	VET MED	0.345	8
446	Biol Reprod	USA	OBST GYNE	2.970	8
447	Biomater Artif Cells Immobilization Biotechnol	USA	ENG, BIOM	0.254	8
448	Br J Ind Med	UKD	PUB HEALTH	1.416	8
449	Chronobiol Int	UKD	BIOL, MISC	0.000	8
450	Comput Biol Med	USA	COMPUTER //ENG, BIOM	0.535	8
451	Dis Colon Rectum	USA	GASTRO	0.938	8
452	Endocr Res	USA	ENDOCR	1.015	8
453	Eur J Gynaecol Oncol	ITA	OBST GYNE //ONCOLOGY	0.000	8
454	Exp Parasitol	USA	PARASITOL	1.886	8
455	Exp Pathol	DEU	PATHOLOGY	0.425	8
456	FEMS Microbiol Immunol	NLD	IMMUNOL //MICROBIOL	0.000	8
457	Food Addit Contam	UKD	PUB HEALTH	0.000	8
458	Genetica	NLD	GENETICS	0.374	8
459	Gynecol Oncol	USA	OBST GYNE //ONCOLOGY	1.082	8
460	IARC Sci Publ	FRA		0.000	8
461	IEEE Trans Biomed Eng	USA	ENG, BIOM	1.073	8

Table 2b (continued)

462	Int Arch Occup Environ Health	DEU	PUB HEALTH	0.847	8
463	Int J Hyperthermia	UKD	RADIOL	13.376	8
464	Int J STD AIDS	UKD	IMMUNOL	0.000	8
465	J Biomech	USA	BIOPHYS //ENG, BIOM	0.720	8
466	J Biomed Mater Res	USA	ENG, BIOM //MATER	1.376	8
467	J Clin Pathol	UKD	PATHOLOGY	2.470	8
468	J Exp Pathol	USA	PATHOLOGY	0.000	8
469	J Neural Transm Gen Sect	AUT	NEUROSCI	1.134	8
470	Jpn J Med Sci Biol	JPN	MED, GEN	0.310	8
471	Med Sci Law	UKD	MED, LEG //PATHOLOGY	0.402	8
472	Mol Immunol	UKD	BIOCH, MOL //IMMUNOL	1.946	8
473	Mol Reprod Dev	USA	BIOCH, MOL //DEV, BIOL	0.000	8
474	Nutr Cancer	USA	NUTRI DIET //ONCOLOGY	0.000	8
475	Pathology	AUS	PATHOLOGY	0.000	8
476	Pediatr Infect Dis J	USA	PEDIAT	1.260	8
477	Pediatr Nephrol	DEU	PEDIAT //UROL NEPH	0.000	8
478	Pharmacol Res Commun	USA	PHARMACOL	0.000	8
479	Photochem Photobiol	UKD	BIOCH, MOL //BIOPHYS	2.572	8
480	Radiat Environ Biophys	DEU	BIOPHYS //RADIOL	0.746	8
481	Stain Technol	USA	CYTOLOGY	0.404	8
482	Thromb Res	USA	CARDIOVASC //HEMATOL	1.248	8
483	Acta Cardiol	BEL	CARDIOVASC	0.000	7
484	Acta Haematol	CHE	HEMATOL	0.625	7
485	Acta Microbiol Pol	POL	MICROBIOL	0.000	7
486	Adv Contracept	NLD	OBST GYNE	0.000	7
487	Alcohol	USA	PHARMACOL //SUB ABUSE //TOXICOL	1.048	7
488	Allergy	DEN	ALLERGY	1.088	7
489	Am J Ind Med	USA	PUB HEALTH	0.996	7
490	Am J Med Genet	USA	GENETICS	1.413	7
491	Ann Allergy	USA	ALLERGY	0.755	7
492	Ann Genet	FRA	GENETICS	0.491	7
493	Arch Exp Veterinarmed	DEU	VET MED	0.091	7
494	Arch Immunol Ther Exp (Warsz)	POL	IMMUNOL	0.000	7
495	Arch Microbiol	DEU	MICROBIOL	1.640	7
496	Arch Orthop Trauma Surg	DEU	ORTHOPED //SURGERY	0.287	7
497	Artif Organs	USA	ENG, BIOM	0.650	7
498	Biomed Biochim Acta	DEU	BIOCH, MOL	0.371	7
499	Boll Chim Farm	ITA	PHARMACOL	0.000	7
500	Can J Anaesth	CAN	ANESTHES	1.183	7
501	Cancer Immunol Immunother	DEU	IMMUNOL //ONCOLOGY	1.789	7
502	Clin Oncol (R Coll Radiol)	UKD	ONCOLOGY	0.000	7
503	Drug Alcohol Depend	CHE	SUB ABUSE	0.688	7
504	Gynecol Obstet Invest	CHE	OBST GYNE	0.481	7
505	Hereditas	SWE	GENETICS	0.000	7
506	Hum Biol	USA	BIOLOGY //GENETICS	0.675	7
507	Int J Biomed Comput	UKD	BIOCH, MOL //COMPUTER	0.884	7
508	J Antimicrob Chemother	UKD	MICROBIOL //PHARMACOL	2.034	7
509	J Comp Pathol	UKD	PATHOLOGY //VET MED	0.415	7
510	J Steroid Biochem	UKD	BIOCH, MOL //BIOLOGY //ENDOCR	0.000	7
511	J Virol Methods	NLD	VIROLOGY	1.489	7
512	Math Biosci	USA	BIOL, MISC //MATHS, MIS	0.875	7
513	Metabolism	USA	ENDOCR	2.037	7
514	NIDA Res Monogr	USA		0.000	7

Table 2b (continued)

515	Neurology	USA	NEUROSCI	3.937	7
516	Panminerva Med	ITA	MED, GEN	0.000	7
517	Phys Med Biol	UKD	RADIOL	1.202	7
518	Prog Drug Res	CHE	PHARMACOL	0.000	7
519	Prog Neuropsychopharmacol Biol Psychiatry	UKD	NEUROSCI //PHARMACOL //PSYCHIAT	0.891	7
520	Radiobiol Radiother (Berl)	DEU	RADIOL	0.000	7
521	Respiration	CHE	RESP SYS	0.386	7
522	Singapore Med J	SGP	MED, GEN	0.000	7
523	Stud Fam Plann	USA	OBST GYNE	0.000	7
524	Teratogenesis Carcinog Mutagen	USA	GENETICS //ONCOLOGY //TOXICOL	0.831	7
525	Thorac Cardiovasc Surg	DEU	CARDIOVASC //RESP SYS //SURGERY	0.548	7
526	Tissue Antigens	DEN	CYTOLOGY //IMMUNOL	2.025	7
527	Zentralbl Mikrobiol	DEU	MICROBIOL	0.000	7
528	Abdom Imaging	USA	GASTRO //RADIOL	0.000	6
529	Acta Anthropogenet	IND	GENETICS	0.000	6
530	Acta Obstet Gynecol Scand	SWE	OBST GYNE	0.963	6
531	Acta Paediatr	NOR	PEDIAT	0.000	6
532	Agents Actions	CHE	CHEMISTRY //PHARMACOL	1.094	6
533	Am J Ophthalmol	USA	OPHTHAL	1.958	6
534	Am J Psychiatry	USA	PSYCHIAT	4.345	6
535	Ann R Coll Surg Engl	UKD	SURGERY	0.755	6
536	Ann Thorac Surg	USA	SURGERY	1.259	6
537	Arch Ophthalmol	USA	OPHTHAL	1.832	6
538	Arch Pharm (Weinheim)	DEU	CHEMISTRY //PHARMACOL	0.611	6
539	Atherosclerosis	NLD	CARDIOVASC	2.462	6
540	Auris Nasus Larynx	JPN	OTORHINO	0.000	6
541	Aviat Space Environ Med	USA	MED, MIS	0.569	6
542	Biol Met	DEU	BIOCH, MOL //BIOLOGY	0.000	6
543	Biol Struct Morphog	FRA	BIOCH, MOL	0.000	6
544	Bol Chil Parasitol	CHL	PARASITOL	0.000	6
545	Br Med J (Clin Res Ed)	UKD	MED, GEN	0.000	6
546	Cell Signal	UKD	BIOCH, MOL	6.430	6
547	Circulation	USA	CARDIOVASC //HEMATOL	9.038	6
548	Clin Chem	USA	MED, RES	1.886	6
549	Clin Exp Allergy	UKD	ALLERGY	0.000	6
550	Clin Exp Dermatol	UKD	DERMATOL	0.632	6
551	Clin Genet	DEN	GENETICS	1.126	6
552	Cytopathology	UKD	CYTOLOGY //PATHOLOGY	0.000	6
553	Dev Ophthalmol	CHE	OPHTHAL	0.000	6
554	Electromyogr Clin Neurophysiol	BEL	NEUROSCI //PHYSIOL	0.000	6
555	Endocrinol Jpn	JPN	ENDOCR	0.346	6
556	Eur J Appl Physiol	DEU	PHYSIOL	0.000	6
557	Eur J Cancer B Oral Oncol	UKD	ONCOLOGY	0.000	6
558	Eur J Nucl Med	DEU	RADIOL	1.355	6
559	Folia Primatol (Basel)	CHE	ZOOLOGY	1.263	6
560	Gastroenterology	USA	GASTRO	5.733	6
561	Gen Hosp Psychiatry	USA	PSYCHIAT	0.840	6
562	Histopathology	UKD	CYTOLOGY //PATHOLOGY	1.631	6
563	Int Arch Allergy Immunol	CHE	ALLERGY //IMMUNOL	0.000	6
564	Int J Med Microbiol Virol Parasitol Infect Dis	DEU	MICROBIOL //VIROLOGY //PARASITOL	0.000	6
565	J Affect Disord	NLD	PSYCHIAT	1.472	6

Table 2b (continued)

566	J Allergy Clin Immunol	USA	ALLERGY //IMMUNOL	3.278	6
567	J Am Coll Nutr	USA	NUTRI DIET	0.805	6
568	J Basic Microbiol	DEU	MICROBIOL	0.253	6
569	J Biochem (Tokyo)	JPN	BIOCH, MOL	2.110	6
570	J Biomed Eng	UKD	ENG, BIOM	0.434	6
571	J Cataract Refract Surg	USA	OPHTHAL //SURGERY	0.000	6
572	J Clin Neuroophthalmol	USA	NEUROSCI //OPHTHAL	0.000	6
573	J Comp Physiol [B]	DEU	PHYSIOL //ZOOLOGY	1.372	6
574	J Epidemiol Community Health	UKD	PUB HEALTH	1.697	6
575	J Exp Zool	USA	ZOOLOGY	1.241	6
576	J Hered	USA	GENETICS	0.889	6
577	J Hum Ergol (Tokyo)	JPN		0.000	6
578	J Nutr Sci Vitaminol (Tokyo)	JPN	NUTRI DIET	0.444	6
579	J Photochem Photobiol B	CHE	BIOCH, MOL //BIOPHYS	1.677	6
580	J Protozool	USA	ZOOLOGY	1.382	6
581	J Vet Pharmacol Ther	UKD	PHARMACOL //VET MED	0.563	6
582	Jpn J Ophthalmol	JPN	OPHTHAL	0.393	6
583	Naunyn Schmiedebergs Arch Pharmacol	DEU	PHARMACOL	0.000	6
584	Plant Mol Biol	NLD	BIOCH, MOL //BOTANY	3.959	6
585	Protein Eng	UKD	BIOCH, MOL	3.224	6
586	Q J Med	UKD	MED, GEN	1.653	6
587	Respir Med	UKD	CARDIOVASC //RESP SYS	0.856	6
588	Rev Sci Tech	FRA		0.000	6
589	Rheumatol Int	DEU	RHEUMATOL	1.412	6
590	Sel Cancer Ther	USA	MED, RES //ONCOLOGY	0.690	6
591	Surg Endosc	DEU	SURGERY	0.000	6
592	Thymus	NLD	IMMUNOL	1.011	6
593	Toxicol Ind Health	USA	PUB HEALTH //TOXICOL	0.347	6
594	Zentralbl Bakteriol Mikrobiol Hyg [A]	DEU	MICROBIOL	0.000	6
595	Acta Biol Hung	HUN	BIOLOGY	0.090	5
596	Acta Genet Med Gemellol (Roma)	ITA	GENETICS	0.000	5
597	Adv Appl Microbiol	USA	BIOTECH //MICROBIOL	0.000	5
598	Adv Exp Med Biol	USA	MED, RES	0.000	5
599	Am J Clin Oncol	USA	ONCOLOGY	0.724	5
600	Am J Reprod Immunol Microbiol	USA	IMMUNOL //OBST GYNE	0.000	5
601	Am J Reprod Immunol	DEN	IMMUNOL //OBST GYNE	2.118	5
602	Australas J Dermatol	AUS	DERMATOL	0.000	5
603	Biochem Soc Trans	UKD	BIOCH, MOL	1.465	5
604	Biochimie	FRA	BIOCH, MOL	1.352	5
605	Biomed Mater Eng	USA	ENG, BIOM //MATER	0.000	5
606	Br J Oral Maxillofac Surg	UKD	DENTISTRY	0.545	5
607	Br J Pharmacol	UKD	PHARMACOL	4.786	5
608	Cell Immunol	USA	CYTOLOGY //IMMUNOL	2.178	5
609	Chung Kuo Yao Li Hsueh Pao	PRC		0.000	5
610	Clin Immunol Immunopathol	USA	IMMUNOL //PATHOLOGY	2.352	5
611	Comp Biochem Physiol [B]	UKD	BIOCH, MOL	0.832	5
612	Cornea	USA	OPHTHAL	0.000	5
613	Crit Care Med	USA	MED, MIS	1.573	5
614	Diagn Microbiol Infect Dis	USA	MED, LAB //MICROBIOL	0.882	5
615	Eur J Drug Metab Pharmacokinet	FRA	PHARMACOL	0.615	5
616	Eur Respir J	DEN	RESP SYS	1.273	5
617	HPB Surg	CHE	SURGERY	0.000	5
618	Hum Toxicol	UKD	TOXICOL	0.000	5

Table 2b (continued)

619	IMA J Math Appl Med Biol	UKD	BIOL, MISC //MATHEMAT //MATHS, MIS	0.514	5
620	Int J Biochem	UKD	BIOCH, MOL	0.975	5
621	Intervirology	CHE	VIROLOGY	1.253	5
622	J Biol Regul Homeost Agents	USA	BIOLOGY //MED, RES	0.000	5
623	J Biol Stand	UKD	BIOL, MISC	0.000	5
624	J Bone Joint Surg [Am]	USA	ORTHOPED //SURGERY	0.916	5
625	J Cardiovasc Surg (Torino)	ITA	CARDIOVASC //SURGERY	0.000	5
626	J Clin Lab Immunol	ITA	MED, LAB //IMMUNOL	0.000	5
627	J Comput Assist Tomogr	USA	RADIOL	1.213	5
628	J Math Biol	DEU	BIOL, MISC //MATHS, MIS	0.571	5
629	J Med Entomol	USA	ENTOMOL	0.976	5
630	J Med Primatol	USA	VET MED //ZOOLOGY	0.907	5
631	J Oral Maxillofac Surg	USA	DENTISTRY	0.665	5
632	J Soc Psychol	USA	PSYCHOL	0.000	5
633	JPMA J Pak Med Assoc	PAK	MED, GEN	0.000	5
634	Jpn J Cancer Res	JPN	ONCOLOGY	1.686	5
635	Liver	DEN	GASTRO	0.000	5
636	Lupus	UKD		0.000	5
637	Magn Reson Imaging	USA	RADIOL	0.000	5
638	Med Lab Sci	UKD	MED, LAB	0.523	5
639	Nat Immun Cell Growth Regul	CHE	IMMUNOL //CYTOLOGY	0.000	5
640	Neurol Res	UKD	NEUROSCI	0.000	5
641	Neuroscience	UKD	NEUROSCI	3.589	5
642	Parasitol Res	DEU	PARASITOL	0.914	5
643	Pol J Pharmacol Pharm	POL	PHARMACOL	0.000	5
644	Prep Biochem	USA	BIOCH, MOL	0.771	5
645	Scand J Immunol	UKD	IMMUNOL	2.580	5
646	Scand J Infect Dis	SWE	IMMUNOL	0.715	5
647	Soc Biol	USA	ENTOMOL	0.000	5
648	Spine	USA	ORTHOPED	0.000	5
649	Surg Gynecol Obstet	USA	OBST GYNE //SURGERY	0.959	5
650	World J Surg	USA	SURGERY	0.963	5
651	Xenobiotica	UKD	PHARMACOL	1.337	5
652	Z Naturforsch [C]	DEU	BIOCH, MOL	1.032	5
653	AJNR Am J Neuroradiol	USA	NEUROSCI //RADIOL	0.000	4
654	Acta Chir Scand	SWE	SURGERY	0.405	4
655	Acta Crystallogr B	DEN	CRYSTAL	1.514	4
656	Acta Derm Venereol (Stockh)	SWE	DERMATOL	0.980	4
657	Am J Clin Pathol	USA	PATHOLOGY	1.959	4
658	Am J Dis Child	USA	PEDIAT	1.803	4
659	Am J Forensic Med Pathol	USA	MED, LEG //PATHOLOGY	0.000	4
660	Am J Med	USA	MED, GEN	2.672	4
661	Am J Surg	USA	SURGERY	1.300	4
662	Am Rev Respir Dis	USA	RESP SYS	5.507	4
663	Ann Occup Hyg	UKD	PUB HEALTH //TOXICOL	0.398	4
664	Anticancer Res	GRC	ONCOLOGY	1.107	4
665	Arch Dermatol	USA	DERMATOL	1.788	4
666	Arch Gerontol Geriatr	NLD	GERIATRICS	0.590	4
667	Arch Med Res	MEX	MED, RES	0.000	4
668	Arch Otolaryngol Head Neck Surg	USA	OTORHINO	0.981	4
669	Aust N Z J Med	AUS	MED, GEN	0.784	4
670	Biologicals	UKD	BIOLOGY //MED, RES	0.638	4
671	Br J Anaesth	UKD	ANESTHES	1.724	4

Table 2b (continued)

672	Br J Sports Med	UKD	MED, MIS	0.000	4
673	Can J Physiol Pharmacol	CAN	PHARMACOL //PHYSIOL	1.337	4
674	Cardiology	CHE	CARDIOVASC	0.704	4
675	Cell Mol Biol (Noisy-le-grand)	FRA	BIOCH, MOL //CYTOLOGY	0.000	4
676	Cell Mol Biol	USA	BIOCH, MOL //CYTOLOGY	0.655	4
677	Chromosoma	DEU	GENETICS	2.601	4
678	Ciba Found Symp	NLD	MED, GEN	1.641	4
679	Community Dent Oral Epidemiol	DEN	DENTISTRY //PUB HEALTH	0.000	4
680	Comput Med Imaging Graph	USA	COMPUTER //RADIOL	0.000	4
681	Crit Rev Microbiol	USA	MICROBIOL	3.423	4
682	Curr Opin Immunol	UKD	IMMUNOL	1.099	4
683	Cytogenet Cell Genet	CHE	CYTOLOGY //GENETICS	5.760	4
684	Diabetologia	DEU	ENDOCR //MED, GEN	4.480	4
685	Endoscopy	DEU	GASTRO	1.262	4
686	Environ Health Perspect	USA	ENV SCI //PUB HEALTH	1.647	4
687	Eur Heart J	UKD	CARDIOVASC	1.938	4
688	Eur J Cancer	UKD	ONCOLOGY	2.137	4
689	Eur J Epidemiol	ITA	PUB HEALTH	0.000	4
690	Eur J Immunol	DEU	IMMUNOL	5.008	4
691	Eur J Obstet Gynecol Reprod Biol	NLD	OBST GYNE	0.418	4
692	Exp Cell Biol	CHE	CYTOLOGY	0.000	4
693	FEMS Immunol Med Microbiol	NLD	IMMUNOL //MICROBIOL	0.000	4
694	Farmaco	ITA	PHARMACOL	0.297	4
695	Fertil Steril	USA	OBST GYNE	1.937	4
696	Foot Ankle	USA	ORTHOPED	0.000	4
697	Free Radic Res Commun	CHE	BIOCH, MOL	1.518	4
698	Hansenol Int	BRA		0.000	4
699	Heart Vessels Suppl	JPN	CARDIOVASC	0.000	4
700	Hematol Oncol	UKD	HEMATOL //ONCOLOGY	1.634	4
701	Ind Health	JPN	ENV SCI //PUB HEALTH //TOXICOL	0.680	4
702	Infection	DEU	IMMUNOL //MICROBIOL	0.936	4
703	Int Angiol	ITA	UROL NEPH	0.000	4
704	Int J Health Serv	USA	PUB HEALTH	0.000	4
705	Int J Psychiatry Med	USA	PSYCHIAT	0.000	4
706	Int J Rehabil Res	DEU		0.000	4
707	Ital J Biochem	ITA	BIOCH, MOL	0.536	4
708	J Acoust Soc Am	USA	ACOUSTICS	1.263	4
709	J Acquir Immune Defic Syndr	USA	IMMUNOL	3.735	4
710	J Am Coll Cardiol	USA	CARDIOVASC	6.114	4
711	J Biomol NMR	NLD	BIOCH, MOL	0.000	4
712	J Clin Immunol	USA	IMMUNOL	1.982	4
713	J Drug Target	CHE	PHARMACOL	0.000	4
714	J Endocrinol Invest	ITA	ENDOCR	0.788	4
715	J Endourol	USA	UROL NEPH	0.000	4
716	J Hepatol	NLD	GASTRO	2.673	4
717	J Hirnforsch	DEU	NEUROSCI	0.457	4
718	J Immunol	USA	IMMUNOL	7.004	4
719	J Invertebr Pathol	USA	ZOOLOGY	0.902	4
720	J Med Genet	UKD	GENETICS	1.664	4
721	J Morphol	USA	ANATOMY	0.679	4
722	J Neurooncol	NLD	NEUROSCI //ONCOLOGY	0.000	4
723	J Neurosurg Anesthesiol	USA	NEUROSCI //SURGERY //ANESTHES	0.000	4

Table 2b (continued)

724	J Nutr	USA	NUTRI DIET	1.814	4
725	J Pharmacol Exp Ther	USA	PHARMACOL	3.507	4
726	J Radiat Res (Tokyo)	JPN	RADIOL	0.488	4
727	J Rehabil Res Dev	USA		0.000	4
728	J Reprod Med	USA	OBST GYNE	0.597	4
729	J Soc Occup Med	UKD	PUB HEALTH	0.000	4
730	J Sports Med Phys Fitness	ITA	MED, MIS	0.000	4
731	J Submicrosc Cytol Pathol	ITA	CYTOLOGY //PATHOLOGY	0.530	4
732	J Thorac Cardiovasc Surg	USA	CARDIOVASC //RESP SYS //SURGERY	2.230	4
733	Laryngoscope	USA	INSTRUM //OTORHINO // RESP SYS	0.994	4
734	Leuk Lymphoma	CHE	HEMATOL	0.000	4
735	Lymphology	USA	PHYSIOL	0.328	4
736	Magnes Trace Elem	CHE	BIOCH, MOL //MED, RES	0.000	4
737	Med Educ	UKD	EDUC SCI	0.671	4
738	Med Res Rev	USA	MED, RES //PHARMACOL	7.133	4
739	Med Teach	UKD	EDUC SCI	0.000	4
740	Microb Pathog	UKD	IMMUNOL //MICROBIOL	1.872	4
741	Mol Cell Endocrinol	NLD	CYTOLOGY //ENDOCR	2.777	4
742	Mol Chem Neuropathol	USA	NEUROSCI //PATHOLOGY	0.734	4
743	Neurosci Res	IRL	NEUROSCI	1.490	4
744	Nucl Med Commun	UKD	RADIOL	0.000	4
745	Orthopedics	USA	ORTHOPED	0.000	4
746	Pancreas	USA	ENDOCR //PHYSIOL	0.000	4
747	Pediatr Cardiol	USA	CARDIOVASC //PEDIAT	0.247	4
748	Plasmid	USA	GENETICS	1.595	4
749	Proc Soc Exp Biol Med	USA	MED, RES	1.362	4
750	Psychopharmacology (Berl)	DEU	NEUROSCI //PHARMACOL //PSYCHIAT	2.548	4
751	Radiology	USA	RADIOL	3.630	4
752	Res Microbiol	FRA	MICROBIOL	0.117	4
753	Rev Environ Health	ISR	ENV SCI	0.000	4
754	Risk Anal	USA		0.000	4
755	Scand J Rheumatol	SWE	RHEUMATOL	0.897	4
756	Scand J Thorac Cardiovasc Surg	SWE	SURGERY	0.298	4
757	Scanning Microsc	USA	MICROSCOPY	0.707	4
758	Schizophr Res	NLD	PSYCHIAT	1.797	4
759	Acta Anaesthesiol Scand	DEN	ANESTHES	0.974	3
760	Acta Morphol Hung	HUN	ANATOMY	0.000	3
761	Alcohol Alcohol	UKD	SUB ABUSE	1.022	3
762	Am Ind Hyg Assoc J	USA	PUB HEALTH	0.350	3
763	Am J Kidney Dis	USA	UROL NEPH	1.581	3
764	Anesth Analg	USA	ANESTHES	2.242	3
765	Anesthesiology	USA	ANESTHES	2.986	3
766	Arch Anat Histol Embryol	FRA	ANATOMY	0.000	3
767	Arch Dermatol Res	DEU	DERMATOL	1.300	3
768	Arch Geschwulstforsch	DEU		0.000	3
769	Asia Pac J Public Health	HKG	PUB HEALTH	0.000	3
770	Aust N Z J Psychiatry	AUS	PSYCHIAT	0.689	3
771	Biol Neonate	CHE	PEDIAT	0.589	3
772	Br J Clin Pharmacol	UKD	PHARMACOL	2.037	3
773	Br J Dermatol	UKD	DERMATOL	1.875	3
774	Br J Haematol	UKD	HEMATOL	3.017	3
775	Br J Rheumatol	UKD	RHEUMATOL	2.063	3

Table 2b (continued)

776	Calcif Tissue Int	USA	ENDOCR //ORTHOPED	3.602	
777	Can J Psychiatry	CAN	PSYCHIAT	0.644	
778	Cancer Biochem Biophys	UKD	BIOCH, MOL //BIOPHYS //ONCOLOGY	0.700	
779	Cardioscience	ITA	CARDIOVASC	0.762	
780	Cell Biol Int	UKD	CYTOLOGY	0.000	
781	Ceylon Med J	LKA	MED, GEN	0.000	
782	Clin Exp Rheumatol	ITA	RHEUMATOL	0.947	
783	Clin Pharmacokinet	NZL	PHARMACOL	2.951	
784	Clin Sci (Colch)	UKD	MED, RES	2.100	
785	Comput Methods Programs Biomed	NLD	COMPUTER //ENG, BIOM	0.421	
786	Crit Rev Biotechnol	USA	BIOTECH	2.231	
787	Curr Eye Res	UKD	OPHTHAL	1.048	
788	Curr Med Res Opin	UKD	MED, GEN //MED, RES //PHARMACOL	0.551	
789	Dermatologica	CHE	DERMATOL	0.686	
790	Dev Biol Stand	CHE	DEV, BIOL	0.000	
791	Dev Biol	USA	BIOLOGY //DEV, BIOL	4.017	
792	Dev Pharmacol Ther	CHE	PHARMACOL	0.617	
793	Diabetes Care	USA	ENDOCR //MED, GEN //PUB HEALTH	3.148	
794	Digestion	CHE	GASTRO	1.294	
795	Doc Ophthalmol	NLD	OPHTHAL	0.254	
796	Drug Des Discov	CHE	TOXICOL	0.000	
797	Drug Metab Dispos Biol Fate Chem	USA	PHARMACOL	1.784	
798	Endocrinol Exp	CSK	ENDOCR	0.000	
799	Endod Dent Traumatol	DEN	GASTRO //DENTISTRY	0.000	
800	Ergonomics	UKD	ERGONOMICS	0.349	
801	Eur J Clin Chem Clin Biochem	DEU	MED, RES	0.000	
802	Eur J Morphol	NLD	ANATOMY	0.630	
803	Eur J Surg Oncol	UKD	SURGERY //ONCOLOGY	0.000	
804	Eur J Surg	SWE	SURGERY	0.000	
805	Exp Biol	DEU	BIOLOGY	0.000	
806	Exp Neurol	USA	NEUROSCI	3.328	
807	Eye	UKD	OPHTHAL	0.720	
808	Fundam Appl Toxicol	USA	TOXICOL	0.000	
809	Fundam Clin Pharmacol	FRA	PHARMACOL	0.597	
810	Genet Epidemiol	USA	GENETICS //PUB HEALTH	1.643	
811	Hemoglobin	USA	BIOCH, MOL //HEMATOL	0.931	
812	Hepatogastroenterology	DEU	GASTRO //SURGERY	0.645	
813	Horm Res	CHE	ENDOCR	0.640	
814	Hum Pathol	USA	PATHOLOGY	2.665	
815	Hygie	FRA		0.000	
816	Immunopharmacology	NLD	IMMUNOL //PHARMACOL	1.284	
817	Int J Clin Monit Comput	NLD	COMPUTER	0.000	
818	Int J Pancreatol	USA	ENDOCR //PHYSIOL	0.643	
819	Int J Radiat Biol Relat Stud Phys Chem Med	UKD	RADIOL	0.000	
820	J AOAC Int	USA		0.000	
821	J Biolumin Chemilumin	UKD	BIOCH, MOL	1.338	
822	J Cell Biochem	USA	BIOCH, MOL	4.466	
823	J Cell Sci	UKD	CYTOLOGY	3.293	
824	J Clin Pediatr Dent	USA	PEDIAT //DENTISTRY	0.000	
825	J Commun Disord	USA		0.000	

Table 2b (continued)

826	J Craniomaxillofac Surg	DEU	DENTISTRY //SURGERY	0.780	3
827	J Emerg Med	USA	MED, MIS	0.000	3
828	J Exp Biol	UKD	BIOLOGY	1.804	3
829	J Gen Psychol	USA	PSYCHOL	5.111	3
830	J Hand Surg [Am]	USA	SURGERY	0.000	3
831	J Int Med Res	UKD	MED, RES //PHARMACOL	0.411	3
832	J Intern Med	UKD	MED, GEN	1.342	3
833	J Korean Med Sci	KOR	MED, GEN	0.000	3
834	J Ment Defic Res	UKD	GENETICS //NEUROSCI	0.657	3
835	J Mol Recognit	UKD		0.000	3
836	J Natl Cancer Inst	USA	ONCOLOGY	0.000	3
837	J Neurogenet	UKD	GENETICS //NEUROSCI	1.875	3
838	J Neuroimmunol	NLD	IMMUNOL //NEUROSCI	2.497	3
839	J Neurol	DEU	NEUROSCI	1.355	3
840	J Neurosci Methods	NLD	NEUROSCI	1.587	3
841	J Neurosurg Sci	ITA	NEUROSCI //SURGERY	0.000	3
842	J Pathol	UKD	PATHOLOGY	3.348	3
843	J Pediatr Orthop	USA	PEDIAT //ORTHOPED	0.000	3
844	J Physiol (Lond)	UKD	PHYSIOL	5.231	3
845	J Prosthet Dent	USA	DENTISTRY	0.553	3
846	J Psychiatr Res	UKD	PSYCHIAT	0.895	3
847	J Psychol	USA	PSYCHOL	0.000	3
848	J R Coll Surg Edinb	UKD	SURGERY	0.000	3
849	J Ultrasound Med	USA	ACOUSTICS //RADIOL	0.960	3
850	J Virol	USA	VIROLOGY	6.070	3
851	JCU J Clin Ultrasound	USA	ACOUSTICS //RADIOL	0.000	3
852	Lab Anim	UKD	VET MED	0.781	3
853	Mem Inst Oswaldo Cruz	BRA	MED, RES	0.267	3
854	Membr Biochem	USA	BIOCH, MOL //CYTOLOGY	0.758	3
855	Microbiology	UKD	MICROBIOL	0.194	3
856	Mol Cell Biol	USA	BIOCH, MOL	7.584	3
857	Neurobiol Aging	USA	NEUROSCI	2.724	3
858	PACE Pacing Clin Electrophysiol	USA	CARDIOVASC //ENG, BIOM	1.414	3
859	Pain	NLD	NEUROSCI	3.492	3
860	Pediatr Hematol Oncol	USA	HEMATOL //PEDIAT	0.440	3
861	Pediatr Neurosurg	CHE	NEUROSCI //PEDIAT //SURGERY	0.500	3
862	Pediatr Pathol	USA	PEDIAT //PATHOLOGY	0.000	3
863	Percept Mot Skills	USA		0.000	3
864	Placenta	UKD	DEV, BIOL //OBST GYNE	1.649	3
865	Postgrad Med	USA	MED, GEN	0.250	3
866	Prog Biophys Mol Biol	UKD	BIOCH, MOL //BIOPHYS	3.846	3
867	Prog Vet Microbiol Immunol	CHE	VET MED //MICROBIOL //IMMUNOL	0.000	3
868	Prostaglandins	USA	ENDOCR	1.674	3
869	Prosthet Orthot Int	DEN	ORTHOPED	0.000	3
870	Protein Seq Data Anal	DEU	BIOCH, MOL	0.000	3
871	Psychol Rep	USA	PSYCHOL	0.000	3
872	Psychother Psychosom	CHE	PSYCHOL	0.000	3
873	Q J Exp Physiol	UKD	PHYSIOL	0.000	3
874	Quintessence Int	DEU		0.000	3
875	Radioisotopes	JPN		0.000	3
876	Reg Anesth	USA	ANESTHES	0.000	3
877	Regul Pept	NLD	ENDOCR	2.231	3

Table 2b (continued)

878	Reprod Fertil Dev	AUS	BIOLOGY //DEV, BIOL //ENDOCR	1.464	3
879	Singapore Dent J	SGP	DENTISTRY	0.000	3
880	Skeletal Radiol	DEU	RADIOL	0.461	3
881	Stroke	USA	CARDIOVASC //NEUROSCI	3.196	3
882	Surgery	USA	SURGERY	1.711	3
883	Ultrastruct Pathol	USA	MICROSCOPY //PATHOLOGY	1.315	3
884	Vision Res	UKD	NEUROSCI //OPHTHAL	1.607	3
885	Yeast	UKD	BIOCH, MOL //BIOTECH //MICROBIOL	2.184	3
886	Z Ernahrungswiss	DEU	NUTRI DIET	0.000	3
887	Z Kinderchir	DEU	PEDIAT //SURGERY	0.100	3
888	Act Nerv Super (Praha)	CSK	NEUROSCI	0.000	2
889	Acta Morphol Neerl Scand	NLD	ANATOMY	0.000	2
890	Acta Neurol (Napoli)	ITA	NEUROSCI	0.000	2
891	Acta Neurol Belg	BEL	NEUROSCI	0.000	2
892	Acta Neuropathol (Berl)	DEU	NEUROSCI	2.225	2
893	Acta Otolaryngol (Stockh)	SWE	OTORHINO	1.052	2
894	Acta Physiol Scand	UKD	PHYSIOL	1.504	2
895	Acta Trop	NLD	BIOLOGY //PARASITOL //TROP, MED	0.972	2
896	Acta Vet Scand Suppl	NOR	VET MED	0.000	2
897	Adv Biochem Eng Biotechnol	DEU	BIOCH, MOL //BIOTECH	0.000	2
898	Am J Obstet Gynecol	USA	OBST GYNE	2.000	2
899	Am J Orthod Dentofacial Orthop	USA	DENTISTRY	0.000	2
900	Am J Pediatr Hematol Oncol	USA	HEMATOL //PEDIAT //ONCOLOGY	0.782	2
901	Am J Physiol	USA	PHYSIOL	3.259	2
902	Am J Psychother	USA	PSYCHIAT //PSYCHOL	0.457	2
903	Ann Biol Clin (Paris)	FRA	MED, RES	0.431	2
904	Ann Clin Biochem	UKD	BIOCH, MOL //MED, RES	0.848	2
905	Ann Hematol	DEU	HEMATOL	0.000	2
906	Ann Inst Pasteur Microbiol	FRA	MICROBIOL	0.000	2
907	Ann Otol Rhinol Laryngol	USA	OTORHINO	0.968	2
908	Ann Rech Vet	FRA	VET MED	0.284	2
909	Anticancer Drug Des	UKD	ONCOLOGY //PHARMACOL	1.727	2
910	Appl Radiat Isot	UKD	NUCL SCI //RADIOL	0.590	2
911	Arch Emerg Med	UKD	MED, MIS	0.000	2
912	Arch Insect Biochem Physiol	USA	BIOCH, MOL //ENTOMOL //PHYSIOL	1.480	2
913	Arch Ital Anat Embriol	ITA	ANATOMY	0.000	2
914	Arch Latinoam Nutr	VEN	NUTRI DIET	0.000	2
915	Arch Neurol	USA	NEUROSCI	3.152	2
916	Arch Sex Behav	USA	BEHAVIOR	0.000	2
917	Arh Hig Rada Toksikol	YUG	TOXICOL	0.000	2
918	Aust J Biol Sci	AUS	BIOLOGY	0.000	2
919	Aust Paediatr J	AUS	PEDIAT	0.000	2
920	Behav Genet	USA	BEHAVIOR //NEUROSCI	1.495	2
921	Behav Neural Biol	USA	BEHAVIOR //NEUROSCI	1.859	2
922	Beitr Trop Landwirtsch Veterinarmed	DEU	VET MED	0.000	2
923	Biol Cell	FRA	BIOCH, MOL //CYTOLOGY	0.000	2
924	Biomater Artif Cells Artif Organs	USA	ENG, BIOM	0.254	2

Table 2b (continued)

925	Bioorg Med Chem	UKD	BIOCH, MOL //CHEM, ORG //MED, RES	0.000	2
926	Biosens Bioelectron	UKD	BIOTECH	2.404	2
927	Br J Biomed Sci	UKD	ENG, BIOM	0.000	2
928	Br J Clin Psychol	UKD	PSYCHOL	0.000	2
929	Br J Exp Pathol	UKD	PATHOLOGY	0.000	2
930	Br J Med Psychol	UKD	PSYCHIAT //PSYCHOL	0.595	2
931	Braz J Med Biol Res	BRA	MED, RES	0.374	2
932	Bull Math Biol	USA	BIOL, MISC //MATHS, MIS	0.800	2
933	Bull Narc	USA	SUB ABUSE	0.000	2
934	Burns Incl Therm Inj	UKD	MED, MIS	0.000	2
935	Can J Cardiol	CAN	CARDIOVASC	0.000	2
936	Can J Surg	CAN	SURGERY	0.344	2
937	Cardiovasc Res	UKD	CARDIOVASC	1.471	2
938	Cardiovasc Surg	UKD	CARDIOVASC //SURGERY	0.000	2
939	Cell Mol Biol Res	USA	BIOCH, MOL //CYTOLOGY	0.000	2
940	Cell Tissue Res	DEU	CYTOLOGY	1.724	2
941	Child Nephrol Urol	CHE	PEDIAT //UROL NEPH	0.073	2
942	Clin Biochem	CAN	MED, RES	0.805	2
943	Clin Dermatol	USA	DERMATOL	0.000	2
944	Clin Endocrinol (Oxf)	UKD	ENDOCR	1.923	2
945	Clin Imaging	USA	COMPUTER //RADIOL	0.225	2
946	Clin Neuropharmacol	USA	NEUROSCI //PHARMACOL	1.349	2
947	Clin Pharmacol Ther	USA	PHARMACOL	3.329	2
948	Clin Physiol Biochem	CHE	BIOCH, MOL	0.265	2
949	Compr Psychiatry	USA	PSYCHIAT //PUB HEALTH	1.250	2
950	Comput Biomed Res	USA	COMPUTER //ENG, BIOM	0.523	2
951	Convuls Ther	USA	OPHTHAL	0.000	2
952	Crisis	CAN		0.000	2
953	Curr Genet	USA	GENETICS	2.347	2
954	Dermatology	CHE	DERMATOL	0.000	2
955	Dev Neurosci	CHE	NEUROSCI	2.151	2
956	Diabet Med	UKD	ENDOCR	0.655	2
957	Diagn Clin Immunol	USA	IMMUNOL	0.000	2
958	Drug Metab Rev	USA	PHARMACOL	1.490	2
959	EXS	CHE		0.000	2
960	Electroencephalogr Clin Neurophysiol	IRL	NEUROSCI	2.126	2
961	Electrophoresis	DEU	BIOCH, MOL	1.935	2
962	Endocrinology	USA	ENDOCR	4.534	2
963	Equine Vet J	UKD	VET MED	0.717	2
964	Eur J Anaesthesiol	UKD	ANESTHES	0.000	2
965	Eur J Cancer Prev	UKD	ONCOLOGY	0.000	2
966	Eur J Cell Biol	DEU	CYTOLOGY	2.528	2
967	Eur J Clin Invest	UKD	MED, RES	1.723	2
968	Exp Eye Res	UKD	OPHTHAL	1.675	2
969	Fortschr Chem Org Naturst	AUT	CHEM, ORG	0.000	2
970	Front Med Biol Eng	NLD	ENG, BIOM	0.000	2
971	Funct Neurol	ITA	NEUROSCI	0.000	2
972	Gamete Res	USA	CYTOLOGY //OBST GYNE	0.000	2
973	Genet Anal Tech Appl	USA	BIOTECH //GENETICS	0.321	2
974	Haematologia (Budap)	HUN	HEMATOL	0.000	2
975	Histochemistry	DEU	CYTOLOGY	1.540	2
976	Hum Immunol	USA	IMMUNOL	3.684	2
977	Int Immunol	UKD	IMMUNOL	0.000	2

Table 2b (continued)

978	Int J Orthod	USA	ORTHOPED	0.000	2
979	Int J Psychophysiol	NLD	NEUROSCI //PHYSIOL //PSYCHOL	0.549	2
980	Int J Tissue React	CHE	CYTOLOGY	0.354	2
981	Int Rev Cytol	USA	CYTOLOGY	5.095	2
982	Ital J Gastroenterol	ITA	GASTRO	0.664	2
983	Ital J Neurol Sci	ITA	NEUROSCI	0.000	2
984	J Androl	USA	ANDROLOGY	1.389	2
985	J Appl Physiol	USA	PHYSIOL	2.059	2
986	J Bioenerg Biomembr	USA	BIOCH, MOL //BIOPHYS	0.535	2
987	J Biomech Eng	USA	BIOPHYS //ENG, BIOM	0.000	2
988	J Biosoc Sci	UKD	BIOSCI //PUB HEALTH	0.284	2
989	J Cancer Educ	USA	IMMUNOL	0.000	2
990	J Cardiothorac Vasc Anesth	USA	CARDIOVASC //ANESTHES	0.000	2
991	J Clin Endocrinol Metab	USA	ENDOCR	3.493	2
992	J Clin Epidemiol	UKD	EPIDEMIOL //MED, GEN //PUB HEALTH	1.493	2
993	J Cutan Pathol	DEN	DERMATOL //PATHOLOGY	0.938	2
994	J Dairy Sci	USA	AGRI, DAIR //FOOD SCI	1.522	2
995	J Diabet Complications	USA	ENDOCR	0.000	2
996	J Electron Microsc (Tokyo)	JPN	MICROSCOPY	0.922	2
997	J Endod	USA	DENTISTRY	0.507	2
998	J Enzym Inhib	CHE		0.000	2
999	J Eukaryot Microbiol	USA	MICROBIOL	0.000	2
1000	J Exp Pathol (Oxford)	UKD	PATHOLOGY	0.000	2
1001	J Forensic Sci	USA	MED, LEG	1.103	2
1002	J Heart Valve Dis	UKD	CARDIOVASC	0.000	2
1003	J Hum Hypertens	UKD	CARDIOVASC	0.000	2
1004	J In Vitro Fert Embryo Transf	USA	OBST GYNE	0.000	2
1005	J Mol Cell Cardiol	UKD	CARDIOVASC	3.108	2
1006	J Neural Transplant Plast	UKD	NEUROSCI	0.000	2
1007	J Nucl Med	USA	RADIOL	4.689	2
1008	J Paediatr Child Health	AUS	PEDIAT	0.263	2
1009	J Pharmacol Methods	USA	PHARMACOL	1.322	2
1010	J Pharmacol Toxicol Methods	USA	PHARMACOL //TOXICOL	0.000	2
1011	J Physiol Pharmacol	POL	PHYSIOL //PHARMACOL	0.000	2
1012	J Psychosom Obstet Gynaecol	UKD	PSYCHOL //OBST GYNE	0.000	2
1013	J Psychosom Res	UKD	PSYCHIAT	1.014	2
1014	J R Soc Med	UKD	MED, GEN	0.741	2
1015	J Toxicol Clin Toxicol	USA	TOXICOL	0.453	2
1016	J Trace Elem Electrolytes Health Dis	DEU	BIOCH, MOL	0.635	2
1017	Jpn J Hum Genet	JPN	GENETICS	0.940	2
1018	Jpn J Med	JPN	MED, GEN	0.000	2
1019	Jpn J Pharmacol	JPN	PHARMACOL	1.294	2
1020	Kidney Int	USA	UROL NEPH	5.703	2
1021	Magnes Res	UKD	CHEMISTRY //SPECTROSCO	0.000	2
1022	Med Oncol Tumor Pharmacother	UKD	ONCOLOGY //PHARMACOL	0.000	2
1023	Med Pediatr Oncol	USA	ONCOLOGY //PEDIAT	1.220	2
1024	Metab Brain Dis	USA	ENDOCR //NEUROSCI	1.063	2
1025	Microsurgery	USA	SURGERY	0.000	2
1026	Microvasc Res	USA	CARDIOVASC	1.694	2
1027	Mol Cell Probes	UKD	BIOCH, MOL //MED, RES	1.542	2
1028	Monogr Atheroscler	CHE	CARDIOVASC	0.000	2
1029	Nat Prod Rep	UKD	CHEM, ORG	3.091	2

Table 2b (continued)

1030	Nature	UKD	MULTIDIS	19.337	2
1031	Neurochirurgia (Stuttg)	DEU	NEUROSCI //SURGERY	0.455	2
1032	Neurotoxicol Teratol	USA	NEUROSCI //TOXICOL	1.509	2
1033	Neurotoxicology	USA	NEUROSCI //PHARMACOL	1.045	2
1034	Nouv Rev Fr Hematol	DEU	HEMATOL	0.447	2
1035	Nucl Med Biol	USA	RADIOL	0.875	2
1036	Obstet Gynecol	USA	OBST GYNE	1.824	2
1037	Occup Med (Oxf)	UKD	PUB HEALTH	0.000	2
1038	Okajimas Folia Anat Jpn	JPN	ANATOMY	0.000	2
1039	Online J Curr Clin Trials	USA	MED, GEN	0.000	2
1040	Ophthalmic Paediatr Genet	NLD	OPHTHAL //PEDIAT //GENETICS	0.000	2
1041	Ophthalmology	USA	OPHTHAL	1.686	2
1042	Otolaryngol Head Neck Surg	USA	OTORHINO //SURGERY	0.713	2
1043	Parassitologia	ITA	PARASITOL	0.084	2
1044	Pathobiology	CHE	CYTOLOGY //PATHOLOGY	1.098	2
1045	Pediatr Res	USA	PEDIAT	2.771	2
1046	Pharmacol Ther	UKD	PHARMACOL	3.951	2
1047	Pigment Cell Res	USA	CYTOLOGY	0.862	2
1048	Proc Nutr Soc	UKD	NUTRI DIET	0.000	2
1049	Prog Food Nutr Sci	UKD	NUTRI DIET	0.952	2
1050	Protein Expr Purif	USA	BIOCH, MOL	0.000	2
1051	Protein Sci	USA	BIOCH, MOL	0.000	2
1052	Proteins	USA	BIOCH, MOL	0.000	2
1053	Public Health Rev	ISR	PUB HEALTH	0.000	2
1054	Reprod Nutr Dev	FRA	BIOLOGY //DEV, BIOL //ENDOCR //NUTRI DIET	0.516	2
1055	Rev Biol Trop	CRI	TROP MED	0.000	2
1056	Rev Int Trach Pathol Ocul Trop Subtrop Sante Publique	FRA	PATHOLOGY	0.000	2
1057	S Afr J Surg	ZAF	SURGERY	0.000	2
1058	Scand J Clin Lab Invest	UKD	MED, RES	0.628	2
1059	South Med J	USA	MED, GEN	0.373	2
1060	Subcell Biochem	UKD	BIOCHEM	0.000	2
1061	Surg Today	JPN	SURGERY	0.000	2
1062	Teratology	USA	DEV, BIOL	1.600	2
1063	Tex Heart Inst J	USA	CARDIOVASC	0.000	2
1064	Ultrasonics	UKD	ACOUSTICS //RADIOL	0.482	2
1065	Urol Res	DEU	UROL NEPH	0.731	2
1066	Urology	USA	UROL NEPH	0.530	2
1067	World Health Stat Q	CHE	PUB HEALTH	0.000	2
1068	Yonsei Med J	KOR		0.000	2
1069	Zentralbl Hyg Umweltmed	DEU	MICROBIOL //PUB HEALTH	0.437	2
1070	Zentralbl Veterinarmed [B]	DEU	VET MED	0.000	2
1071	AIDS Care	UKD	IMMUNOL	0.000	1
1072	AIDS	USA	IMMUNOL	4.305	1
1073	ASDC J Dent Child	USA	DENTISTRY //PEDIAT	0.000	1
1074	Acad Med	USA	EDUC SCI //MED, MIS	0.839	1
1075	Acta Biochim Pol	POL	BIOCH, MOL //BIOPHYS	0.000	1
1076	Acta Derm Venereol	NOR	DERMATOL	0.980	1
1077	Acta Diabetol	DEU	ENDOCR	0.215	1
1078	Acta Leiden	NLD		0.000	1
1079	Acta Med Okayama	JPN	MED, RES	0.250	1
1080	Acta Neurobiol Exp (Warsz)	POL	NEUROSCI	0.000	1
1081	Acta Orthop Belg	BEL	ORTHOPED	0.000	1

Table 2b (continued)

1082	Acta Paediatr Hung	HUN	PEDIAT	0.000	
1083	Acta Paediatr Jpn	JPN	PEDIAT	0.000	
1084	Acta Paedopsychiatr	DEU	PEDIAT //PSYCHIAT	0.000	
1085	Acta Physiol Pharmacol Bulg	BGR	PHARMACOL //PHYSIOL	0.000	
1086	Acta Physiol Pol	POL	PHYSIOL	0.000	
1087	Acta Vet Scand	DEN	VET MED	0.620	
1088	Addict Behav	UKD	BEHAVIOR	0.000	
1089	Addiction	UKD	SUB ABUSE	0.000	
1090	Adolescence	USA	OBST GYNE	0.000	
1091	Adv Microb Physiol	UKD	BIOCH, MOL	2.636	
1092	Adv Neurol	USA	NEUROSCI	0.000	
1093	Adv Otorhinolaryngol	CHE	OTORHINO	0.000	
1094	Adverse Drug React Toxicol Rev	UKD	PHARMACOL //TOXICOL	0.400	
1095	Age Ageing	UKD	GERIATRICS	0.937	
1096	Aging (Milano)	ITA	GERIATRICS	0.000	1
1097	Alcohol Clin Exp Res	USA	SUB ABUSE	1.089	1
1098	Aliment Pharmacol Ther	UKD	PHARMACOL	0.000	1
1099	Am J Cardiovasc Pathol	USA	CARDIOVASC //PATHOLOGY	0.000	1
1100	Am J Chin Med	USA	MED, GEN	0.000	1
1101	Am J Clin Hypn	USA	PSYCHOL	0.000	1
1102	Am J Community Psychol	USA	PSYCHOL	0.000	1
1103	Am J Emerg Med	USA	MED, MIS	0.000	1
1104	Am J Epidemiol	USA	PUB HEALTH	3.190	1
1105	Am J Hum Genet	USA	GENETICS	7.642	1
1106	Am J Med Sci	USA	MED, GEN	0.866	1
1107	Am J Nephrol	CHE	UROL NEPH	1.261	1
1108	Am J Otolaryngol	USA	OTORHINO	0.000	1
1109	Am J Otol	USA	OTORHINO	0.636	1
1110	Am J Prev Med	USA	MED, GEN	0.000	1
1111	Am J Public Health	USA	PUB HEALTH	2.459	1
1112	Angle Orthod	USA	DENTISTRY	0.222	1
1113	Anim Genet	UKD	GENETICS //VET MED	1.222	1
1114	Ann Inst Pasteur Immunol	FRA	IMMUNOL	0.000	1
1115	Ann Intern Med	USA	MED, GEN	9.211	1
1116	Ann Med	FIN	MED, GEN	0.721	1
1117	Ann Neurol	USA	NEUROSCI	0.547	1
1118	Ann Oncol	NLD	ONCOLOGY	2.250	1
1119	Ann Soc Belg Med Trop	BEL	TROP MED	0.245	1
1120	Ann Surg	USA	SURGERY	3.625	1
1121	Appl Parasitol	DEU	PARASITOL	0.000	1
1122	Arch Anat Microsc Morphol Exp	FRA	ANATOMY	0.000	1
1123	Arch Gynecol Obstet	DEU	OBST GYNE	0.000	1
1124	Arch Histol Cytol	JPN	CYTOLOGY	0.883	1
1125	Arch Histol Jpn	JPN	CYTOLOGY	0.000	1
1126	Arch Invest Med (Mex)	MEX	MED, RES	0.000	1
1127	Arch Oral Biol	UKD	DENTISTRY	0.713	1
1128	Arch Pathol Lab Med	USA	MED, LAB //MED, RES //PATHOLOGY	1.586	1
1129	Arch Phys Med Rehabil	USA	MED, MIS	0.831	1
1130	Arq Gastroenterol	BRA	GASTRO	0.000	1
1131	Arthritis Rheum	USA	RHEUMATOL	4.715	1
1132	Aust Dent J	AUS	DENTISTRY	0.000	1
1133	Australas Phys Eng Sci Med	AUS	MULTIDIS	0.000	1
1134	Autoimmunity	CHE	IMMUNOL	0.000	1
1135	Avian Dis	USA	VET MED	0.997	1

Table 2b (continued)

1136	Baillieres Clin Endocrinol Metab	UKD	ENDOCR	0.419	1
1137	Baillieres Clin Gastroenterol	UKD	GASTRO	0.400	1
1138	Basic Appl Histochem	ITA	CYTOLOGY	0.000	1
1139	Basic Life Sci	USA	BIOLOGY //MED, RES	0.000	1
1140	Behav Brain Res	NLD	NEUROSCI	1.602	1
1141	Bioconjug Chem	USA	BIOCH, MOL //CHEMISTRY	0.000	1
1142	Bioessays	UKD	BIOLOGY	2.881	1
1143	Biofactors	UKD	BIOCH, MOL //BIOLOGY //MED, RES	0.000	1
1144	Biofeedback Self Regul	USA	MED, MIS	0.000	1
1145	Biol Chem Hoppe Seyler	DEU	BIOCH, MOL	1.836	1
1146	Biol Cybern	DEU	COMPUTER	1.060	1
1147	Biol Pharm Bull	JPN	BIOCH, MOL //PHARMACOL	0.000	1
1148	Biol Rev Camb Philos Soc	UKD	BIOLOGY	1.600	1
1149	Biomed Pharmacother	FRA	MED, RES	0.557	1
1150	Biopharm Drug Dispos	UKD	PHARMACOL	0.619	1
1151	Biophys J	USA	BIOPHYS	4.668	1
1152	Blood Coagul Fibrinolysis	UKD	HEMATOL //MED, RES	0.000	1
1153	Blut	DEU	HEMATOL	1.581	1
1154	Bone	USA	ORTHOPED	2.169	1
1155	Br J Addict	UKD	PSYCHIAT //SUB ABUSE	1.122	1
1156	Br J Audiol	UKD	OTORHINO	0.000	1
1157	Brain Behav Evol	CHE	NEUROSCI	1.090	1
1158	Brain Dev	JPN	NEUROSCI	0.785	1
1159	Brain Lang	USA	NEUROSCI	1.298	1
1160	Brain Res Dev Brain Res	NLD	NEUROSCI	0.000	1
1161	Brain Res Mol Brain Res	NLD	NEUROSCI	0.000	1
1162	Brain	UKD	NEUROSCI	3.383	1
1163	Bull Cancer (Paris)	FRA	ONCOLOGY	0.362	1
1164	Bull Kanagawa Dent Coll	JPN	DENTISTRY	0.000	1
1165	Bull Med Libr Assoc	USA	INFO SCI	0.000	1
1166	Cancer Causes Control	UKD	ONCOLOGY	0.000	1
1167	Cancer Detect Prev Suppl	USA	ONCOLOGY	0.000	1
1168	Cancer Invest	USA	ONCOLOGY	0.744	1
1169	Cancer Res	USA	ONCOLOGY	4.383	1
1170	Cardiovasc Drugs Ther	USA	CARDIOVASC	0.000	1
1171	Cell Biochem Funct	UKD	BIOCH, MOL	0.859	1
1172	Cell Biol Toxicol	USA	CYTOLOGY //TOXICOL	1.328	1
1173	Cell Biophys	UKD	BIOPHYS //CYTOLOGY	0.761	1
1174	Cell Calcium	UKD	CYTOLOGY	4.297	1
1175	Cell Differ Dev	IRL	CYTOLOGY //DEV, BIOL	1.627	1
1176	Cell Motil Cytoskeleton	USA	BIOCH, MOL //CYTOLOGY	2.937	1
1177	Chem Phys Lipids	NLD	BIOCH, MOL	1.269	1
1178	Chem Res Toxicol	USA	CHEMISTRY //TOXICOL	2.526	1
1179	Child Welfare	USA	PEDIAT	0.000	1
1180	Chronobiologia	ITA	BIOL, MISC	0.000	1
1181	Cleft Palate Craniofac J	USA	DENTISTRY //SURGERY	0.845	1
1182	Clin Dysmorphol	UKD	ANATOMY	0.000	1
1183	Clin J Pain	USA	NEUROSCI	0.000	1
1184	Clin Lab Haematol	UKD	HEMATOL	0.469	1
1185	Clin Otolaryngol	UKD	OTORHINO	0.452	1
1186	Clin Phys Physiol Meas	UKD	BIOPHYS //ENG, BIOM	0.543	1
1187	Clin Reprod Fertil	UKD	OBST GYNE	0.000	1
1188	Clin Ther	USA	PHARMACOL	0.000	1

Table 2b (continued)

1189	Comp Biochem Physiol A	UKD	BIOCH, MOL	0.760	
1190	Comp Biochem Physiol [C]	UKD	BIOCH, MOL	0.780	
1191	Compr Gerontol [A]	DEN	GERIATRICS	0.000	
1192	Connect Tissue Res	UKD	CYTOLOGY	1.453	
1193	Contrib Gynecol Obstet	CHE	OBST GYNE	0.000	
1194	Contrib Nephrol	CHE	UROL NEPH	0.000	
1195	Cortex	ITA	BEHAVIOR //NEUROSCI	1.026	
1196	Crit Rev Biomed Eng	USA	ENG, BIOM	1.833	
1197	Crit Rev Clin Lab Sci	USA	MED, LAB	0.000	
1198	Crit Rev Immunol	USA	IMMUNOL	6.926	
1199	Crit Rev Neurobiol	USA	NEUROSCI	2.000	
1200	Crit Rev Toxicol	USA	TOXICOL	4.094	1
1201	Curr Opin Neurobiol	UKD	NEUROSCI	0.000	1
1202	Curr Top Cell Regul	USA	CYTOLOGY	0.000	1
1203	Cytometry	USA	CYTOLOGY	2.556	1
1204	DNA Cell Biol	USA	BIOCH, MOL //CYTOLOGY //GENETICS	4.317	1
1205	Demography	USA	DEMOGRAPHY	0.000	1
1206	Dev Suppl	UKD		0.000	1
1207	Development	UKD	DEV, BIOL	5.479	1
1208	Diabetes	USA	ENDOCR //MED, GEN //PUB HEALTH	4.965	1
1209	Differentiation	DEU	CYTOLOGY //DEV, BIOL	2.113	1
1210	Dig Dis	CHE	GASTRO	0.000	1
1211	Dis Markers	NLD	GENETICS //PATHOLOGY	0.000	1
1212	Drug Nutr Interact	USA	TOXICOL //NUTRI DIET	0.000	1
1213	Drugs Exp Clin Res	CHE	PHARMACOL	0.341	1
1214	Drugs	USA	PHARMACOL //TOXICOL	1.658	1
1215	Early Hum Dev	NLD	OBST GYNE //PEDIAT	0.938	1
1216	East Afr Med J	KEN	MED, GEN	0.000	1
1217	Enzyme	CHE	BIOCH, MOL	0.496	1
1218	Epilepsy Res	NLD	NEUROSCI	1.641	1
1219	Eur Arch Otorhinolaryngol	DEU	OTORHINO	0.336	1
1220	Eur Arch Psychiatry Clin Neurosci	DEU	NEUROSCI //PSYCHIAT	0.760	1
1221	Eur Biophys J	DEU	BIOPHYS	1.553	1
1222	Eur J Cancer Clin Oncol	UKD	ONCOLOGY	0.000	1
1223	Eur J Cardiothorac Surg	DEU	CARDIOVASC	0.000	1
1224	Eur J Clin Microbiol Infect Dis	DEU	IMMUNOL //MICROBIOL	0.000	1
1225	Eur J Endocrinol	NOR	ENDOCR	0.000	1
1226	Eur J Haematol	DEN	HEMATOL	1.324	1
1227	Eur J Pediatr	DEU	PEDIAT	0.651	1
1228	Eur J Radiol	NLD	RADIOL	0.000	1
1229	Eur J Respir Dis	DEN	RESP SYS	0.000	1
1230	Exp Brain Res	DEU	NEUROSCI	2.425	1
1231	Exp Gerontol	UKD	GERIATRICS	0.000	1
1232	Exp Lung Res	USA	RESP SYS	1.188	1
1233	Exp Physiol	UKD	PHYSIOL	1.000	1
1234	FASEB J	USA	BIOLOGY	18.675	1
1235	Fam Pract	UKD	MED, GEN	0.000	1
1236	Farmaco [Sci]	ITA	PHARMACOL	0.000	1
1237	Folia Biol (Krakow)	POL	BIOLOGY	0.439	1
1238	Folia Histochem Cytobiol	POL	CYTOLOGY	0.042	1
1239	Free Radic Res	CHE	BIOCH, MOL	0.000	1

Table 2b (continued)

1240	Gan To Kagaku Ryoho	JPN		0.000	1
1241	Gen Pharmacol	UKD	PHARMACOL	0.915	1
1242	Gen Physiol Biophys	CSK	BIOPHYS //MICROBIOL //PHYSIOL	0.593	1
1243	Ger J Ophthalmol	DEU	OPHTHAL	0.000	1
1244	Glycobiology	UKD	BIOLOGY	0.000	1
1245	Graefes Arch Clin Exp Ophthalmol	DEU	OPHTHAL	0.768	1
1246	Growth Dev Aging	USA	BIOLOGY //DEV, BIOL //GERIATRICS	0.023	1
1247	Headache	USA	NEUROSCI	1.152	1
1248	Hematol Pathol	USA	HEMATOL //PATHOLOGY	0.000	1
1249	Heredity (Edinburgh)	UKD	GENETICS	0.000	1
1250	Heredity	UKD	GENETICS	1.113	1
1251	Hum Mutat	USA	GENETICS	0.000	1
1252	Hum Neurobiol	DEU	NEUROSCI	0.000	1
1253	In Vitro Cell Dev Biol	USA	CYTOLOGY //DEV, BIOL	1.780	1
1254	Insect Biochem Mol Biol	UKD	BIOCH, MOL //ENTOMOL	0.000	1
1255	Int Clin Psychopharmacol	UKD	PHARMACOL	0.514	1
1256	Int Disabil Stud	UKD		0.000	1
1257	Int J Biol Markers	ITA		0.000	1
1258	Int J Card Imaging	USA	CARDIOVASC //RADIOL	0.000	1
1259	Int J Clin Pharmacol Res	CHE	PHARMACOL	0.364	1
1260	Int J Dev Biol	ESP	DEV, BIOL	0.000	1
1261	Int J Gynecol Pathol	USA	OBST GYNE //PATHOLOGY	1.713	1
1262	Int Nurs Rev	CHE	NURSING	0.000	1
1263	Int Ophthalmol	NLD	OPHTHAL	0.550	1
1264	Isr J Med Sci	ISR	MED, GEN	0.227	1
1265	Ital J Orthop Traumatol	ITA	ORTHOPED	0.000	1
1266	J Adolesc Health	USA	PUB HEALTH	0.000	1
1267	J Am Acad Dermatol	USA	DERMATOL	1.521	1
1268	J Am Coll Surg	USA	SURGERY	0.000	1
1269	J Anal Toxicol	USA	TOXICOL	1.594	1
1270	J Arthroplasty	USA	SURGERY	0.000	1
1271	J Autoimmun	UKD	IMMUNOL	1.577	1
1272	J Auton Nerv Syst	NLD	NEUROSCI	1.187	1
1273	J Biol Photogr	USA		0.000	1
1274	J Biol Rhythms	USA	BEHAVIOR //BIOLOGY	2.441	1
1275	J Biomater Sci Polym Ed	NLD	ENG, BIOM //MATER // MED, RES	0.000	1
1276	J Cardiovasc Pharmacol	USA	CARDIOVASC //PHARMACOL //RESP SYS	2.176	1
1277	J Cell Physiol	USA	CYTOLOGY //PHYSIOL	0.000	1
1278	J Child Lang	UKD	PEDIAT	0.000	1
1279	J Child Psychol Psychiatry	UKD	PEDIAT //PSYCHOL //PSYCHIAT	0.000	1
1280	J Chromatogr B Biomed Appl	NLD	CHEM, ANAL	1.020	1
1281	J Clin Chem Clin Biochem	DEU	MED, RES	0.890	1
1282	J Clin Invest	USA	MED, RES	8.217	1
1283	J Clin Oncol	USA	ONCOLOGY	8.162	1
1284	J Clin Orthod	USA	ORTHOPED	0.000	1
1285	J Clin Periodontol	DEN	DENTISTRY	1.573	1
1286	J Comput Tomogr	USA	RADIOL	0.000	1
1287	J Dairy Res	UKD	AGRI, DAIR //FOOD SCI	0.969	1
1288	J Dermatol Sci	NLD	DERMATOL	0.000	1

Table 2b (continued)

1289	J Dermatol Surg Oncol	USA	DERMATOL //ONCOLOGY //SURGERY	0.555	
1290	J Dev Physiol	UKD	DEV, BIOL //PHYSIOL	0.892	
1291	J Egypt Soc Parasitol	EGY	PARASITOL	0.000	
1292	J Electron Microsc Tech	USA	BIOLOGY //MICROSCOPY	0.982	
1293	J Forensic Sci Soc	UKD	MED, LEG //PATHOLOGY	1.250	
1294	J Gen Intern Med	USA	MED, GEN	0.000	
1295	J Genet Psychol	USA	GENETICS //PSYCHOL	0.000	
1296	J Hypertens	UKD	CARDIOVASC	2.133	
1297	J Interferon Res	USA	BIOCH, MOL	0.743	
1298	J Learn Disabil	USA		0.000	1
1299	J Lipid Mediat	NLD	BIOCH, MOL	2.908	1
1300	J Med Syst	USA	MED, GEN	0.000	1
1301	J Med	USA	MED, GEN	0.000	1
1302	J Membr Biol	USA	BIOPHYS	3.436	1
1303	J Mol Endocrinol	UKD	ENDOCR	0.000	1
1304	J Mol Graph	USA	BIOCH, MOL //COMPUTER //CRYSTAL	1.603	1
1305	J Neurobiol	USA	NEUROSCI	2.015	1
1306	J Neuroradiol	FRA	NEUROSCI //RADIOL	0.000	1
1307	J Neurosci Res	USA	NEUROSCI	2.679	1
1308	J Nihon Univ Sch Dent	JPN	DENTISTRY	0.000	1
1309	J Nucl Biol Med	ITA	NUCL SCI	0.000	1
1310	J Nurse Midwifery	USA	NURSING	0.000	1
1311	J Oral Pathol	DEN	PATHOLOGY	0.000	1
1312	J Otolaryngol	CAN	OTORHINO	0.000	1
1313	J Parenter Sci Technol	USA	ENG, CHEM //PHARMACOL	0.000	1
1314	J Pediatr	USA	PEDIAT	2.377	1
1315	J Pedod	USA		0.000	1
1316	J Periodontol	USA	DENTISTRY	1.167	1
1317	J Pharmacobiodyn	JPN	PHARMACOL	0.720	1
1318	J Psychoactive Drugs	USA	PSYCHOL //PHARMACOL	0.000	1
1319	J Recept Res	USA	CYTOLOGY	0.889	1
1320	J Refract Corneal Surg	USA	OPHTHAL //SURGERY	0.000	1
1321	J Rheumatol	CAN	RHEUMATOL	1.965	1
1322	J Stud Alcohol	USA	SUB ABUSE	1.153	1
1323	J Submicrosc Cytol	ITA	MICROSCOPY //CYTOLOGY	0.000	1
1324	J Subst Abuse Treat	USA	SUB ABUSE	0.000	1
1325	J Surg Res	USA	SURGERY	1.082	1
1326	J Toxicol Sci	JPN	TOXICOL	0.000	1
1327	J Vasc Interv Radiol	USA	RADIOL	0.000	1
1328	JAMA	USA	MED, GEN	0.000	1
1329	Jinrui Idengaku Zasshi	JPN		0.000	1
1330	Jpn J Clin Oncol	JPN	ONCOLOGY	0.000	1
1331	Jpn J Genet	JPN	GENETICS	0.776	1
1332	Jpn J Psychiatry Neurol	JPN	PSYCHIAT //NEUROSCI	0.000	1
1333	Kobe J Med Sci	JPN	MED, GEN	0.000	1
1334	Lab Anim Sci	USA	VET MED	0.630	1
1335	Lasers Surg Med	USA	MED, LAB //SURGERY	1.688	1
1336	Lens Eye Toxic Res	USA	OPHTHAL //TOXICOL	0.000	1
1337	Lung	USA	RESP SYS	0.378	1
1338	Magn Reson Med	USA	RADIOL	2.935	1
1339	Magnesium	CHE	BIOCH, MOL	0.000	1
1340	Malays J Pathol	MYS	PATHOLOGY	0.000	1
1341	Med Dosim	USA		0.000	1

Table 2b (continued)

1342	Med Hist	UKD	HIS PHIL	0.186	1
1343	Med Law	ZAF	MED, LEG	0.000	1
1344	Med Phys	USA	RADIOL	1.207	1
1345	Medicine (Baltimore)	USA	MED, GEN	4.852	1
1346	Melanoma Res	UKD	ONCOLOGY	0.000	1
1347	Methods Enzymol	USA	BIOCH, MOL //CYTOLOGY	3.306	1
1348	Microbiol Rev	USA	MICROBIOL	33.250	1
1349	Microbiol Sci	USA	MICROBIOL	0.000	1
1350	Microbiologia	ESP	MICROBIOL	0.000	1
1351	Microbiologica	ITA	MICROBIOL	0.000	1
1352	Minerva Med	ITA		0.000	1
1353	Minerva Psichiatr	ITA	PSYCHIAT	0.000	1
1354	Mod Pathol	USA	PATHOLOGY	0.000	1
1355	Mol Biother	USA		0.000	1
1356	Mol Microbiol	UKD	MICROBIOL	0.000	1
1357	Mol Neurobiol	USA	NEUROSCI	4.800	1
1358	Morphol Embryol (Bucur)	ROM		0.000	1
1359	Mov Disord	USA	NEUROSCI	0.000	1
1360	Mt Sinai J Med	USA	MED, GEN	0.000	1
1361	N Engl J Med	USA	MED, GEN	23.223	1
1362	Nat Immun	CHE	IMMUNOL	0.000	1
1363	Nat Toxins	USA	TOXICOL	0.000	1
1364	Naturwissenschaften	DEU	MULTIDIS	0.782	1
1365	Neth J Med	NLD	MED, GEN	0.586	1
1366	Neurofibromatosis	CHE	NEUROSCI	0.000	1
1367	Neurologija	YUG	NEUROSCI	0.000	1
1368	Neuropsychobiology	CHE	NEUROSCI //PSYCHIAT	0.700	1
1369	Neuropsychologia	UKD	NEUROSCI //PSYCHOL	1.440	1
1370	Nucleic Acids Symp Ser	UKD	BIOCH, MOL	0.000	1
1371	Nuklearmedizin	DEU	RADIOL	0.857	1
1372	Oper Dent	USA	DENTISTRY	0.000	1
1373	Orig Life Evol Biosph	NLD	BIOLOGY	0.810	1
1374	Orthop Rev	USA	ORTHOPED	0.000	1
1375	Palliat Med	UKD	MED, GEN	0.000	1
1376	Parasite Immunol	UKD	IMMUNOL //PARASITOL	1.907	1
1377	Pathol Res Pract	DEU	PATHOLOGY	1.195	1
1378	Pediatr Dent	USA	PEDIAT //DENTISTRY	0.000	1
1379	Peptides	USA	BIOCH, MOL	2.033	1
1380	Pharmacopsychiatry	DEU	PHARMACOL //PSYCHIAT	1.107	1
1381	Pharmatherapeutica	UKD	PHARMACOL	0.000	1
1382	Philos Trans R Soc Lond [Biol]	UKD	BIOLOGY	0.000	1
1383	Physiol Bohemoslov	CSK	PHYSIOL	0.371	1
1384	Physiol Res	CSK	PHYSIOL	0.000	1
1385	Plant Physiol	USA	BOTANY	2.888	1
1386	Poult Sci	USA	AGRI, DAIR	0.819	1
1387	Proc Annu Symp Comput Appl Med Care	USA	MED, GEN	0.000	1
1388	Proc Inst Mech Eng [H]	UKD	ENG, MECH	0.000	1
1389	Proc R Soc Lond B Biol Sci	UKD	BIOLOGY	1.917	1
1390	Prog Lipid Res	UKD	BIOCH, MOL	3.238	1
1391	Prog Med Chem	NLD		0.000	1
1392	Prog Neurobiol	UKD	NEUROSCI	5.547	1
1393	Prog Neuropsychopharmacol	USA	NEUROSCI //PSYCHOL //PHARMACOL	0.000	1
1394	Prog Urol	FRA	UROL NEPH	0.000	1

Table 2b (continued)

1395	Psychiatry	USA	PSYCHIAT	0.649	:
1396	Q J Exp Psychol [A]	UKD	PSYCHOL	0.000	:
1397	Quad Sclavo Diagn	ITA		0.000	:
1398	Radiat Med	JPN	RADIOL	0.000	:
1399	Radiol Med (Torino)	ITA	RADIOL	0.000	1
1400	Radiother Oncol	NLD	ONCOLOGY //RADIOL	1.928	1
1401	Rapid Commun Mass Spectrom	UKD		0.000	1
1402	Regul Toxicol Pharmacol	USA	MED, LEG //PHARMACOL //TOXICOL	0.990	1
1403	Resuscitation	IRL	MED, MIS	0.000	1
1404	Rev Chir Orthop	FRA	ORTHOPED	0.000	1
1405	Rev Fr Gynecol Obstet	FRA	OBST GYNE	0.000	1
1406	Rev Inst Med Trop Sao Paulo	BRA	MED, GEN	0.147	1
1407	S Afr Med J	ZAF	MED, GEN	0.624	1
1408	Sangyo Ika Daigaku Zasshi	JPN		0.000	1
1409	Scand J Plast Reconstr Surg Hand Surg	SWE	SURGERY	0.447	1
1410	Scand J Urol Nephrol	SWE	UROL NEPH	0.500	1
1411	Scand J Work Environ Health	FIN	ERGONOMICS //PUB HEALTH	1.313	1
1412	Science	USA	MULTIDIS	19.607	1
1413	Semin Dermatol	USA	DERMATOL	0.000	1
1414	Semin Neurol	USA	NEUROSCI	0.000	1
1415	Semin Roentgenol	USA	RADIOL	0.737	1
1416	Sleep	USA	BEHAVIOR	1.436	1
1417	Soc Psychiatry Psychiatr Epidemiol	DEU	PSYCHIAT	0.000	1
1418	Somat Cell Mol Genet	USA	BIOCH, MOL //CYTOLOGY //GENETICS	1.721	1
1419	Springer Semin Immunopathol	DEU	IMMUNOL //PATHOLOGY	1.576	1
1420	Surg Radiol Anat	DEU	ANATOMY	0.102	1
1421	Targeted Diagn Ther	USA		0.000	1
1422	Thyroidol Clin Exp	ITA		0.000	1
1423	Thyroid	USA		0.000	1
1424	Toxicol Appl Pharmacol	USA	PHARMACOL //TOXICOL	2.328	1
1425	Trends Genet	UKD	GENETICS	9.297	1
1426	Tumour Biol	CHE	ONCOLOGY	1.258	1
1427	Ulster Med J	IRL	MED, GEN	0.000	1
1428	Undersea Biomed Res	USA	MED, MIS //OCEAN	0.829	1
1429	Urol Radiol	USA	RADIOL //UROL NEPH	0.317	1
1430	Vet Q	NLD	VET MED	0.545	1
1431	Virchows Arch B Cell Pathol	DEU	ANATOMY //CYTOLOGY //PATHOLOGY	1.360	1
1432	Virus Res	NLD	VIROLOGY	1.841	1
1433	Vox Sang	CHE	HEMATOL	1.732	1
1434	West J Med	USA	MED, GEN	0.382	1
1435	World J Urol	DEU	UROL NEPH	0.410	1
1436	World Rev Nutr Diet	UKD	NUTRI DIET	0.000	1
1437	Yen Ko Hsueh Pao	PRC		0.000	1
1438	Z Gesamte Hyg	DEU		0.000	1
1439	Z Mikrosk Anat Forsch	DEU	ANATOMY //MICROBIOL	0.145	1
1440	Zentralbl Pathol	DEU	PATHOLOGY	0.000	1
	Total				19952

Table 3a: Indian research papers covered by *Medline* Nov 1987 - Dec 1994 classified by subfields (arranged in rank order)

Sl #	Subject	# of Jrls	# of Papers	# of Jrls (No Duplicates)	# of Papers (No Duplicates)
1	MED, GEN	57	2394	52	2374
2	PEDIAT	43	1420	33	1367
3	PHARMACOL	94	1367	53	398
4	IMMUNOL	74	928	61	534
5	PATHOLOGY	48	916	21	465
6	ONCOLOGY	56	821	39	692
7	SURGERY	68	750	35	335
8	CARDIOVASC	41	663	41	663
9	GASTRO	26	606	25	537
10	NEUROSCI	101	584	88	513
11	PUB HEALTH	46	569	27	405
12	TOXICOL	42	568	16	207
13	MICROBIOL	52	553	32	365
14	DERMATOL	25	551	24	516
15	PHYSIOL	30	533	16	445
16	TROP MED	13	432	6	152
17	OBST GYNE	37	417	31	386
18	RADIOL	52	403	34	277
19	OPHTHAL	28	362	25	342
20	VET MED	30	302	22	178
21	ENDOCR	41	300	34	233
22	PARASITOL	20	292	15	251
23	UROL NEPH	25	283	21	258
24	RESP SYS	17	280	12	258
25	NUTRI DIET	20	278	15	229
26	MED, RES	38	208	25	146
27	PSYCHIAT	30	184	22	152
28	DENTISTRY	29	169	26	162
29	ANATOMY	20	149	20	149
30	OTORHINO	16	135	15	131
31	ORTHOPED	20	122	17	101
32	VIROLOGY	10	97	9	91
33	ALLERGY	8	92	8	92
34	MED, MIS	16	88	14	76
35	ANDROLOGY	4	82	4	82
36	HEMATOL	20	77	17	60
37	ANESTHES	11	67	9	61
38	PSYCHOL	19	46	11	25
39	MED, LEG	7	39	7	39
40	GERIATRICS	8	35	7	34
41	MED, LAB	7	27	7	27
42	RHEUMATOL	7	27	7	27
43	SUB ABUSE	9	24	7	16
44	EPIDEMIOL	1	2	1	2
45	NURSING	2	2	2	2
	Total	1368	18244	1013	13855

Table 3b: Indian research papers covered by *Medline* Nov 1987 - Dec 1994 classified by subfields (arranged alphabetically)

Sl #	Subject	# of Jrls	# of Papers	# of Jrls* (No Duplicates)	# of Papers
1	ALLERGY	8	92	8	92
2	ANATOMY	20	149	20	149
3	ANDROLOGY	4	82	4	82
4	ANESTHES	11	67	9	61
5	CARDIOVASC	41	663	41	663
6	DENTISTRY	29	169	26	162
7	DERMATOL	25	551	24	516
8	ENDOCR	41	300	34	233
9	EPIDEMIOL	1	2	1	2
10	GASTRO	26	606	25	537
11	GERIATRICS	8	35	7	34
12	HEMATOL	20	77	17	60
13	IMMUNOL	74	928	61	534
14	MED, GEN	57	2394	52	2374
15	MED, LAB	7	27	7	27
16	MED, LEG	7	39	7	39
17	MED, MIS	16	88	14	76
18	MED, RES	38	208	25	146
19	MICROBIOL	52	553	32	365
20	NEUROSCI	101	584	88	513
21	NURSING	2	2	2	2
22	NUTRI DIET	20	278	15	229
23	OBST GYNE	37	417	31	386
24	ONCOLOGY	56	821	39	692
25	OPHTHAL	28	362	25	342
26	ORTHOPED	20	122	17	101
27	OTORHINO	16	135	15	131
28	PARASITOL	20	292	15	251
29	PATHOLOGY	48	916	21	465
30	PEDIAT	43	1420	33	1367
31	PHARMACOL	94	1367	53	398
32	PHYSIOL	30	533	16	445
33	PSYCHIAT	30	184	22	152
34	PSYCHOL	19	46	11	25
35	PUB HEALTH	46	569	27	405
36	RADIOL	52	403	34	277
37	RESP SYS	17	280	12	258
38	RHEUMATOL	7	27	7	27
39	SUB ABUSE	9	24	7	16
40	SURGERY	68	750	35	335
41	TOXICOL	42	568	16	207
42	TROP MED	13	432	6	152
43	UROL NEPH	25	283	21	258
44	VET MED	30	302	22	178
45	VIROLOGY	10	97	9	91
		1368	18244	1013	13855

* Whenever a journal is included in more than one subfield, to avoid duplicate counting, it is taken into account under only one category (which is given as the first subfield in Table 2) often, this happens to be the category which has alphabetical precedence.

Table 4: India's constribution to journal literature of medicine, categorised by subfield

Subject	Journal Name	Country	# of Papers
ALLERGY			
	Allergy	DEN	7
	Ann Allergy	USA	7
	Asian Pac J Allergy Immunol	THA	15
	Clin Exp Allergy	UKD	6
	Contact Dermatitis	DEN	35
	Int Arch Allergy Appl Immunol	CHE	10
	Int Arch Allergy Immunol	CHE	6
	J Allergy Clin Immunol	USA	6
			92
ANATOMY & MORPHOLOGY			
	Acta Anat (Basel)	CHE	24
	Acta Morphol Hung	HUN	3
	Acta Morphol Neerl Scand	NLD	2
	Anat Anz	DEU	8
	Anat Rec	USA	14
	Arch Anat Histol Embryol	FRA	3
	Arch Anat Microsc Morphol Exp	FRA	1
	Arch Ital Anat Embriol	ITA	2
	Clin Dysmorphol	UKD	1
	Eur J Morphol	NLD	3
	Folia Morphol (Praha)	CSK	13
	Funct Dev Morphol	CSK	21
	Gegenbaurs Morphol Jahrb	DEU	11
	J Anat	UKD	18
	J Morphol	USA	4
	J Pineal Res	USA	16
	Okajimas Folia Anat Jpn	JPN	2
	Surg Radiol Anat	DEU	1
	Virchows Arch B Cell Pathol	DEU	1
	Z Mikrosk Anat Forsch	DEU	1
			149
ANDROLOGY			
	Andrologia	DEU	33
	Arch Androl	USA	23
	Int J Androl	UKD	24
	J Androl	USA	2
			82
ANESTHESIOLOGY			
	Acta Anaesthesiol Scand	DEN	3
	Anaesth Intensive Care	AUS	11
	Anaesthesia	UKD	25
	Anesth Analg	USA	3

Table 4 (continued)

Anesthesiology	USA	3
Br J Anaesth	UKD	4
Can J Anaesth	CAN	7
Eur J Anaesthesiol	UKD	2
J Cardiothorac Vasc Anesth	USA	2
J Neurosurg Anesthesiol	USA	4
Reg Anesth	USA	3
		67
CARDIOVASCULAR SYSTEM		
Acta Cardiol	BEL	7
Am Heart J	USA	51
Am J Cardiol	USA	21
Am J Cardiovasc Pathol	USA	1
Atherosclerosis	NLD	6
Br Heart J	UKD	9
Can J Cardiol	CAN	2
Cardiology	CHE	4
Cardioscience	ITA	3
Cardiovasc Drugs Ther	USA	1
Cardiovasc Intervent Radiol	USA	13
Cardiovasc Res	UKD	2
Cardiovasc Surg	UKD	2
Cathet Cardiovasc Diagn	USA	17
Circulation	USA	6
Clin Cardiol	USA	13
Eur Heart J	UKD	4
Eur J Cardiothorac Surg	DEU	1
Heart Vessels Suppl	JPN	4
Indian Heart J	IND	234
Int J Card Imaging	USA	1
Int J Cardiol	NLD	186
J Am Coll Cardiol	USA	4
J Cardiothorac Vasc Anesth	USA	2
J Cardiovasc Pharmacol	USA	1
J Cardiovasc Surg (Torino)	ITA	5
J Heart Valve Dis	UKD	2
J Hum Hypertens	UKD	2
J Hypertens	UKD	1
J Mol Cell Cardiol	UKD	2
J Thorac Cardiovasc Surg	USA	4
Jpn Heart J	JPN	15
Microvasc Res	USA	2
Monogr Atheroscler	CHE	2
PACE Pacing Clin Electrophysiol	USA	3
Pediatr Cardiol	USA	4
Respir Med	UKD	6
Stroke	USA	3

Table 4 (continued)

Tex Heart Inst J	USA	2
Thorac Cardiovasc Surg	DEU	7
Thromb Res	USA	8
		663

DENTISTRY & ODONTOLOGY

ASDC J Dent Child	USA	1
Am J Orthod Dentofacial Orthop	USA	2
Angle Orthod	USA	1
Ann Dent	USA	9
Arch Oral Biol	UKD	1
Aust Dent J	AUS	1
Br J Oral Maxillofac Surg	UKD	5
Bull Kanagawa Dent Coll	JPN	1
Cleft Palate Craniofac J	USA	1
Community Dent Oral Epidemiol	DEN	4
Endod Dent Traumatol	DEN	3
Fed Oper Dent	IND	12
Indian J Dent Res	IND	27
Int J Oral Maxillofac Surg	DEN	12
J Clin Pediatr Dent	USA	3
J Clin Periodontol	DEN	1
J Craniomaxillofac Surg	DEU	3
J Endod	USA	2
J Indian Dent Assoc	IND	11
J Indian Soc Pedod Prev Dent	IND	28
J Nihon Univ Sch Dent	JPN	1
J Oral Maxillofac Surg	USA	5
J Oral Pathol Med	DEN	10
J Periodontol	USA	1
J Prosthet Dent	USA	3
Oper Dent	USA	1
Oral Surg Oral Med Oral Pathol	USA	16
Pediatr Dent	USA	1
Singapore Dent J	SGP	3
		169

DERMATOLOGY & VENEREAL DISEASES

Acta Derm Venereol	NOR	1
Acta Derm Venereol (Stockh)	SWE	4
Acta Leprol	CHE	20
Arch Dermatol	USA	4
Arch Dermatol Res	DEU	3
Australas J Dermatol	AUS	5
Br J Dermatol	UKD	3
Clin Dermatol	USA	2
Clin Exp Dermatol	UKD	6
Contact Dermatitis	DEN	35
Cutis	USA	11
Dermatologica	CHE	3
Dermatology	CHE	2
Genitourin Med	UKD	14
Indian J Dermatol	IND	9

Table 4 (continued)

Indian J Lepr	IND	237
Int J Dermatol	USA	101
J Am Acad Dermatol	USA	1
J Cutan Pathol	DEN	2
J Dermatol	JPN	22
J Dermatol Sci	NLD	1
J Dermatol Surg Oncol	USA	1
Lepr Rev	UKD	44
Mycoses	DEU	19
Semin Dermatol	USA	1
		551

ENDOCRINOLOGY & METABOLISM

Acta Diabetol	DEU	1
Acta Diabetol Lat	ITA	9
Acta Endocrinol (Copenh)	DEN	9
Ann Nutr Metab	CHE	17
Baillieres Clin Endocrinol Metab	UKD	1
Calcif Tissue Int	USA	3
Clin Endocrinol (Oxf)	UKD	2
Diabet Med	UKD	2
Diabetes	USA	1
Diabetes Care	USA	3
Diabetes Res Clin Pract	NLD	10
Diabetologia	DEU	4
Endocr Res	USA	8
Endocrinol Exp	CSK	3
Endocrinol Jpn	JPN	6
Endocrinology	USA	2
Eur J Endocrinol	NOR	1
Exp Clin Endocrinol	DEU	12
Gen Comp Endocrinol	USA	55
Horm Metab Res	DEU	17
Horm Res	CHE	3
Int J Pancreatol	USA	3
J Clin Endocrinol Metab	USA	2
J Diabet Complications	USA	2
J Endocrinol	UKD	11
J Endocrinol Invest	ITA	4
J Mol Endocrinol	UKD	1
J Pineal Res	USA	16
J Steroid Biochem	UKD	7
J Steroid Biochem Mol Biol	UKD	9
Metab Brain Dis	USA	2
Metabolism	USA	7
Mol Cell Endocrinol	NLD	4
Pancreas	USA	4
Prostaglandins	USA	3
Prostaglandins Leukot Essent Fatty Acids	UKD	13
Prostate	USA	9

Table 4 (continued)

Regul Pept	NLD	3
Reprod Fertil Dev	AUS	3
Reprod Nutr Dev	FRA	2
Steroids	USA	26
		300

EPIDEMIOLOGY

J Clin Epidemiol	UKD	2
		2

GASTROENTEROLOGY & HEPATOLOGY

Abdom Imaging	USA	6
Am J Gastroenterol	USA	53
Arq Gastroenterol	BRA	1
Baillieres Clin Gastroenterol	UKD	1
Dig Dis	CHE	1
Dig Dis Sci	USA	12
Digestion	CHE	3
Dis Colon Rectum	USA	8
Endod Dent Traumatol	DEN	3
Endoscopy	DEU	4
Gastroenterol Jpn	JPN	18
Gastroenterology	USA	6
Gastrointest Endosc	USA	24
Gastrointest Radiol	USA	11
Gut	UKD	31
Hepatogastroenterology	DEU	3
Hepatology	USA	10
Indian J Gastroenterol	IND	235
Ital J Gastroenterol	ITA	2
J Clin Gastroenterol	USA	24
J Gastroenterol Hepatol	AUS	45
J Hepatol	NLD	4
J Pediatr Gastroenterol Nutr	USA	18
Liver	DEN	5
Scand J Gastroenterol	NOR	9
Trop Gastroenterol	IND	69
		606

GERIATRICS & GERONTOLOGY

Age Ageing	UKD	1
Aging (Milano)	ITA	1
Arch Gerontol Geriatr	NLD	4
Compr Gerontol [A]	DEN	1
Exp Gerontol	UKD	1
Gerontology	CHE	11
Growth Dev Aging	USA	1
Mech Ageing Dev	CHE	15
		35

Table 4 (continued)

HEMATOLOGY

Acta Haematol	CHE	7
Am J Hematol	USA	9
Am J Pediatr Hematol Oncol	USA	2
Ann Hematol	DEU	2
Blood Coagul Fibrinolysis	UKD	1
Blut	DEU	1
Br J Haematol	UKD	3
Circulation	USA	6
Clin Lab Haematol	UKD	1
Eur J Haematol	DEN	1
Haematologia (Budap)	HUN	2
Hematol Oncol	UKD	4
Hematol Pathol	USA	1
Hemoglobin	USA	3
Leuk Lymphoma	CHE	4
Leuk Res	UKD	16
Nouv Rev Fr Hematol	DEU	2
Pediatr Hematol Oncol	USA	3
Thromb Res	USA	8
Vox Sang	CHE	1
		77

IMMUNOLOGY

AIDS	USA	1
AIDS Care	UKD	1
APMIS	DEN	12
Acta Leprol	CHE	20
Am J Reprod Immunol	DEN	5
Am J Reprod Immunol Microbiol	USA	5
Ann Inst Pasteur Immunol	FRA	1
Arch Immunol Ther Exp (Warsz)	POL	7
Asian Pac J Allergy Immunol	THA	15
Autoimmunity	CHE	1
Cancer Immunol Immunother	DEU	7
Cell Immunol	USA	5
Clin Exp Immunol	UKD	22
Clin Immunol Immunopathol	USA	5
Comp Immunol Microbiol Infect Dis	UKD	12
Crit Rev Immunol	USA	1
Curr Opin Immunol	UKD	4
Dev Comp Immunol	USA	10
Diagn Clin Immunol	USA	2
Eur J Clin Microbiol Infect Dis	DEU	1
Eur J Immunol	DEU	4
FEMS Immunol Med Microbiol	NLD	4
FEMS Microbiol Immunol	NLD	8
Hindustan Antibiot Bull	IND	33
Hum Immunol	USA	2
Hybridoma	USA	9
Immunol Cell Biol	AUS	13
Immunol Invest	USA	15

Table 4 (continued)

Immunol Lett	NLD	29
Immunology	UKD	14
Immunopharmacol Immunotoxicol	USA	19
Immunopharmacology	NLD	3
Indian J Lepr	IND	237
Infect Immun	USA	14
Infection	DEU	4
Int Arch Allergy Appl Immunol	CHE	10
Int Arch Allergy Immunol	CHE	6
Int Immunol	UKD	2
Int J Immunopharmacol	UKD	20
Int J STD AIDS	UKD	8
J Acquir Immune Defic Syndr	USA	4
J Allergy Clin Immunol	USA	6
J Antibiot (Tokyo)	JPN	12
J Autoimmun	UKD	1
J Cancer Educ	USA	2
J Clin Immunol	USA	4
J Clin Lab Immunol	ITA	5
J Hyg Epidemiol Microbiol Immunol	CSK	28
J Immunoassay	USA	18
J Immunol	USA	4
J Immunol Methods	NLD	17
J Infect	UKD	9
J Infect Dis	USA	10
J Neuroimmunol	NLD	3
J Reprod Immunol	NLD	17
Lepr Rev	UKD	44
Med Microbiol Immunol (Berl)	DEU	15
Microb Pathog	UKD	4
Microbiol Immunol	JPN	14
Mol Immunol	UKD	8
Nat Immun	CHE	1
Nat Immun Cell Growth Regul	CHE	5
Parasite Immunol	UKD	1
Prog Vet Microbiol Immunol	CHE	3
Rev Infect Dis	USA	9
Scand J Immunol	UKD	5
Scand J Infect Dis	SWE	5
Springer Semin Immunopathol	DEU	1
Thymus	NLD	6
Tissue Antigens	DEN	7
Transplant Proc	USA	22
Transplantation	USA	12
Vaccine	UKD	26
Vet Immunol Immunopathol	NLD	9
		928

MEDICINE, GENERAL & INTERNAL

Am J Chin Med	USA	1
Am J Med	USA	4
Am J Med Sci	USA	1
Am J Prev Med	USA	1

Table 4 (continued)

Ann Acad Med Singapore	SGP	18
Ann Intern Med	USA	1
Ann Med	FIN	1
Aust N Z J Med	AUS	4
BMJ	UKD	18
Br J Clin Pract	UKD	10
Br Med J (Clin Res Ed)	UKD	6
Ceylon Med J	LKA	3
Ciba Found Symp	NLD	4
Curr Med Res Opin	UKD	3
Diabetes	USA	1
Diabetes Care	USA	3
Diabetes Res Clin Pract	NLD	10
Diabetologia	DEU	4
East Afr Med J	KEN	1
Fam Pract	UKD	1
Indian J Med Res	IND	569
Indian J Med Sci	IND	119
Isr J Med Sci	ISR	1
J Assoc Physicians India	IND	705
J Clin Epidemiol	UKD	2
J Gen Intern Med	USA	1
J Indian Med Assoc	IND	396
J Intern Med	UKD	3
J Korean Med Sci	KOR	3
J Med	USA	1
J Med Syst	USA	1
J Postgrad Med	IND	254
J R Soc Med	UKD	2
JAMA	USA	1
JPMA J Pak Med Assoc	PAK	5
Jpn J Med	JPN	2
Jpn J Med Sci Biol	JPN	8
Kobe J Med Sci	JPN	1
Lancet	UKD	22
Medicine (Baltimore)	USA	1
Mt Sinai J Med	USA	1
N Engl J Med	USA	1
Natl Med J India	IND	108
Neth J Med	NLD	1
Online J Curr Clin Trials	USA	2
Palliat Med	UKD	1
Panminerva Med	ITA	7
Postgrad Med	USA	3
Postgrad Med J	UKD	58
Proc Annu Symp Comput Appl Med Care	USA	1
Q J Med	UKD	6
Rev Inst Med Trop Sao Paulo	BRA	1
S Afr Med J	ZAF	1
Singapore Med J	SGP	7

Table 4 (continued)

South Med J	USA	2
Ulster Med J	IRL	1
West J Med	USA	1
		2394

MEDICAL LABORATORY TECHNOLOGY

Arch Pathol Lab Med	USA	1
Crit Rev Clin Lab Sci	USA	1
Diagn Microbiol Infect Dis	USA	5
J Clin Lab Anal	USA	9
J Clin Lab Immunol	ITA	5
Lasers Surg Med	USA	1
Med Lab Sci	UKD	5
		27

MEDICINE, LEGAL

Am J Forensic Med Pathol	USA	4
Forensic Sci Int	CHE	22
J Forensic Sci	USA	2
J Forensic Sci Soc	UKD	1
Med Law	ZAF	1
Med Sci Law	UKD	8
Regul Toxicol Pharmacol	USA	1
		39

MEDICINE, MISCELLANEOUS

Acad Med	USA	1
Am J Emerg Med	USA	1
Anaesth Intensive Care	AUS	11
Arch Emerg Med	UKD	2
Arch Phys Med Rehabil	USA	1
Aviat Space Environ Med	USA	6
Biofeedback Self Regul	USA	1
Br J Sports Med	UKD	4
Burns	UKD	32
Burns Incl Therm Inj	UKD	2
Crit Care Med	USA	5
J Emerg Med	USA	3
J Hosp Infect	USA	13
J Sports Med Phys Fitness	ITA	4
Resuscitation	IRL	1
Undersea Biomed Res	USA	1
		88

MEDICINE, RESEARCH & EXPERIMENTAL

Acta Med Okayama	JPN	1
Adv Exp Med Biol	USA	5
Ann Biol Clin (Paris)	FRA	2
Ann Clin Biochem	UKD	2
Arch Invest Med (Mex)	MEX	1
Arch Med Res	MEX	4

Table 4 (continued)

Arch Pathol Lab Med	USA	1
Basic Life Sci	USA	1
Biochem Med Metab Biol	USA	34
Biofactors	UKD	1
Biologicals	UKD	4
Biomed Pharmacother	FRA	1
Bioorg Med Chem	UKD	2
Blood Coagul Fibrinolysis	UKD	1
Braz J Med Biol Res	BRA	2
Clin Biochem	CAN	2
Clin Chem	USA	6
Clin Chim Acta	NLD	15
Clin Sci (Colch)	UKD	3
Curr Med Res Opin	UKD	3
Eur J Clin Chem Clin Biochem	DEU	3
Eur J Clin Invest	UKD	2
J Biol Regul Homeost Agents	USA	5
J Biomater Sci Polym Ed	NLD	1
J Clin Chem Clin Biochem	DEU	1
J Clin Invest	USA	1
J Int Med Res	UKD	3
Jpn J Exp Med	JPN	15
Life Sci	UKD	35
Magnes Trace Elem	CHE	4
Med Hypotheses	UKD	17
Med Res Rev	USA	4
Mem Inst Oswaldo Cruz	BRA	3
Mol Cell Probes	UKD	2
Proc Soc Exp Biol Med	USA	4
Res Exp Med (Berl)	DEU	9
Scand J Clin Lab Invest	UKD	2
Sel Cancer Ther	USA	6
		208

MICROBIOLOGY

APMIS	DEN	12
Acta Microbiol Hung	HUN	19
Acta Microbiol Pol	POL	7
Adv Appl Microbiol	USA	5
Ann Inst Pasteur Microbiol	FRA	2
Antimicrob Agents Chemother	USA	9
Antonie Van Leeuwenhoek	NLD	11
Appl Environ Microbiol	USA	20
Arch Microbiol	DEU	7
Can J Microbiol	CAN	16
Comp Immunol Microbiol Infect Dis	UKD	12
Crit Rev Microbiol	USA	4
Diagn Microbiol Infect Dis	USA	5
Epidemiol Infect	UKD	17
Eur J Clin Microbiol Infect Dis	DEU	1
FEMS Immunol Med Microbiol	NLD	4
FEMS Microbiol Immunol	NLD	8

Table 4 (continued)

FEMS Microbiol Lett	NLD	53
Folia Microbiol (Praha)	CSK	44
Gen Physiol Biophys	CSK	1
Infection	DEU	4
Int J Med Microbiol	DEU	12
Int J Med Microbiol Virol Parasitol Infect Dis	DEU	6
J Antimicrob Chemother	UKD	7
J Appl Bacteriol	UKD	18
J Bacteriol	USA	24
J Basic Microbiol	DEU	6
J Clin Microbiol	USA	21
J Eukaryot Microbiol	USA	2
J Gen Microbiol	UKD	23
J Hyg Epidemiol Microbiol Immunol	CSK	28
J Infect	UKD	9
J Med Microbiol	UKD	40
Med Microbiol Immunol (Berl)	DEU	15
Microb Pathog	UKD	4
Microbiol Immunol	JPN	14
Microbiol Rev	USA	1
Microbiol Sci	USA	1
Microbiologia	ESP	1
Microbiologica	ITA	1
Microbiology	UKD	3
Microbios	UKD	9
Mol Microbiol	UKD	1
Prog Vet Microbiol Immunol	CHE	3
Res Microbiol	FRA	4
Rev Infect Dis	USA	9
Vet Microbiol	NLD	11
Yeast	UKD	3
Z Mikrosk Anat Forsch	DEU	1
Zentralbl Bakteriol Mikrobiol Hyg [A]	DEU	6
Zentralbl Hyg Umweltmed	DEU	2
Zentralbl Mikrobiol	DEU	7
		553

NEUROSCIENCES

AJNR Am J Neuroradiol	USA	4
Act Nerv Super (Praha)	CSK	2
Acta Neurobiol Exp (Warsz)	POL	1
Acta Neurochir (Wien)	AUT	30
Acta Neurol (Napoli)	ITA	2
Acta Neurol Belg	BEL	2
Acta Neurol Scand	DEN	22
Acta Neuropathol (Berl)	DEU	2
Adv Neurol	USA	1
Ann Neurol	USA	1
Arch Neurol	USA	2
Behav Brain Res	NLD	1
Behav Genet	USA	2

Table 4 (continued)

Behav Neural Biol	USA	2
Br J Neurosurg	USA	44
Brain	UKD	1
Brain Behav Evol	CHE	1
Brain Dev	JPN	1
Brain Lang	USA	1
Brain Res	NLD	26
Brain Res Bull	USA	9
Brain Res Dev Brain Res	NLD	1
Brain Res Mol Brain Res	NLD	1
Childs Nerv Syst	DEU	17
Clin J Pain	USA	1
Clin Neurol Neurosurg	ITA	30
Clin Neuropharmacol	USA	2
Cortex	ITA	1
Crit Rev Neurobiol	USA	1
Curr Opin Neurobiol	UKD	1
Dev Neurosci	CHE	2
Electroencephalogr Clin Neurophysiol	IRL	2
Electromyogr Clin Neurophysiol	BEL	6
Epilepsia	USA	14
Epilepsy Res	NLD	1
Eur Arch Psychiatry Clin Neurosci	DEU	1
Exp Brain Res	DEU	1
Exp Neurol	USA	3
Funct Neurol	ITA	2
Headache	USA	1
Hum Neurobiol	DEU	1
Int J Dev Neurosci	UKD	10
Int J Neurosci	UKD	10
Int J Psychophysiol	NLD	2
Ital J Neurol Sci	ITA	2
J Auton Nerv Syst	NLD	1
J Clin Neuroophthalmol	USA	6
J Hirnforsch	DEU	4
J Ment Defic Res	UKD	3
J Neural Transm Gen Sect	AUT	8
J Neural Transplant Plast	UKD	2
J Neurobiol	USA	1
J Neurochem	USA	11
J Neurogenet	UKD	3
J Neuroimmunol	NLD	3
J Neurol	DEU	3
J Neurol Neurosurg Psychiatry	UKD	16
J Neurol Sci	NLD	9
J Neurooncol	NLD	4
J Neuroradiol	FRA	1
J Neurosci Methods	NLD	3
J Neurosci Res	USA	1
J Neurosurg	USA	13
J Neurosurg Anesthesiol	USA	4
J Neurosurg Sci	ITA	3
J Pineal Res	USA	16

Table 4 (continued)

Jpn J Psychiatry Neurol	JPN	1
Metab Brain Dis	USA	2
Mol Chem Neuropathol	USA	4
Mol Neurobiol	USA	1
Mov Disord	USA	1
Neurobiol Aging	USA	3
Neurochem Int	UKD	9
Neurochem Res	USA	15
Neurochirurgia (Stuttg)	DEU	2
Neuroepidemiology	CHE	9
Neurofibromatosis	CHE	1
Neurol Res	UKD	5
Neurologija	YUG	1
Neurology	USA	7
Neuropsychobiology	CHE	1
Neuropsychologia	UKD	1
Neuroradiology	DEU	18
Neuroreport	UKD	10
Neurosci Lett	NLD	30
Neurosci Res	IRL	4
Neuroscience	UKD	5
Neurosurgery	USA	15
Neurotoxicol Teratol	USA	2
Neurotoxicology	USA	2
Pain	NLD	3
Paraplegia	UKD	15
Pediatr Neurosurg	CHE	3
Prog Neurobiol	UKD	1
Prog Neuropsychopharmacol	USA	1
Prog Neuropsychopharmacol Biol Psychiatry	UKD	7
Psychopharmacology (Berl)	DEU	4
Semin Neurol	USA	1
Stroke	USA	3
Surg Neurol	USA	9
Vision Res	UKD	3
		584

NURSING

Int Nurs Rev	CHE	1
J Nurse Midwifery	USA	1
		2

NUTRITION & DIETETICS

Am J Clin Nutr	USA	9
Ann Nutr Metab	CHE	17
Arch Latinoam Nutr	VEN	2
Br J Nutr	UKD	25
Crit Rev Food Sci Nutr	USA	11
Drug Nutr Interact	USA	1
Eur J Clin Nutr	UKD	29
Int J Vitam Nutr Res	CHE	25
J Am Coll Nutr	USA	6

Table 4 (continued)

J Nutr	USA	4
J Nutr Sci Vitaminol (Tokyo)	JPN	6
J Pediatr Gastroenterol Nutr	USA	18
Nutr Cancer	USA	8
Nutrition	USA	12
Plant Foods Hum Nutr	NLD	95
Proc Nutr Soc	UKD	2
Prog Food Nutr Sci	UKD	2
Reprod Nutr Dev	FRA	2
World Rev Nutr Diet	UKD	1
Z Ernahrungswiss	DEU	3
		278

OBSTETRICS & GYNECOLOGY

Acta Eur Fertil	ITA	31
Acta Obstet Gynecol Scand	SWE	6
Adolescence	USA	1
Adv Contracept	NLD	7
Am J Obstet Gynecol	USA	2
Am J Reprod Immunol	DEN	5
Am J Reprod Immunol Microbiol	USA	5
Arch Gynecol Obstet	DEU	1
Asia Oceania J Obstet Gynaecol	JPN	30
Aust N Z J Obstet Gynaecol	AUS	32
Biol Reprod	USA	8
Birth Defects	USA	9
Br J Obstet Gynaecol	UKD	10
Clin Reprod Fertil	UKD	1
Contraception	USA	83
Contrib Gynecol Obstet	CHE	1
Early Hum Dev	NLD	1
Eur J Gynaecol Oncol	ITA	8
Eur J Obstet Gynecol Reprod Biol	NLD	4
Fertil Steril	USA	4
Gamete Res	USA	2
Gynecol Obstet Invest	CHE	7
Gynecol Oncol	USA	8
Hum Reprod	UKD	12
Int J Fertil	SWE	21
Int J Gynaecol Obstet	SWE	58
Int J Gynecol Pathol	USA	1
J In Vitro Fert Embryo Transf	USA	2
J Psychosom Obstet Gynaecol	UKD	2
J Reprod Fertil	UKD	19
J Reprod Med	USA	4
Obstet Gynecol	USA	2
Placenta	UKD	3
Reprod Toxicol	USA	14

Table 4 (continued)

Rev Fr Gynecol Obstet	FRA	1
Stud Fam Plann	USA	7
Surg Gynecol Obstet	USA	5
		417

ONCOLOGY

Acta Oncol	SWE	20
Am J Clin Oncol	USA	5
Am J Pediatr Hematol Oncol	USA	2
Ann Oncol	NLD	1
Anticancer Drug Des	UKD	2
Anticancer Drugs	UKD	10
Anticancer Res	GRC	4
Br J Cancer	UKD	19
Bull Cancer (Paris)	FRA	1
Cancer	USA	31
Cancer Biochem Biophys	UKD	3
Cancer Causes Control	UKD	1
Cancer Detect Prev Suppl	USA	1
Cancer Genet Cytogenet	USA	12
Cancer Immunol Immunother	DEU	7
Cancer Invest	USA	1
Cancer Lett	NLD	97
Cancer Res	USA	1
Carcinogenesis	USA	22
Chemotherapy	CHE	9
Clin Oncol (R Coll Radiol)	UKD	7
Eur J Cancer	UKD	4
Eur J Cancer B Oral Oncol	UKD	6
Eur J Cancer Clin Oncol	UKD	1
Eur J Cancer Prev	UKD	2
Eur J Gynaecol Oncol	ITA	8
Eur J Surg Oncol	UKD	3
Exp Cell Res	USA	10
Gynecol Oncol	USA	8
Hematol Oncol	UKD	4
Indian J Cancer	IND	167
Int J Cancer	USA	21
Int J Radiat Oncol Biol Phys	USA	15
J Cancer Res Clin Oncol	DEU	19
J Clin Oncol	USA	1
J Dermatol Surg Oncol	USA	1
J Environ Pathol Toxicol Oncol	USA	15
J Natl Cancer Inst	USA	3
J Neurooncol	NLD	4
J Surg Oncol	USA	82
Jpn J Cancer Res	JPN	5
Jpn J Clin Oncol	JPN	1
Leuk Res	UKD	16
Med Oncol Tumor Pharmacother	UKD	2
Med Pediatr Oncol	USA	2
Melanoma Res	UKD	1
Neoplasma	CSK	65
Nutr Cancer	USA	8

Table 4 (continued)

Oncology	CHE	21
Radiother Oncol	NLD	1
Sel Cancer Ther	USA	6
Semin Surg Oncol	USA	15
Strahlenther Onkol	DEU	24
Teratogenesis Carcinog Mutagen	USA	7
Tumori	ITA	16
Tumour Biol	CHE	1
		821

OPHTHALMOLOGY

Acta Ophthalmol (Copenh)	DEN	42
Am J Ophthalmol	USA	6
Ann Ophthalmol	USA	27
Arch Ophthalmol	USA	6
Aust N Z J Ophthalmol	AUS	8
Br J Ophthalmol	UKD	16
Can J Ophthalmol	CAN	15
Convuls Ther	USA	2
Cornea	USA	5
Curr Eye Res	UKD	3
Dev Ophthalmol	CHE	6
Doc Ophthalmol	NLD	3
Exp Eye Res	UKD	2
Eye	UKD	3
Ger J Ophthalmol	DEU	1
Graefes Arch Clin Exp Ophthalmol	DEU	1
Indian J Ophthalmol	IND	152
Int Ophthalmol	NLD	1
J Cataract Refract Surg	USA	6
J Clin Neuroophthalmol	USA	6
J Pediatr Ophthalmol Strabismus	USA	11
J Refract Corneal Surg	USA	1
Jpn J Ophthalmol	JPN	6
Lens Eye Toxic Res	USA	1
Ophthalmic Paediatr Genet	NLD	2
Ophthalmic Surg	USA	25
Ophthalmology	USA	2
Vision Res	UKD	3
		362

ORTHOPEDICS

Acta Orthop Belg	BEL	1
Acta Orthop Scand	DEN	10
Arch Orthop Trauma Surg	DEU	7
Bone	USA	1
Calcif Tissue Int	USA	3
Foot Ankle	USA	4
Int J Orthod	USA	2
Int Orthop	DEU	26
Ital J Orthop Traumatol	ITA	1

Table 4 (continued)

J Bone Joint Surg [Am]	USA	5
J Bone Joint Surg [Br]	UKD	20
J Clin Orthod	USA	1
J Orthop Trauma	USA	9
J Pediatr Orthop	USA	3
Orthop Rev	USA	1
Orthopedics	USA	4
Paraplegia	UKD	15
Prosthet Orthot Int	DEN	3
Rev Chir Orthop	FRA	1
Spine	USA	5
		122

OTORHINOLARYNGOLOGY

Acta Otolaryngol (Stockh)	SWE	2
Adv Otorhinolaryngol	CHE	1
Am J Otol	USA	1
Am J Otolaryngol	USA	1
Ann Otol Rhinol Laryngol	USA	2
Arch Otolaryngol Head Neck Surg	USA	4
Auris Nasus Larynx	JPN	6
Br J Audiol	UKD	1
Clin Otolaryngol	UKD	1
Ear Nose Throat J	USA	11
Eur Arch Otorhinolaryngol	DEU	1
Int J Pediatr Otorhinolaryngol	NLD	9
J Laryngol Otol	UKD	88
J Otolaryngol	CAN	1
Laryngoscope	USA	4
Otolaryngol Head Neck Surg	USA	2
		135

PARASITOLOGY

Acta Trop	NLD	2
Acta Trop (Basel)	CHE	17
Angew Parasitol	DEU	10
Ann Trop Med Parasitol	UKD	44
Appl Parasitol	DEU	1
Bol Chil Parasitol	CHL	6
Exp Parasitol	USA	8
Folia Parasitol (Praha)	CSK	19
Int J Med Microbiol Virol Parasitol Infect Dis	DEU	6
Int J Parasitol	UKD	28
J Egypt Soc Parasitol	EGY	1
J Helminthol	UKD	29
J Parasitol	USA	15
Mol Biochem Parasitol	NLD	15
Parasite Immunol	UKD	1
Parasitol Res	DEU	5

Table 4 (continued)

Parasitology	UKD	13
Parassitologia	ITA	2
Trop Med Parasitol	DEU	32
Vet Parasitol	NLD	38
		292

PATHOLOGY

APMIS	DEN	12
Acta Leprol	CHE	20
Am J Cardiovasc Pathol	USA	1
Am J Clin Pathol	USA	4
Am J Forensic Med Pathol	USA	4
Arch Pathol Lab Med	USA	1
Br J Exp Pathol	UKD	2
Clin Immunol Immunopathol	USA	5
Cytopathology	UKD	6
Diagn Cytopathol	USA	42
Dis Markers	NLD	1
Exp Mol Pathol	USA	11
Exp Pathol	DEU	8
Hematol Pathol	USA	1
Histopathology	UKD	6
Hum Pathol	USA	3
Indian J Lepr	IND	237
Indian J Pathol Microbiol	IND	279
Int J Exp Pathol	UKD	15
Int J Gynecol Pathol	USA	1
Int J Lepr Other Mycobact Dis	USA	85
J Clin Pathol	UKD	8
J Comp Pathol	UKD	7
J Cutan Pathol	DEN	2
J Environ Pathol Toxicol Oncol	USA	15
J Exp Pathol	USA	8
J Exp Pathol (Oxford)	UKD	2
J Forensic Sci Soc	UKD	1
J Oral Pathol	DEN	1
J Oral Pathol Med	DEN	10
J Pathol	UKD	3
J Submicrosc Cytol Pathol	ITA	4
Lepr Rev	UKD	44
Malays J Pathol	MYS	1
Med Sci Law	UKD	8
Mod Pathol	USA	1
Mol Chem Neuropathol	USA	4
Oral Surg Oral Med Oral Pathol	USA	16
Pathobiology	CHE	2
Pathol Res Pract	DEU	1
Pathology	AUS	8
Pediatr Pathol	USA	3
Res Commun Chem Pathol Pharmacol	USA	15
Rev Int Trach Pathol Ocul Trop Subtrop Sante Publique	FRA	2

Springer Semin Immunopathol	DEU	1
Ultrastruct Pathol	USA	3
Virchows Arch B. Cell Pathol	DEU	1
Zentralbl Pathol	DEU	1
		916

PEDIATRICS

ASDC J Dent Child	USA	1
Acta Paediatr	NOR	6
Acta Paediatr Hung	HUN	1
Acta Paediatr Jpn	JPN	1
Acta Paediatr Scand	SWE	20
Acta Paedopsychiatr	DEU	1
Am J Dis Child	USA	4
Am J Pediatr Hematol Oncol	USA	2
Ann Trop Paediatr	UKD	43
Arch Dis Child	UKD	8
Aust Paediatr J	AUS	2
Biol Neonate	CHE	3
Child Nephrol Urol	CHE	2
Child Welfare	USA	1
Childs Nerv Syst	DEU	17
Clin Pediatr (Phila)	USA	9
Early Hum Dev	NLD	1
Eur J Pediatr	DEU	1
Indian J Pediatr	IND	287
Indian Pediatr	IND	801
J Child Lang	UKD	1
J Child Psychol Psychiatry	UKD	1
J Clin Pediatr Dent	USA	3
J Paediatr Child Health	AUS	2
J Pediatr	USA	1
J Pediatr Gastroenterol Nutr	USA	18
J Pediatr Ophthalmol Strabismus	USA	11
J Pediatr Orthop	USA	3
J Pediatr Surg	USA	44
J Trop Pediatr	UKD	58
Med Pediatr Oncol	USA	2
Ophthalmic Paediatr Genet	NLD	2
Pediatr Cardiol	USA	4
Pediatr Dent	USA	1
Pediatr Dermatol	USA	10
Pediatr Hematol Oncol	USA	3
Pediatr Infect Dis J	USA	8
Pediatr Nephrol	DEU	8
Pediatr Neurosurg	CHE	3
Pediatr Pathol	USA	3
Pediatr Radiol	DEU	18
Pediatr Res	USA	2
Z Kinderchir	DEU	3
		1420

Table 4 (continued)

PHARMACOLOGY & PHARMACY

Acta Physiol Pharmacol Bulg	BGR	1
Adverse Drug React Toxicol Rev	UKD	1
Agents Actions	CHE	6
Alcohol	USA	7
Aliment Pharmacol Ther	UKD	1
Anticancer Drug Des	UKD	2
Anticancer Drugs	UKD	10
Antimicrob Agents Chemother	USA	9
Arch Int Pharmacodyn Ther	BEL	27
Arch Pharm (Weinheim)	DEU	6
Arzneimittelforschung	DEU	25
Biochem Pharmacol	UKD	62
Biol Pharm Bull	JPN	1
Biopharm Drug Dispos	UKD	1
Boll Chim Farm	ITA	7
Br J Clin Pharmacol	UKD	3
Br J Pharmacol	UKD	5
Can J Physiol Pharmacol	CAN	4
Chemotherapy	CHE	9
Clin Exp Pharmacol Physiol	UKD	19
Clin Neuropharmacol	USA	2
Clin Pharmacokinet	NZL	3
Clin Pharmacol Ther	USA	2
Clin Ther	USA	1
Curr Med Res Opin	UKD	3
Dev Pharmacol Ther	CHE	3
Drug Chem Toxicol	USA	13
Drug Metab Dispos Biol Fate Chem	USA	3
Drug Metab Rev	USA	2
Drugs	USA	1
Drugs Exp Clin Res	CHE	1
Eur J Clin Pharmacol	DEU	11
Eur J Drug Metab Pharmacokinet	FRA	5
Eur J Pharmacol	NLD	14
Farmaco	ITA	4
Farmaco [Sci]	ITA	1
Fundam Clin Pharmacol	FRA	3
Gen Pharmacol	UKD	1
Hindustan Antibiot Bull	IND	33
Immunopharmacology	NLD	3
Indian J Physiol Pharmacol	IND	377
Int Clin Psychopharmacol	UKD	1
Int J Clin Pharmacol Res	CHE	1
Int J Clin Pharmacol Ther Toxicol	DEU	35
Int J Immunopharmacol	UKD	20
J Antibiot (Tokyo)	JPN	12
J Antimicrob Chemother	UKD	7
J Cardiovasc Pharmacol	USA	1
J Drug Target	CHE	4
J Ethnopharmacol	CHE	92
J Int Med Res	UKD	3
J Med Chem	USA	12

J Microencapsul	UKD	55
J Nat Prod	USA	18
J Parenter Sci Technol	USA	1
J Pharm Biomed Anal	UKD	13
J Pharm Pharmacol	UKD	30
J Pharm Sci	USA	18
J Pharmacobiodyn	JPN	1
J Pharmacol Exp Ther	USA	4
J Pharmacol Methods	USA	2
J Pharmacol Toxicol Methods	USA	2
J Physiol Pharmacol	POL	2
J Psychoactive Drugs	USA	1
J Vet Pharmacol Ther	UKD	6
Jpn J Pharmacol	JPN	2
Med Oncol Tumor Pharmacother	UKD	2
Med Res Rev	USA	4
Methods Find Exp Clin Pharmacol	ESP	39
Naunyn Schmiedebergs Arch Pharmacol	DEU	6
Neurotoxicology	USA	2
Pharm Res	USA	9
Pharmacol Biochem Behav	USA	11
Pharmacol Res	UKD	18
Pharmacol Res Commun	USA	8
Pharmacol Ther	UKD	2
Pharmacol Toxicol	DEN	27
Pharmacology	CHE	10
Pharmacopsychiatry	DEU	1
Pharmatherapeutica	UKD	1
Pharmazie	DEU	62
Planta Med	DEU	19
Pol J Pharmacol Pharm	POL	5
Prog Drug Res	CHE	7
Prog Neuropsychopharmacol	USA	1
Prog Neuropsychopharmacol Biol Psychiatry	UKD	7
Prostaglandins Leukot Essent Fatty Acids	UKD	13
Psychopharmacology (Berl)	DEU	4
Regul Toxicol Pharmacol	USA	1
Res Commun Chem Pathol Pharmacol	USA	15
Toxicol Appl Pharmacol	USA	1
Toxicology	NLD	28
Toxicon	UKD	24
Xenobiotica	UKD	5
		1367

PHYSIOLOGY

Acta Physiol Hung	HUN	21
Acta Physiol Pharmacol Bulg	BGR	1
Acta Physiol Pol	POL	1
Acta Physiol Scand	UKD	2

Table 4 (continued)

Am J Physiol	USA	2
Arch Insect Biochem Physiol	USA	2
Arch Int Physiol Biochim	BEL	11
Arch Int Physiol Biochim Biophys	BEL	11
Can J Physiol Pharmacol	CAN	4
Clin Exp Pharmacol Physiol	UKD	19
Electromyogr Clin Neurophysiol	BEL	6
Eur J Appl Physiol	DEU	6
Exp Physiol	UKD	1
Gen Physiol Biophys	CSK	1
Indian J Physiol Pharmacol	IND	377
Int J Pancreatol	USA	3
Int J Psychophysiol	NLD	2
J Appl Physiol	USA	2
J Cell Physiol	USA	1
J Comp Physiol [B]	DEU	6
J Dev Physiol	UKD	1
J Physiol (Lond)	UKD	3
J Physiol Pharmacol	POL	2
Jpn J Physiol	JPN	13
Lymphology	USA	4
Pancreas	USA	4
Physiol Behav	USA	22
Physiol Bohemoslov	CSK	1
Physiol Res	CSK	1
Q J Exp Physiol	UKD	3
		533

PSYCHIATRY

Acta Paedopsychiatr	DEU	1
Acta Psychiatr Scand	DEN	23
Am J Psychiatry	USA	6
Am J Psychother	USA	2
Aust N Z J Psychiatry	AUS	3
Biol Psychiatry	USA	16
Br J Addict	UKD	1
Br J Med Psychol	UKD	2
Br J Psychiatry	UKD	32
Can J Psychiatry	CAN	3
Compr Psychiatry	USA	2
Eur Arch Psychiatry Clin Neurosci	DEU	1
Gen Hosp Psychiatry	USA	6
Int J Psychiatry Med	USA	4
Int J Soc Psychiatry	UKD	20
J Affect Disord	NLD	6
J Child Psychol Psychiatry	UKD	1
J Neurol Neurosurg Psychiatry	UKD	16
J Psychiatr Res	UKD	3
J Psychosom Res	UKD	2
Jpn J Psychiatry Neurol	JPN	1
Minerva Psichiatr	ITA	1
Neuropsychobiology	CHE	1

Table 4 (continued)

Pharmacopsychiatry	DEU	1
Prog Neuropsychopharmacol Biol Psychiatry	UKD	7
Psychiatry	USA	1
Psychopathology	CHE	13
Psychopharmacology (Berl)	DEU	4
Schizophr Res	NLD	4
Soc Psychiatry Psychiatr Epidemiol	DEU	1
		184

PSYCHOLOGY

Am J Clin Hypn	USA	1
Am J Community Psychol	USA	1
Am J Psychother	USA	2
Br J Clin Psychol	UKD	2
Br J Med Psychol	UKD	2
Int J Psychophysiol	NLD	2
J Child Psychol Psychiatry	UKD	1
J Gen Psychol	USA	3
J Genet Psychol	USA	1
J Psychoactive Drugs	USA	1
J Psychol	USA	3
J Psychosom Obstet Gynaecol	UKD	2
J Soc Psychol	USA	5
Neuropsychologia	UKD	1
Pharmacol Biochem Behav	USA	11
Prog Neuropsychopharmacol	USA	1
Psychol Rep	USA	3
Psychother Psychosom	CHE	3
Q J Exp Psychol [A]	UKD	1
		46

PUBLIC HEALTH

Am Ind Hyg Assoc J	USA	3
Am J Epidemiol	USA	1
Am J Ind Med	USA	7
Am J Public Health	USA	1
Am J Trop Med Hyg	USA	15
Ann Hum Biol	UKD	23
Ann Occup Hyg	UKD	4
Arch Environ Health	USA	8
Asia Pac J Public Health	HKG	3
Br J Ind Med	UKD	8
Bull World Health Organ	CHE	18
Community Dent Oral Epidemiol	DEN	4
Compr Psychiatry	USA	2
Diabetes	USA	1
Diabetes Care	USA	3
Environ Health Perspect	USA	4
Epidemiol Infect	UKD	17
Eur J Epidemiol	ITA	4
Food Addit Contam	UKD	8

Table 4 (continued)

Genet Epidemiol	USA	3
Genitourin Med	UKD	14
Ind Health	JPN	4
Indian J Public Health	IND	83
Int Arch Occup Environ Health	DEU	8
Int J Epidemiol	UKD	13
Int J Health Serv	USA	4
J Adolesc Health	USA	1
J Biosoc Sci	UKD	2
J Clin Epidemiol	UKD	2
J Environ Sci Health [B]	USA	18
J Epidemiol Community Health	UKD	6
J Hosp Infect	USA	13
J R Soc Health	UKD	9
J Soc Occup Med	UKD	4
J Toxicol Environ Health	USA	12
J Trop Med Hyg	UKD	53
Occup Med (Oxf)	UKD	2
Public Health Rev	ISR	2
Scand J Work Environ Health	FIN	1
Southeast Asian J Trop Med Public Health	THA	31
Toxicol Ind Health	USA	6
Trans R Soc Trop Med Hyg	UKD	94
Trop Geogr Med	NLD	35
World Health Forum	CHE	11
World Health Stat Q	CHE	2
Zentralbl Hyg Umweltmed	DEU	2
		569

RADIOLOGY & NUCLEAR MEDICINE

AJNR Am J Neuroradiol	USA	4
AJR Am J Roentgenol	USA	10
Abdom Imaging	USA	6
Acta Radiol	SWE	10
Appl Radiat Isot	UKD	2
Australas Radiol	AUS	46
Br J Radiol	UKD	22
Can Assoc Radiol J	CAN	12
Clin Imaging	USA	2
Clin Nucl Med	USA	13
Clin Radiol	UKD	33
Comput Med Imaging Graph	USA	4
Eur J Nucl Med	DEU	6
Eur J Radiol	NLD	1
Gastrointest Radiol	USA	11
Health Phys	USA	19
Int J Card Imaging	USA	1
Int J Hyperthermia	UKD	8
Int J Rad Appl Instrum [A]	USA	9
Int J Rad Appl Instrum [B]	USA	21
Int J Radiat Biol	UKD	14
Int J Radiat Biol Relat Stud Phys Chem Med	UKD	3

Table 4 (continued)

Int J Radiat Oncol Biol Phys	USA	15
J Clin Ultrasound	USA	13
J Comput Assist Tomogr	USA	5
J Comput Tomogr	USA	1
J Neuroradiol	FRA	1
J Nucl Med	USA	2
J Radiat Res (Tokyo)	JPN	4
J Ultrasound Med	USA	3
J Vasc Interv Radiol	USA	1
JCU J Clin Ultrasound	USA	3
Magn Reson Imaging	USA	5
Magn Reson Med	USA	1
Med Phys	USA	1
Neuroradiology	DEU	18
Nucl Med Biol	USA	2
Nucl Med Commun	UKD	4
Nuklearmedizin	DEU	1
Pediatr Radiol	DEU	18
Phys Med Biol	UKD	7
Radiat Environ Biophys	DEU	8
Radiat Med	JPN	1
Radiat Res	USA	12
Radiobiol Radiother (Berl)	DEU	7
Radiol Med (Torino)	ITA	1
Radiology	USA	4
Radiother Oncol	NLD	1
Semin Roentgenol	USA	1
Skeletal Radiol	DEU	3
Ultrasonics	UKD	2
Urol Radiol	USA	1
		403

RESPIRATORY SYSTEM

Am Rev Respir Dis	USA	4
Chest	USA	36
Eur J Respir Dis	DEN	1
Eur Respir J	DEN	5
Exp Lung Res	USA	1
Indian J Chest Dis Allied Sci	IND	137
J Asthma	USA	15
J Cardiovasc Pharmacol	USA	1
J Thorac Cardiovasc Surg	USA	4
Laryngoscope	USA	4
Lung	USA	1
Respir Med	UKD	6
Respiration	CHE	7
Thorac Cardiovasc Surg	DEU	7
Thorax	UKD	15
Tuber Lung Dis	UKD	12
Tubercle	UKD	24
		280

Table 4 (continued)

RHEUMATOLOGY		
Ann Rheum Dis	UKD	9
Arthritis Rheum	USA	1
Br J Rheumatol	UKD	3
Clin Exp Rheumatol	ITA	3
J Rheumatol	CAN	1
Rheumatol Int	DEU	6
Scand J Rheumatol	SWE	4
		27
SUBSTANCE ABUSE		
Addiction	UKD	1
Alcohol	USA	7
Alcohol Alcohol	UKD	3
Alcohol Clin Exp Res	USA	1
Br J Addict	UKD	1
Bull Narc	USA	2
Drug Alcohol Depend	CHE	7
J Stud Alcohol	USA	1
J Subst Abuse Treat	USA	1
		24
SURGERY		
Acta Chir Plast	CSK	8
Acta Chir Scand	SWE	4
Acta Neurochir (Wien)	AUT	30
Am J Surg	USA	4
Ann Plast Surg	USA	15
Ann R Coll Surg Engl	UKD	6
Ann Surg	USA	1
Ann Thorac Surg	USA	6
Arch Orthop Trauma Surg	DEU	7
Aust N Z J Surg	AUS	37
Br J Neurosurg	USA	44
Br J Plast Surg	UKD	55
Br J Surg	UKD	29
Can J Surg	CAN	2
Cardiovasc Surg	UKD	2
Cleft Palate Craniofac J	USA	1
Eur J Surg	SWE	3
Eur J Surg Oncol	UKD	3
HPB Surg	CHE	5
Head Neck	USA	9
Hepatogastroenterology	DEU	3
Injury	UKD	22
Int Surg	ITA	17
J Am Coll Surg	USA	1
J Arthroplasty	USA	1
J Bone Joint Surg [Am]	USA	5
J Bone Joint Surg [Br]	UKD	20
J Cardiovasc Surg (Torino)	ITA	5
J Cataract Refract Surg	USA	6
J Craniomaxillofac Surg	DEU	3

Table 4 (continued)

J Dermatol Surg Oncol	USA	1
J Hand Surg [Am]	USA	3
J Hand Surg [Br]	UKD	18
J Neurosurg	USA	13
J Neurosurg Anesthesiol	USA	4
J Neurosurg Sci	ITA	3
J Pediatr Surg	USA	44
J R Coll Surg Edinb	UKD	3
J Refract Corneal Surg	USA	1
J Surg Oncol	USA	82
J Surg Res	USA	1
J Thorac Cardiovasc Surg	USA	4
J Trauma	USA	14
Jpn J Surg	JPN	18
Lasers Surg Med	USA	1
Microsurgery	USA	2
Neurochirurgia (Stuttg)	DEU	2
Neurosurgery	USA	15
Ophthalmic Surg	USA	25
Oral Surg Oral Med Oral Pathol	USA	16
Otolaryngol Head Neck Surg	USA	2
Paraplegia	UKD	15
Pediatr Neurosurg	CHE	3
Plast Reconstr Surg	USA	10
S Afr J Surg	ZAF	2
Scand J Plast Reconstr Surg Hand Surg	SWE	1
Scand J Thorac Cardiovasc Surg	SWE	4
Semin Surg Oncol	USA	15
Surg Endosc	DEU	6
Surg Gynecol Obstet	USA	5
Surg Neurol	USA	9
Surg Today	JPN	2
Surgery	USA	3
Thorac Cardiovasc Surg	DEU	7
Transplant Proc	USA	22
Transplantation	USA	12
World J Surg	USA	5
Z Kinderchir	DEU	3
		750

TOXICOLOGY

Adverse Drug React Toxicol Rev	UKD	1
Alcohol	USA	7
Ann Occup Hyg	UKD	4
Arch Environ Contam Toxicol	USA	12
Arch Toxicol	DEU	21
Arh Hig Rada Toksikol	YUG	2
Cell Biol Toxicol	USA	1
Chem Res Toxicol	USA	1
Crit Rev Toxicol	USA	1
Drug Chem Toxicol	USA	13
Drug Des Deliv	CHE	9
Drug Des Discov	CHE	3

Table 4 (continued)

Drug Nutr Interact	USA	1
Drugs	USA	1
Ecotoxicol Environ Safety	USA	78
Food Chem Toxicol	UKD	45
Fundam Appl Toxicol	USA	3
Hum Exp Toxicol	UKD	22
Hum Toxicol	UKD	5
Immunopharmacol Immunotoxicol	USA	19
Ind Health	JPN	4
Int J Clin Pharmacol Ther Toxicol	DEU	35
J Anal Toxicol	USA	1
J Appl Toxicol	USA	36
J Environ Pathol Toxicol Oncol	USA	15
J Pharmacol Toxicol Methods	USA	2
J Toxicol Clin Toxicol	USA	2
J Toxicol Environ Health	USA	12
J Toxicol Sci	JPN	1
Lens Eye Toxic Res	USA	1
Nat Toxins	USA	1
Neurotoxicol Teratol	USA	2
Pharmacol Toxicol	DEN	27
Regul Toxicol Pharmacol	USA	1
Reprod Toxicol	USA	14
Teratogenesis Carcinog Mutagen	USA	7
Toxicol Appl Pharmacol	USA	1
Toxicol Ind Health	USA	6
Toxicol Lett	NLD	59
Toxicology	NLD	28
Toxicon	UKD	24
Vet Hum Toxicol	USA	40
		568

TROPICAL MEDICINE

Am J Trop Med Hyg	USA	15
Ann Soc Belg Med Trop	BEL	1
Ann Trop Med Parasitol	UKD	44
Ann Trop Paediatr	UKD	43
Geogr Med	HUN	9
J Trop Med Hyg	UKD	53
J Trop Pediatr	UKD	58
Rev Biol Trop	CRI	2
Southeast Asian J Trop Med Public Health	THA	31
Trop Doct	UKD	40
Trop Gastroenterol	IND	69
Trop Geogr Med	NLD	35
Trop Med Parasitol	DEU	32
		432

Table 4 (continued)

UROLOGY & NEPHROLOGY		
Am J Kidney Dis	USA	3
Am J Nephrol	CHE	1
Angiology	USA	18
Arch Esp Urol	ESP	10
Br J Urol	UKD	76
Child Nephrol Urol	CHE	2
Contrib Nephrol	CHE	1
Eur Urol	CHE	11
Genitourin Med	UKD	14
Int Angiol	ITA	4
Int Urol Nephrol	HUN	11
J Endourol	USA	4
J Urol	USA	33
Kidney Int	USA	2
Nephrol Dial Transplant	DEU	15
Nephron	CHE	13
Pediatr Nephrol	DEU	8
Prog Urol	FRA	1
Ren Fail	USA	11
Scand J Urol Nephrol	SWE	1
Urol Int	CHE	38
Urol Radiol	USA	1
Urol Res	DEU	2
Urology	USA	2
World J Urol	DEU	1
		283
VETERINARY MEDICINE		
Acta Vet Hung	HUN	14
Acta Vet Scand	DEN	1
Acta Vet Scand Suppl	NOR	2
Anim Genet	UKD	1
Ann Rech Vet	FRA	2
Arch Exp Veterinarmed	DEU	7
Aust Vet J	AUS	8
Avian Dis	USA	1
Beitr Trop Landwirtsch Veterinarmed	DEU	2
Br Vet J	UKD	9
Comp Immunol Microbiol Infect Dis	UKD	12
Equine Vet J	UKD	2
J Comp Pathol	UKD	7
J Med Primatol	USA	5
J Vet Pharmacol Ther	UKD	6
Lab Anim	UKD	3
Lab Anim Sci	USA	1
Med Vet Entomol	UKD	14
Prog Vet Microbiol Immunol	CHE	3
Res Vet Sci	UKD	17
Trop Anim Health Prod	UKD	16
Vet Hum Toxicol	USA	40
Vet Immunol Immunopathol	NLD	9

Table 4 (continued)

Vet Microbiol	NLD	11
Vet Parasitol	NLD	38
Vet Q	NLD	1
Vet Rec	UKD	27
Vet Res Commun	UKD	32
Zentralbl Veterinarmed [A]	DEU	9
Zentralbl Veterinarmed [B]	DEU	2
		302
VIROLOGY		
Acta Virol (Praha)	CSK	29
Arch Virol	AUT	9
Int J Med Microbiol Virol Parasitol Infect Dis	DEU	6
Intervirology	CHE	5
J Gen Virol	UKD	9
J Med Virol	USA	17
J Virol	USA	3
J Virol Methods	NLD	7
Virology	USA	11
Virus Res	NLD	1
		97

Table 5: Leading causes of mortality and morbidity in India by rank order

1983-1985	1988-1990	1991-1993
	Leading causes of mortality	
Senility	Infectious & parasitic diseases	Diarrhoeal diseases
Respiratory diseases	Circulatory system diseases	Respiratory diseases
Infancy diseases	Respiratory diseases	Infancy diseases
Circulatory diseases	Injury/poisoning	Pneumonia
Fevers	Diarrhoeal diseases	Infectious & parasitic diseases
	Leading causes of morbidity	
Data not available	Diarrhoeal diseases	Respiratory diseases
	Influenza	Diarrhoeal diseases
	Malaria	Malaria
	Tuberculosis	Whopping cough/Measles
	Whooping cough	Neonatal tetanus

Source: Health Situation in the South-East Asia Region 1991-1993, p.40-41, World Health Organization, Regional Office for South-East Asia, New Delhi, 1995.

Table 6: India's Contribution to journal literature of medicine
Categorised by subfield and country of publication of the journals

	AUS	AUT	BEL	CAN	CHE	CSK	DEN	DEU	ESP	FRA	HUN	IND	ITA	JPN	NLD	SGP	SWE	THA	UKD	USA	OTH	TOT
Med, Gen	4	0	0	0	0	0	0	4	0	0	0	2151	7	11	15	25	0	0	132	28	17	2394
Pediat	4	0	0	0	8	0	0	48	0	0	1	1088	0	1	3	0	20	0	111	130	6	1420
Pharmacol	0	0	27	4	133	0	27	169	39	8	0	410	12	16	45	0	0	0	315	151	11	1367
Immunol	13	0	0	0	46	28	24	32	0	1	0	270	5	26	96	0	5	15	181	179	7	928
Pathology	8	0	0	0	22	0	25	12	0	2	0	516	4	0	1	0	0	0	102	223	1	916
Oncology	0	0	0	0	31	65	0	50	0	1	0	167	24	6	103	0	20	0	81	269	4	821
Surgrey	37	30	0	2	8	8	0	31	0	0	0	0	25	20	0	0	12	0	173	402	2	750
Cardiovasc	0	0	7	2	6	0	0	8	0	0	0	234	8	19	192	0	0	0	30	157	0	663
Gastro	45	0	0	0	4	0	8	7	0	0	0	304	2	18	4	0	0	0	32	172	10	606
Neurosci	0	38	8	0	17	2	22	53	0	1	0	0	40	2	85	0	0	0	102	206	8	584
Pub Health	0	0	0	0	31	0	4	10	0	0	0	83	4	4	35	0	0	31	259	102	6	569
Toxicol	0	0	0	0	12	0	27	56	0	0	0	0	0	5	87	0	0	0	101	278	2	568
Microbiol	0	0	0	16	3	73	12	67	1	6	19	0	1	14	87	0	0	0	146	101	7	553
Dermatol	5	0	0	0	25	0	37	22	0	0	0	246	0	22	1	0	4	0	67	121	1	551
Physiol	0	0	28	4	0	3	0	12	0	0	21	377	0	13	2	0	0	0	29	40	4	533
Trop Med	0	0	1	0	0	0	0	32	0	0	9	69	0	0	35	0	0	31	238	15	2	432
Obst Gyne	32	0	0	0	8	0	5	1	0	1	0	0	39	30	12	0	85	0	47	157	0	417
Radiol	46	0	0	12	0	0	0	61	0	1	0	0	1	5	2	0	10	0	95	170	0	403
Ophthal	8	0	0	15	6	0	42	2	0	0	0	152	0	6	6	0	0	0	27	98	0	362
Vet Med	8	0	0	0	3	0	1	20	0	2	14	0	0	0	59	0	0	0	146	47	2	302
Endocr	3	0	0	0	20	3	9	34	0	2	0	0	13	6	17	0	0	0	46	146	1	300
Parasitol	0	0	0	0	17	19	0	54	0	0	0	0	2	0	55	0	0	0	115	23	7	292
Urol Neph	0	0	0	0	66	0	0	26	10	1	11	0	4	0	0	0	1	0	90	74	0	283
Resp Res	0	0	0	0	7	0	6	7	0	0	0	137	0	0	0	0	0	0	57	66	0	280
Nutri Diet	0	0	0	0	42	0	0	3	0	2	0	0	0	6	95	0	0	0	59	69	2	278
Med, Res	0	0	0	2	4	0	0	13	0	3	0	0	0	16	16	0	0	0	77	67	10	208
Psychiat	3	0	0	3	14	0	23	8	0	0	0	0	1	1	10	0	0	0	84	37	0	184
Dentistry	1	0	0	0	0	0	30	3	0	0	0	78	0	2	0	3	0	0	6	46	0	169
Anatomy	0	0	0	0	24	34	0	22	0	4	3	0	2	2	5	0	0	0	19	34	0	149
Otorhino	0	0	0	1	1	0	0	1	0	0	0	0	0	6	9	0	2	0	90	25	0	135
Orthoped	0	0	1	0	0	0	13	33	0	1	0	0	1	0	0	0	0	0	35	38	0	122
Virology	0	9	0	0	5	29	0	6	0	0	0	0	0	0	8	0	0	0	9	31	0	97
Allergy	0	0	0	0	16	0	42	0	0	0	0	0	0	0	0	0	0	15	6	13	0	92
Med, Mis	11	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	40	32	1	88
Andrology	0	0	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	24	25	0	82

Table 6 (contd)

	AUS	AUT	BEL	CAN	CHE	CSK	DEN	DEU	ESP	FRA	HUN	IND	ITA	JPN	NLD	SGP	SWE	THA	UKD	USA	OTH	TOT
Hematol	0	0	0	0	12	0	1	5	0	0	2	0	0	0	0	0	0	0	25	32	0	77
Anesthes	11	0	0	7	0	0	3	0	0	0	0	0	0	0	0	0	0	0	31	15	0	67
Psychol	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	0	9	32	0	46
Med, Leg	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	9	7	1	38
Geriatrics	0	0	0	0	26	0	1	0	0	0	0	0	1	0	4	0	0	0	2	1	0	35
Med, Lab	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5	17	0	27
Rheumatol	0	0	0	1	0	0	0	6	0	0	0	0	3	0	0	0	4	0	12	1	0	27
Sub Abuse	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	5	12	0	24
Epidemiol	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Nursing	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
	239	77	72	69	650	264	362	951	50	36	80	6282	208	257	1091	28	163	92	3271	3890	112	18244

Table 7: Indian journals covered by *Medline* Nov 1987 - Dec 1994

Sl #	Journal title	Subject	# of Papers
1	Indian Pediatr	PEDIAT	801
2	Indian J Exp Biol	BIOLOGY	777
3	J Assoc Physicians India	MED, GEN	705
4	Indian J Med Res	MED, GEN	569
5	J Indian Med Assoc	MED, GEN	396
6	Indian J Physiol Pharmacol	PHYSIOL //PHARMACOL	377
7	Indian J Biochem Biophys	BIOCH, MOL //BIOPHYS	298
8	Indian J Pediatr	PEDIAT	287
9	Indian J Pathol Microbiol	PATHOLOGY	279
10	J Postgrad Med	MED, GEN	254
11	Indian J Lepr	DERMATOL //IMMUNOL //PATHOLOGY	237
12	Indian J Gastroenterol	GASTRO	235
13	Indian Heart J	CARDIOVASC	234
14	Indian J Cancer	ONCOLOGY	167
15	Indian J Ophthalmol	OPHTHAL	152
16	Indian J Chest Dis Allied Sci	RESP SYS	137
17	J Commun Dis	--	135
18	Indian J Malariol	--	125
19	Indian J Med Sci	MED, GEN	119
20	Natl Med J India	MED, GEN	108
21	Indian J Public Health	PUB HEALTH	83
22	Trop Gastroenterol	TROP MED //GASTRO	69
23	Hindustan Antibiot Bull	IMMUNOL //PHARMACOL	33
24	J Indian Soc Pedod Prev Dent	DENTISTRY	28
25	Indian J Dent Res	DENTISTRY	27
26	J Pierre Fauchard Acad	--	14
27	Fed Oper Dent	DENTISTRY	12
28	J Indian Dent Assoc	DENTISTRY	11
29	Indian J Dermatol	DERMATOL	9
30	Acta Anthropogenet	GENETICS	6
	Total		6684

Table 8: India's contribution to the journal literature of medicine arranged by country of publication of the journal as seen from *Medline* Nov 1987 - Dec 1994

Sl #	Journal country	# of Jrls	# of Papers
1	INDIA	30	6684
2	US AMERICA	509	4428
3	UNITED KINGDOM	314	3158
4	NETHERLANDS	91	1688
5	GERMANY	121	891
6	SWITZERLAND	81	638
7	AUSTRALIA	20	603
8	DENMARK	30	312
9	JAPAN	45	251
10	CZECHOSLOVAKIA	13	235
11	ITALY	45	232
12	SWEDEN	16	170
13	CANADA	14	86
14	HUNGARY	9	85
15	FRANCE	25	74
16	BELGIUM	8	66
17	SPAIN	4	51
18	AUSTRIA	4	49
19	THAILAND	2	46
20	POLAND	10	37
21	SINGAPORE	3	28
22	BANGLADESH	1	25
23	NORWAY	5	19
24	GREECE	2	15
25	BRAZIL	5	11
26	IRELAND	5	9
27	ISRAEL	3	7
28	CHILE	1	6
29	PR CHINA	2	6
30	KOREA	2	5
31	MEXICO	2	5
32	PAKISTAN	1	5
33	SOUTH AFRICA	3	4
34	HONG KONG	1	3
35	SRI LANKA	1	3
36	NEW ZEALAND	1	3
37	YUGOSLAVIA	2	3
38	COSTA RICA	1	2
39	FINLAND	2	2
40	VENEZUELA	1	2
41	BULGARIA	1	1
42	EGYPT	1	1
43	KENYA	1	1
44	MALASIYA	1	1
45	ROMANIA	1	1
	Total	1440	19952

Table 9: Contribution made by different organizations as seen from Medline (Nov 87 – Dec 94)

1	Academic	–	13111
2	Research	–	3805
3	Ministries	–	1055
4	Others	–	1643
5	State	–	183
6	Private	–	151
7	International	–	4
			19952

1 Academic Institutions (13111)

College			University		
Medical	–	4812	General	–	4354
General	–	194	Medical	–	3201
Engineering	–	129	Agriculture	–	390
Agriculture	–	17	Engineering	–	14
		5152			7959

2 Research Institutions (3805)

CSIR	–	1578
ICMR	–	1007
DAE	–	874
DRDO	–	215
ICAR	–	131
		3805

3 Ministries (1055)

Heal & Fam Wel	–	642	Home	–	10
Sci & Technol	–	317	HRD	–	8
Planning	–	35	Steel & Mines	–	2
Industry	–	27	Env & Fores	–	1
Agri & Rur Dev	–	11	Finance	–	1
			Labour	–	1
					1055

4 Others (1643)

Hospital	–	1603
General	–	40
		1643

5 State (183)

Heal & Fam Wel	–	137
Home	–	30
Industry	–	13
Steel & Mines	–	2
Pub Health	–	1
		183

6 Private (151)

General	–	104
Clinics	–	47
		151

7 International (ICRISAT) – 4

Table 10: Institutions often publishing papers
***Medline* Nov 87 - Dec 94**

Sl #	Institution name	# of Papers
1	All-India Institute of Medical Sciences, New Delhi.	1630
2	Post-Graduate Institute of Medical Education and Research, Chandigarh.	1383
3	Banaras Hindu University, Varanasi.	635
4	Tata Memorial Centre and Cancer Research Institute, Bombay.	512
5	Christian Medical College & Hospital, Vellore.	493
6	Industrial Toxicology Research Centre, Lucknow.	383
7	Indian Institute of Science, Bangalore.	369
8	Central Drug Research Institute, Lucknow.	357
9	Indian Institute of Chemical Biology, Calcutta.	266
10	King Edward Memorial Hospital, Bombay.	255
11	Maulana Azad Medical College, New Delhi.	254
12	Kasturba Medical College, Manipal.	248
13	University of Madras, Madras.	235
14	K.G. Medical College, Lucknow.	234
15	Panjab University, Chandigarh.	231
16	National Institute of Mental Health and Neurosciences, Bangalore.	229
17	Jawaharlal Nehru University, New Delhi.	227
18	Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow.	226
19	Bhabha Atomic Research Centre, Bombay.	221
20	Medical College, Rohtak.	214
21	Jawharlal Institute of Postgraduate Medical Education and Research, Pondicherry.	214
22	G. B. Pant Hospital, New Delhi.	213
23	Calcutta University, Calcutta.	200
24	Seth G. S. Medical College, Bombay.	199
25	Sree Chitra Tirunal Institute for Medical Sciences, Trivandrum.	187
26	University College of Medical Sciences, Delhi.	174
27	University of Delhi, Delhi.	173
28	Centre for Cellular and Molecular Biology, Hyderabad.	170
29	Calcutta Medical College and Hospital, Calcutta.	145
30	Punjab Agricultural University, Ludhinana.	145
31	National Institute of Immunology, New Delhi.	142
32	Lady Hardinge Medical College, New Delhi.	141
33	St John's Medical College, Bangalore.	135
34	Lokmanya Tilak Municipal Medical College and General Hospital, Bombay.	134
35	Haryana Agricultural University, Hisar.	133
36	Institute for Research in Reproduction, Bombay.	126
37	Jawaharlal Nehru Medical College, Aligarh.	125
38	Bose Institute, Calcutta.	125
39	Safdarjang Hospital, New Delhi.	116
40	Indian Council of Medical Research, Delhi.	115

Table 10 (continued)

41	Malaria Research Centre, Delhi.	110
42	University College of Science, Calcutta.	104
43	National Institute of Nutrition, Hyderabad.	104
44	Sri Venkateswara University, Tirupati.	103
45	National Institute of Cholera and Enteric Diseases, Calcutta.	102
46	Central Food Technological Research Institute, Mysore.	102
47	Nizam's Institute of Medical Sciences, Hyderabad.	98
48	Vector Control Research Centre, Pondicherry.	95
49	Defence Research and Development Establishment, Gwalior.	94
50	B.Y.L. Nair Hospital, Bombay.	91
51	Central JALMA Institute for Leprosy, Agra.	86
52	Aligarh Muslim University, Aligarh.	85
53	National Institute of Communicable Diseases, Delhi.	84
54	National Chemical Laboratory, Poona.	83
55	Jadavpur University, Calcutta.	80
56	Osmania University, Hyderabad.	79
57	Tata Institute of Fundamental Research, Bombay.	79
58	Regional Cancer Center, Thiruvanandapuram.	77
59	Sher-i-Kashmir Institute of Medical Sciences, Srinagar.	76
60	University of Hyderabad, Hyderabad.	76
61	Vallabhbhai Patel Chest Institute, Delhi.	74
62	University of Kerala, Trivandrum.	74
63	T.N. Medical College, Bombay.	73
64	National Institute of Virology, Pune.	73
65	Dayanand Medical College & Hospital, Ludhiana.	68
66	Indian Institute of Technology, New Delhi.	67
67	Chittaranjan National Cancer Research Centre, Calcutta.	67
68	Bombay Hospital, Bombay.	64
69	North-Eastern Hill University, Shillong.	61
70	Institute of Nuclear Medicine and Allied Sciences, Delhi.	61
71	Saha Institute of Nuclear Physics, Calcutta.	58
72	M.S. University of Baroda, Baroda.	57
73	M.L.N. Medical College, Allahabad.	56
74	Cancer Institute, Madras.	56
75	Central Leather Research Institute, Madras.	56
76	Madurai Kamaraj University, Madurai.	55
77	University of Mysore, Mysore.	55
78	Goa Medical College, Bombolim.	54
79	Guru Nanak Dev University, Amritsar.	54
80	Madras Medical College, Madras.	53
81	Institute of Postgraduate Medical Education & Research, Calcutta.	52
82	University of Rajasthan, Jaipur.	52
83	Nagpur University, Nagpur.	51

Table 11: Indian states contribution to the world literature of medicine *Medline* Nov 87 - Dec 94

Sl #	State	# of Papers
1	DELHI	4021
2	MAHARASHTRA	2823
3	UTTAR PRADESH	2678
4	WEST BENGAL	1581
5	KARNATAKA	1463
6	CHANDIGARH	1415
7	TAMIL NADU	1391
8	ANDHRA PRADESH	910
9	PUNJAB	657
10	KERALA	511
11	HARYANA	397
12	MADHYA PRADESH	362
13	GUJARAT	360
14	PONDICHERRY	324
15	RAJASTHAN	318
16	JAMMU & KASHMIR	168
17	BIHAR	150
18	ORISSA	135
19	HIMACHAL PRADESH	110
20	MEGHALAYA	68
21	GOA	60
22	ASSAM	39
23	MANIPUR	8
24	TRIPURA	3
	Total	19952

Table 12: Indian cities contributions to the world literature of medicine *Medline* Nov 87 - Dec 94

CITY	# of Papers	CITY	# of Papers
DELHI	4021	AJMER	40
BOMBAY	2268	CALICUT	40
CHANDIGARH	1654	SAGAR	40
CALCUTTA	1490	WARDHA	40
LUCKNOW	1253	BHOPAL	39
BANGALORE	886	RANCHI	38
HYDERABAD	671	SHANTINIKETAN	38
MADRAS	663	BERHAMPUR	35
VARANASI	648	DHARWAD	33
VELLORE	494	KASAULI	33
TRIVANDRUM	418	KARNAL	32
PUNE	373	ROORKEE	30
PONDICHERRY	324	SURAT	30
MANIPAL	272	WALTAIR	30
LUDHIANA	261	JHANSI	28
ROHTAK	222	KAVALI	28
ALIGARH	216	MORADABAD	27
MYSORE	169	BHAGALPUR	26
AHMEDABAD	165	BURDWAN	26
HISAR	143	RAJKOT	26
SRINAGAR	129	IZATNAGAR	25
AGRA	127	AURANGABAD	24
GWALIOR	125	BELGAUM	23
TIRUPATI	114	COIMBATORE	21
MADURAI	109	KOTTAYAM	20
BARODA	106	RAIPUR	20
JAIPUR	95	PALAMPUR	19
AMRITSAR	90	TIRUCHIRAPALLI	19
NAGPUR	84	VISAKAPPATINAM	19
PATNA	77	ANAND	17
ALLAHABAD	72	GUWAHATI	17
SHILLONG	68	COCHIN	16
JABALPUR	67	NAGARJUNA NAGAR	15
MANGALORE	65	SAMBALPUR	15
PATIALA	65	UJJAIN	15
KANPUR	59	WARANGAL	14
SHIMLA	58	CUTTUCK	13
BAMBOLIM	57	PILANI	13
BHUBANESWAR	57	DARJEELING	12
MEERUT	57	DIBRUGARH	12
INDORE	54	GULBARGA	12
JAMMU TAWI	53	ROURKELA	12
UDAIPUR	51	BHILAI	11
JODHPUR	50	NAINITAL	11
BIKANER	46	THANJAVUR	11
GORAKHPUR	46	RAHURI	10
PANTNAGAR	45	SOLAPUR	9
CHENGALPATTU	42	BHAVNAGAR	8

IMPHAL	8	JALANDHAR	2
JAMNAGAR	8	KALPAKKAM	2
SIKAR	8	MAHAD	2
CHIDAMBARAM	7	MAHAJAN WADA	2
KHARAGPUR	7	MHOW	2
DARBANGA	6	MUZAFFARNAGAR	2
GUNTUR	6	NAGERCOIL	2
JAUNPUR	6	NAMAKKAL	2
KOOTATTUKULAM	6	PUSA	2
TRICHUR	6	SALEM	2
DEHRA DUN	5	TITILAGARH	2
DINDIGUL	5	TUTICORIN	2
MOHANPUR	5	ANGAMALLY	1
TEJPUR	5	AVIKANAGAR	1
ALLEPEY	4	BELLARY	1
FAIZAABAD	4	BIRBHUM	1
JORHAT	4	CHICKBALLAPUR	1
PATANCHERU	4	COONOOR	1
REWA	4	HOSUR	1
AGARTALA	3	JAMSHEDPUR	1
BAREILLY	3	KARAD	1
KAKINADA	3	KARAIKUDI	1
KOLHAPUR	3	MAHDUBAN	1
MIRAJ	3	MALKANGIRI	1
PARBHANI	3	NEYVELI	1
TIRUNELVELI	3	PANAJI	1
VIJAYAWADA	3	POLADPUR	1
DAVANGERE	2	SECUNDERABAD	1
DONA POLA	2	UDAGAMANDALAM	1
GANDHIGRAM	2		
HOWRAH	2	Total Papers -	19952

Table 13: The relative position of different subfields in terms of number of papers published in three different periods as seen from *SCI* and *MEDLINE*

SCI 1981-1985		*SCI* 1991-1993		*MEDLINE* 1988-1994	
Subfield	# of papers	Subfield	# of papers	Subfield	# of papers
1 MEDICINE, GENERAL	1640	1 MEDICINE, GENERAL	817	1 MEDICINE, GENERAL	2394
2 MICROBIOLOGY	976	2 PHARMACOLOGY	665	2 PEDIATRICS	1420
3 PHARMACOLOGY	935	3 IMMUNOLOGY	419	3 PHARMACOLOGY	1367
4 ENDOCRINOLOGY	367	4 SURGERY	342	4 IMMUNOLOGY	928
5 RADIOLOGY	301	5 TROPICAL MEDICINE	341	5 PATHOLOGY	916
6 TROPICAL MEDICINE	290	6 ONCOLOGY	322	6 ONCOLOGY	821
7 NEUROSCIENCES	263	7 NEUROSCIENCES	317	7 SURGERY	750
8 HYGIENE	249	8 MICROBIOLOGY	311	8 CARDIOVASCULAR	663
9 ONCOLOGY	240	9 TOXICOLOGY	294	9 GASTROENTEROLOGY	606
10 SURGERY	226	10 CARDIOVASCULAR	294	10 NEUROSCIENCE	584
11 PARASITOLOGY	202	11 PATHOLOGY	256	11 PUBLIC HEALTH	569
12 PHYSIOLOGY	186	12 RADIOLOGY	227	12 TOXICOLOGY	568
13 PATHOLOGY	172	13 PUBLIC HEALTH	212	13 MICROBIOLOGY	553
14 OBSTETRICS	163			14 DERMATOLOGY	551
15 IMMUNOLOGY	154			15 PHYSIOLOGY	533
				16 TROPICAL MEDICINE	432

Comments on the findings reported here

Monday, 21 July 1997, 8:00 p.

Most Domestic Research Ignores India's Health

NEW DELHI–Industrialized nations tend to focus their medical research on diseases generally associate with a high standard of living, such as heart disease. But a study in the latest issue of *Current Science*, a Indian journal, suggests that India also devotes a significant portion of its research to diseases of the affluent.

Indian medical research has its priorities "lopsided," contends Subbiah Arunachalam, an information scientist at the M. S. Swaminathan Research Foundation in Madras (now called Chennai). His study of almost 20,000 scientific articles indicates that diseases ranking high in India's mortality and morbidity statistics, such as malaria and tuberculosis, were not major areas of publication between 1987 and 1994. For example, tropical medicine ranked 16th with 432 papers, and parasitology ranked 22nd with 292 papers. And despite the fact that there are more than 12 million blind people in India, "hardly any" research was done in ophthalmology, reports Arunachalam.

Instead, the big killers of the industrialized world, such as cancer, heart disease, and neurological disorders, topped the list. Oncology ranked sixth with 821 papers, and cardiovascular diseases rank eighth with 663 papers. The number-one field (2394 papers) was the grab-bag category "general medicine," followed by pediatrics. Although these latter two groups may include diseases that afflict the poor, Arunachalam suggests that research priorities still reflect an attention to prestige and the needs of the rich rather than the needs of the country as a whole.

The finding has met some receptive ears. Martanda Varma Sankaran Valiathan, a cardiac surgeon and vice chancellor of the Manipal Academy of Higher Education in Manipal agrees that Indian medical research has "remained aloof from the people." Vulimiri Ramalingaswami, a pathologist and former director-general of the Indian Council of Medical Research, agrees, but he offers one big caution: "Mere numbers of publications is a dangerous index to take, as even a single paper can be a seminal work."

'Skewed medical goals' revealed by Indian survey

[NEW DELHI] A bibliometric study of medical research in India has concluded that much of the work being done is not directly relevant to the most urgent health needs of the population.

According to government statistics, diarrhoeal, respiratory, infectious and parasitic diseases account for most deaths and morbidity in India (see Table 1). But the study shows that researchers have been more active in studying diseases such as cancer and neurological disorders, whose significance is felt to be relatively limited, rather than more widespread diseases such as malaria, which affects 2.5 million Indians each year (see *Nature* 386, 536; 1997).

Subbaiah Arunachalam of the M. S. Swaminathan Research Foundation in Madras — now Chennai — carried out a scientometric study in 1995, based on Indian medical papers cited in Science Citation Index, which showed a similar result. But this covered only one Indian medical journal out of the 250 or so published.

He has now carried out a study based on data from Medline, which indexes 30 Indian medical journals. The results, published in the journal *Current Science* (72, 912; 1997) of the Bangalore-based Indian Academy of Sciences, reached the same conclusion.

Arunachalam found that, between November 1987 and December 1994, Indian authors published 18,224 articles in 45 medical fields in 1,368 journals. One conclusion was that, in terms of the number of papers published, neither tropical medicine nor respiratory diseases figure in the top 10 fields in Indian medical research (see table 2).

Indian researchers published 584 papers in 101 journals in neuroscience, 1,367 papers in 94 journals in pharmacology, and 821 papers in 56 journals on cancer. But they published only two papers in an epidemiology journal in seven years.

Although agricultural research played an important role in transforming India from a food-deficient country into one with food surpluses, "medical research in India, but for a few exceptions, has not covered itself with glory despite the fact that medicine enjoys a better status and image than agriculture in Indian society," writes Arunachalam. He says the question of relevance is especially important in a developing country where scarce resources have to be used judiciously.

Table 1 **Leading causes of mortality and morbidity in India 1991–93**

Mortality	Diarrhoeal diseases
	Respiratory diseases
	Infancy diseases
	Pneumonia
	Infectious and parasitic diseases
Morbidity	Respiratory diseases
	Diarrhoeal diseases
	Malaria
	Whooping cough/measles
	Neonatal tetanus

Source: WHO

Table 2 **Indian research papers covered by Medline, 1987–94, by subfields (first 10)**

Subject	*No. of journals*	*No. of papers*
General medicine	57	2394
Paediatrics	43	1420
Pharmacology	94	1367
Immunology	74	928
Pathology	48	916
Oncology	56	821
Surgery	68	750
Cardiovascular	41	663
Gastro	26	606
Neuroscience	101	584

The Indian Council of Medical Research (ICMR) has challenged the study's conclusions, denying any mismatch between the work of its researchers and national needs. All the 21 ICMR institutes and five regional medical research centres in different parts of India "direct their efforts for research on diseases or disciplines which are on the national health agenda," the council said in a statement. "Evaluating their contributions in terms of mere publications in indexed (or even other) journals would be not only unfair but unrealistic."

ICMR's deputy director general, Lalit Kant, says that most Western databases, including Medline, cover diseases of the developing countries inadequately. "Any analysis of the relevance of medical research in India should be supplemented with authentic information from other databases like tropical disease bulletins and national databases," he says.

Marthanda S. Valiathan, a leading heart surgeon and vice-chancellor of the Manipal Academy of Higher Education, says that Arunachalam's findings "reveal a lopsided order of priorities in Indian medical research". Valiathan traces the origin of the mismatch to the nineteenth century, when Indians started using Western research tools and techniques without developing their own.

But Balasubramaniam Ramamurthi, one of India's leading neurosurgeons, based at the Voluntary Health Service Centre in Chennai, warns against blaming scientists. "Abolishing diarrhoea, tuberculosis and malaria requires public, political and administrative action, and not research," he argues.

K.S. Jayaraman

SCIENCE, Vol. 277 (1 Aug 1997), p. 643.

RANDOM SAMPLES

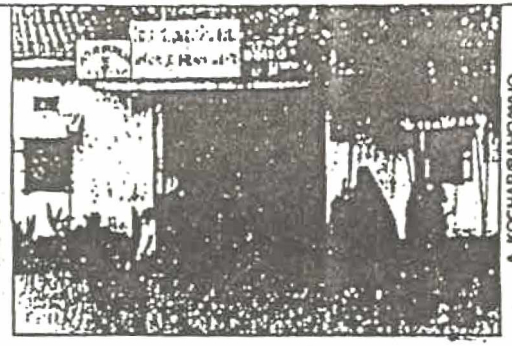
edited by CONSTANCE HOLDEN

Indian Medical Research Out of Touch?

Indian biomedical scientists are focusing on the diseases of the affluent at the expense of their own country's health problems, suggests a study published in the 25 June issue of an Indian journal, *Current Science*.

Subbiah Arunachalam, an information scientist at the M. S. Swaminathan Research Foundation in Madras (now called Chennai), reports that, according to a review of Medline, the 10 fields in which the most papers were published between 1987 to 1994 did not include tropical medicine—infectious diseases such as malaria—or respiratory diseases. And despite India's more than 12 million blind people, "hardly any" research is done in ophthalmology. The study showed that Indian authors are most prolific in the areas of general medicine, pediatrics, and pharmacology. In research targeted to specific diseases, cancer came first with 821 papers. There were 663 papers on cardiovascular diseases, compared with only 432 in tropical medicine.

In addition to having "lopsided" priorities, Arunachalam says, Indian biomedical research suffers from general low quality. Nearly three-fourths of some 20,000 articles by Indian authors over the 7-year period appeared in journals ranked as very "low impact" by the Institute of Scientific Information in Philadelphia, he reports. Only 58 papers appeared in high-impact journals like *The Lancet* or *Science*.



A. KOCHARYAKOWHO

Low priority. Patients at a rural clinic.

Many Indians believe the analysis is sadly on target. It reflects the fact that Indian medical research has "remained aloof from the people and continues to progress only by infusion of foreign know-how," says cardiac surgeon Martanda Varma Sankaran Valiathan of the Manipal Academy of Higher Education. Gowdagere Vedanti Satyavati, director of the Indian Council for Medical Research, counters that "ICMR's thrust areas coincide with national health priorities" and that other indices, such as the *Index Medicus*, show far more publications by Indian scientists than does Medline.

Indian research doesn't reflect country's needs

Ganapati Mudur, *New Delhi*

Most medical research in India is unrelated to the country's major health problems, says a new report which has sparked off a debate on the priorities and relevance of biomedical research.

The report, based on an analysis of research publications from India indexed in the Medline database, says that achievements in research have "little influence" on healthcare delivery. Medical research seems to be concentrated in the fields of tertiary health care and new biology, says the study published in *Current Science*, a journal of the Indian Academy of Sciences (1997;72:912-22).

Government statistics show that diarrhoeal diseases, respiratory illnesses, and infections, including malaria and tuberculosis, are the leading causes of morbidity in India. But the highest number of research publications were in general medicine (2602), paediatrics (1429), pharmacology (1367), immunology (928), oncology (821), surgery (756), and cardiovascular research (663), according to the analysis of Indian research published between 1987 and 1994.

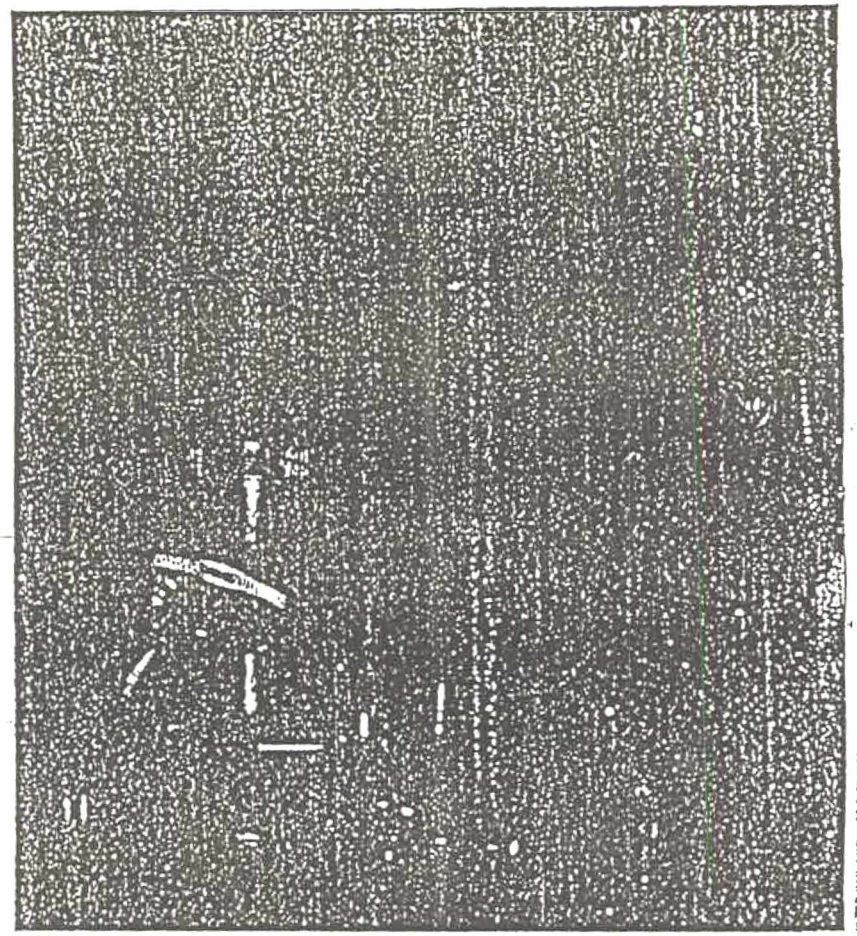
The analysis by Subbiah Arunachalam, an information scientist with the Swaminathan Research Foundation in Madras, also suggests that India is doing little research in ophthalmology (362 papers published), although the country has the world's biggest blind population—10 million—and has a high incidence of cataract and glaucoma. He says that doctors in tertiary care centres are "better endowed" to do research and publish findings than their overworked counterparts in less expensive public hospitals, which are overcrowded with patients.

The analysis also showed that more than 14 000 of the 19 952 papers published during the period were in journals with an impact factor of less than 1.0 while only 58 papers were published in journals with an impact factor higher than 8.0.

The report's conclusions as well as its methodology have, however, been criticised. A spokesman for the Indian council of medical research said that research with a direct impact on health care is not always published. Also the Medline database covers less than a quarter of the English language medical journals published in the country.

Critics also say that the government neglect of public health is responsible for the persistence of many of India's major health problems, and not researchers focusing on the wrong areas. Political and administrative action is needed to fight infections and nutrition related problems, said B Ramamurthy, a neurosurgeon in Madras.

Some analysts, however, say that the mismatch between India's healthcare needs and research carried out cannot be denied. M S Valiathan, a former director of a government funded medical sciences and technology centre, said: "Successive waves of tools and methods from the West, not societies' needs, have determined the medical research agenda in the country."



Research in India is concentrated in tertiary healthcare

In this issue

Medical research in India: In need of intensive care

The availability of the *Science Citation Index (SCI)* databases has spawned an enormous variety of studies of science and scientists. It is now possible to generate all manner of data on publishing scientists, journals and disciplines. In this issue (page 912), Arunachalam asks the question 'How relevant is medical research done in India?' To answer this, the author turns to the *Medline* database and not the *SCI*, because during the period under study (1987–1994), the latter covered only a *single* Indian medical journal – a commentary both on the *SCI* and the perceived standard of most of our medical (and indeed all science) journals. Can searches for 'Indian' papers yield correct results? Arunachalam describes the inclusion of all possible Indian cities in 'address fields' for computer searches: a process that provides him a respectable number of publications for analysis. He then proceeds to draw many important and provocative conclusions. In particular, as compared to agriculture, medical research in India appears to be limping and off target. This is hardly surprising since biomedical research has never been a major thrust in our medical institutions, with one or two important exceptions. The jealous guarding of 'turf' in medical colleges and higher institutions by medical degree holders has ensured that basic science, an important pre-requisite for creating a research ambience, is largely excluded from the teaching of medicine. Pharmacology, microbiology, immunology and genetics are the stepchildren in medical course lists, leading to the production of a large number of clinicians with only a limited appreciation of the capabilities of modern science in biomedical research. The spatial separation of research institutions and hospitals hinders fruitful interactions between researchers and clinicians. This gulf has hindered the growth of modern biology in India directed towards the purposeful attack on problems of local importance. Few lessons have been learnt from the burgeoning biomedical research enterprise in the West. Ironically, the Indian Council of Medical Research (ICMR) is chronically underfunded, struggling to maintain a laboratory network which is hardly suited to the demands of modern science. Fortunately, both CSIR and DBT appear to be moving towards shoring up biomedical research, although an infusion of funds is hardly likely to bring about the attitudinal changes that appear necessary.

While Arunachalam's critique may hardly be music to the ears of the medical establishment, there is no doubt that it must be heard. In a perceptive commentary, Valiathan (page 911) points out that the 'poor correlation between major health problems and the preferences of investigators has reasons which go deeper into the history and evolution of medicine in India'. He concludes that 'India welcomed western medicine in the nineteenth century and quickly learnt to use its tools and methods without bothering to learn how to make the tools and methods. This failure, like a birth defect, became a handicap and ensured that successive waves of tools and methods from the West, and not societal needs, determined the medical agenda in India. In many ways, this is reminiscent of Indian scientific research in general: it remained aloof from the people and failed to power our socio-economic development which continues to progress by infusions of foreign knowhow.' While any critical analysis of medical research (or indeed of any other area) will be bound to attract comment, in an environment where criticism is hardly ever construed as constructive, it is clear that with the increasing availability of bibliometric tools this is unlikely to be an isolated exercise.

P. Balaram

Medical research on the sick list

M. S. Valiathan

Evaluation of performance in science is a useful, and at times unflattering, exercise. Bibliometry is an evaluation procedure whose application is new to medical research in India. No wonder Arunachalam's report[1] based on Indian medical papers cited in *SCI* and his conclusion that a substantial mis-match exists between the needs of health in India and the research actually done had evoked considerable interest earlier. As the *SCI* covered just one medical journal from India, Arunachalam has repeated the study by using *Medline* as the source of data because a high proportion of medical papers are published in local or national journals[2]. His painstaking analysis not only confirms the mismatch noted earlier but also uncovers a disturbing picture of medical research in India. Admittedly bibliometry is handicapped, for example, by problems of classification between journals and diseases, correctness of reported data on mortality and morbidity and the bias of editors and indexing agencies. These difficulties do not, however, detract from the main significance of Arunachalam's study. He found that in seven years from 1987 to 1994, Indian authors published 19,916 articles in 1440 journals; of which 14,822 were published in journals whose impact was less than 1.0. Only 58 papers appeared in journals with an impact factor higher than 8.0 and some of these belonged to new biology and not mainstream medical research. Among the published papers, general and internal medicine claimed top position (2602), followed by paediatrics (1420) and pharmacology (1367) with seven other fields claming publications in three-digit figures. However, the top ten fields in Indian medical research did not include tropical medicine or respiratory diseases which rank high according to the mortality and morbidity statistics in India. Again, with more than 9 million blind including two million blind children, hardly any research was done in ophthalmology on the basis of publications. Oncology, cardiovascular and neurological diseases did not figure among the leading causes of mortality and morbidity according to the official data supplied to the WHO; yet 2068 papers were published in these disciplines. Even if some papers in tropical and respiratory diseases had been listed under medicine and paediatrics, and the Indian statistics on mortality and morbidity are not fully reliable, Arunachalam's findings do reveal a lopsided order of priorities in Indian medical research. A less serious but equally disturbing, finding is that no more than a small fraction of the 250 Indian medical journals received by the National Library of Medicine are covered by *Medline*. The analysis also brings out other interesting information such as universities and colleges leading in medical publications; CSIR institutions publishing more than the ICMR group and the DAE institutions excelling those under the Ministry of Health (excluding AIIMS and PGI) in publications.

Though Arunachalam seeks the explanation for the dominance of cancer and cardiovascular research in the affluence of patients, better facilities of tertiary hospitals, etc., the analysis does not get to the heart of the problem. The poor correlation between major health problems and the preferences of investigators has reasons which go deeper into the history and evolution of medicine in India. The originality and spirit of enquiry which characterize *Charaka Samhita* vanished by the early centuries of the Christian era and an age of stagnation began in Indian medical endeavour after the appearance of *Ashtanga Hridaya* in the 7th century. Long starved of new knowledge, India welcomed western medicine in the nineteenth century and quickly learnt to use its tools and methods without bothering to learn how to make the tools and methods. This failure, like a birth defect, became a handicap and ensured that successive waves of tools and methods from the West, and not societal needs, determined the medical agenda in India. In many ways, this is reminiscent of Indian scientific research in general; it remained aloof from the people and failed to power our socio-economic development which continues to progress by infusions of foreign know-how. Once we begin to devise our tools and methods and apply them for solving the health problems around us, Indian medical research will gain speed and purpose and hopefully, bibliometric acclaim.

1. Arunachalam, S., Fifth International Conference on Scientometrics and Informetrics, River Forest, USA, June 1995.
2. Arunachalam, S., *Curr. Sci.*, 1972, 7[illegible] this issue.

M. S. Valiathan is in the Manipal Academy of Higher Education, Manipal 576 119, India.

Medical research in India

Subbiah Arunachalam (*Curr. Sci.*, 1997, 72, 912–922) states that medical research in India is not related to the areas of maximum mortality and morbidity. He also states that matching ICMR programmes with the health care delivery objectives of the Department of Health and Family Welfare would be revealing. These statements require critical examination. The author seems to have fallen into the familiar trap set by medico-politicians who seek to justify the inactivity of the Government in the field of Public Health, by putting the blame on medical researchers.

Mortality and morbidity in India is mostly due to communicable diseases like infectious diseases, diarrhoea, infantile malnutrition, respiratory diseases, tuberculosis and malaria. All these diseases are controllable and have been controlled in many countries by applying the available techniques. Nutrition, food, protected water supply, noncontamination of water sources, drainage and cleanliness in food handling, etc. will wipe away these diseases. No research is needed in these areas to abolish these diseases and reduce morbidity and mortality. What is required is public, political and administrative action and not research. But to satisfy the political masters – the masters who hold the purse strings of the ICMR – who do not act to prevent these diseases but palm the baby off saying the research is needed, the Council has launched on what is called operational research, e.g. What is the best way of giving vitamin A to the children? What is the best way of swatting a mosquito? Such research undertaken to satisfy the masters who have no political will to control infectious diseases is wasteful and unproductive.

Except in some areas of resurgent malaria and recurrent tuberculosis, research into preventable communicable illnesses is not necessary. Hence we should not fall into this oft-repeated slogan that research in India is not being done in the relevant areas. The same holds good for the control of ophthalmic diseases and blindness. Why not apply the available knowledge and cure glaucoma and blindness instead of asking for research?

It is not fair to compare agricultural research and medical research in India. In medical research in the relevant areas of maximum morbidity and mortality, knowledge was available and was not applied; whereas in the case of agriculture, a whole vista of new knowledge with relevance to Indian conditions lay waiting to be explored.

The medical research in India has thrown light on many areas like diabetes, cerebro and cardiovascular diseases, special types of cancers peculiar to India and neurosciences.

Valiathan's comment on Indian research, though appearing relevant, is too strong and not applicable at least to medicine. In the surgical field, the difficulty for Indian surgeons to achieve a breakthrough in techniques lies in the fact that there has been no industrial or mechanical backup for any new idea that the Indian surgeon may want to develop. If a surgeon wants to improve or make a new instrument, he just may not have anybody to turn to. The manufacturer wants an assurance from the surgeon that at least 2000 pieces will be sold! This has been my own experience. Luckily Valiathan had the backup of an institution where he could make appliances to his specification and try them out.

Lastly the most important thing in medical research or any other type of Indian research is that the atmosphere of questioning is lacking from the very beginning of education. When all education is memory-based and questioning by students is positively discouraged from early childhood, how can the country expect researchers to bloom when they enter universities or research institutions? If there is still so much good research in India, this is despite the system of education and despite the ignorant political masters who have no concept of the importance of research for the overall development of the country in the modern era of science and technology. So after all Valiathan's statement may have some justification!!

B. RAMAMURTHI

Dr Achanta Lakshmipathi Neurosurgical Centre, Voluntary Health Services, TTTI Post, Chennai 600 113, India

CURRENT SCIENCE

Volume 73 Number 5 10 September 1997

CORRESPONDENCE

Medical research in India

Though greatly disturbed by the conclusions, the article 'How relevant is medical research done in India?' (*Curr. Sci.*, 1977, 72, 912–922), I must say that it came as a strong affirmation of what many of us have lamented over in the last few decades.

I would like to offer some of my viewpoints on the possible causes of the problem evoked and so forcefully delivered in Arunachalam's paper. The malaise is akin to what is going on in all walks of public life in India. Quality and merit have been long ago sacrificed at the altar of political expediency and what we are seeing is the result of 50 years of reverse evolution – survival of the lowest common denominator. It is no surprise then, that the soil can only grow this very poor crop and that Indian medical publishing is of the 'subsistence farming' variety.

A large part of the poverty in medical publishing in India arises from a lack of a publishing and research culture in Indian medical schools and institutions of higher learning. Medical trainees have virtually no exposure to the basics of scientific methodology, study design and biostatistics. Almost all their publishing exposure is to mindless articles of the 'show and tell variety'. Indeed, a quick scan of the journals published by large Indian medical societies reveals the problem in startling detail: virtually none of the publishing in clinical medicine is of the prospective, randomized, controlled trial variety. Almost all are retrospective, seriously flawed analyses of poorly collected data. The problem is compounded with each passing decade of teachers who have less and less knowledge of scientific methodology; ergo, students come out with the impression that 'experience' – personal, unverified and untested – is the preferred method of advancement of knowledge. It takes enormous effort and heartbreak to convince these young minds, bright as they are, that the rules of the game are different. Entropy wins and over the years medical publishing has reached the current status that has been so well demonstrated in the paper. When there is so little medical publishing in India – good or bad – there is even less exposure of the young to the proper techniques and joys of scientific research.

The greater tragedy of Indian publishing lies in the opportunities missed. As pointed out, there is very little published that is relevant to the healthcare problems of an Indian. We have not even the barest data on the epidemiology of diseases that are common in India. Much of Indian medical allopathic practice is based on Western data when it is patently obvious that there are very many major cultural and ethnic differences between Indians and Caucasians. For want of anything else, such of us who believe in proof before submitting our patients to an intervention, have to go by the opinions of those who never intended their conclusions to be implemented by us.

Like all else in Indian public life, the present scenario seems depressingly bad. Lone voices, for all their dynamism and personal record, have been drowned out by the cacophony of the Indian doctor–politician, a subspecies of the professional-politician genus that floods our current workscene.

ARJUN RAJAGOPALAN

Sundaram Medical Foundation,
Shanthi Colony,
IV Avenue, Annanagar,
Chennai 600 004, India

Subbiah Arunachalam's article in the 25 June issue is interesting and revealing. However, an important subject like nutrition is conspicuously not mentioned. Malnutrition is a major cause of morbidity and mortality in the developing countries, and yet while listing out the disciplines as well as journals, the subject of nutrition has been omitted. This is particularly surprising since the author works in an institution which is grappling with problems of food and nutrition and very much aware of their importance. Nutrition is not a baby of only agricultural scientists and nutritionists. Medical professionals have to take it more seriously. Nutrition research is not receiving adequate attention and support in India and this is not because all that needs to be known in this subject is already known as some biologists think and want others to believe.

MAHTAB S. BAMJI

211, Sri Datta Sai Apts,
RTC Cross Road,
Hyderabad 500 020, India

CURRENT SCIENCE

Volume 73 Number 4 25 August 1

CORRESPONDEN

Medical research in India

In spite of a brave defence put up by Ramamurthi[1] with regard to the write-up of Arunachalam[2] and comments of Valiathan[3], the fact remains that the Indian medical research continues to be pedestrian. I list a few correctable shortcomings, which may be helpful.

1. One of the serious drawbacks in medical research in our country has been the isolation of medical sciences from other branches of science and technology. Help from chemists for analysis or synthesis of chemicals and drugs, engineers to shape or build equipment or biologists for comparative studies is often not sought. The Medical Council of India must allow employment of atleast one staff member from these specialities in basic science departments of medical colleges for such interaction.

2. Often the medical researcher is at a loss for information and does not know where to direct his queries. I give a few examples: (i) Whom do I contact to build a piece of equipment to measure the short circuiting current across a membrane? (ii) Is there a source other than 'Sigma' for collagenase? (iii) Can somebody teach me the technique of isolation of cardiac muscle cells from mice? (iv) Is the cell line from colonic carcinoma available in India? (v) Is it true that herbal treatment of Walajah is superior to allopathic medicine in curing Hepatitis A?

I suggest that we should establish a 'Science and Technology Information Centre' suitably manned by sympathetic and patient scientist–counsellors to help out researchers in this regard. Bringing out a directory of 'Who is doing what in Indian science' is also a good idea.

3. In recent years I have been a ness to the exodus of a large n ber of medical researchers f basic laboratory-oriented scienc epidemiology. I am afraid this further compromise the few g we have made on the scient front. Even the funding by IC seems to be tilted in this direct A corrective action in this are urgently needed.

1. Ramamurthi, B., *Curr. Sci.*, 1997, 73.
2. Arunachalam, S., *Curr. Sci.*, 1997, 912–922.
3. Valiathan, M., *Curr. Sci.*, 1997, 72, 9

J. PRAKASA R

Department of Physiology, Christian Medical College, Vellore 632 002, India

A related paper
An investigation based on
Science Citation Index Data

Does India Perform Medical Research in Areas Where Research Is Needed Most?*

Subbiah Arunachalam
M S Swaminathan Research Foundation
Third Cross Street, Taramani Institutional Area
Chennai 600 113, India
<arun@indy.iitm.ernet.in>

Abstract

This paper attempts to both map medical research in India and answer an important policy question by the unobtrusive technique of literature analysis. I match the disease pattern as seen from mortality and morbidity statistics with journals used by Indian medical researchers to publish their work as seen from *Science Citation Index* (*SCI*). The former reflects the needs while the latter reflects the areas in which research is being done. The limited statistics available from both Government of India sources and World Health Organisation point to diarrhoeal diseases, infancy diseases, respiratory diseases, circulatory system diseases, infectious diseases, malaria and tuberculosis as the major medical problems faced by India. The journals used often by Indian medical researchers to publish their work, as seen from *SCI* 1981-1985, show that they are mainly active, in terms of number of publications, in general medicine, pharmacology, tropical medicine, neurosciences, radiology, oncology and pathology. In terms of the share of the world's literature in different subfields, India is second only to USA in andrology, third in tropical medicine after the USA and the UK, tenth in hygiene and public health, and eleventh in general and internal medicine, and radiology and nuclear medicine. Overall India's share in the journal literature of medicine is not only far less than that of the share of many other countries, both advanced and middle level, but also far less than that of India's share of the literature of physics, chemistry, mathematics and engineering. I have listed the journals in which Indian researchers have published at least 10 papers in the period 1981-85. Data on the observed citation impact of Indian research in different subfields of medicine show that the work done in India in general is not integrated well into international research. India, I conclude, could be much more purposive in her research priorities and probably should invest much more in medical research.

* A modified version of a paper presented at the Fifth Biennial International Conference of the International Society for Scientometrics and Informetrics, River Forest, IL, USA, 7-10 June 1995.

Introduction

The question of relevance is becoming increasingly important in science policy making around the world. Relevance in research is particularly important in developing countries where a number of demands vie with each other for the limited resources available. It is against this background I attempt in this paper to look at medical research done in India, its quantum and its relevance.

Despite recent advances in life expectancy, literacy and the economy, India continues to have, as do most of the developing countries, more than her share of medical and health care delivery problems. In this paper, I attempt to answer the question of relevance pertaining to medical research in India by matching two sets of data: (i) disease pattern as seen from mortality and morbidity statistics -- a reflection of needs, and (ii) journals used by Indian medical researchers to publish their work -- reflecting areas in which research is being done.

Along the way I provide considerable amount of data of bibliometric interest, such as share of India and several other countries, some scientifically advanced and others middle level and comparable to India in their scientific enterprises, in the literatures of different subfields of medicine, the citation impact of India's work in different medical specialities, and a list of about hundred journals in which Indian researchers have published at least 10 papers in the five-year period 1981-85 as seen from *SCI*. Such a study can help one not only map medical research in India but also inventory and assess existing research capacity, something which has been rarely attempted in developing countries, especially in the health sector.

The study of patterns of journal use constitutes an interesting line of inquiry in scientometrics. Such studies hardly add anything worthwhile to scientometric theory. Nevertheless they are important, because they can contribute to science policy. Studies by Arunachalam and Hirannaiah,[1] and Mehrotra and Lancaster[2], both based on limited data, are mostly of bibliometric interest. One of the earliest papers which looked at journal use and yet addressed questions relating to science

policy was that by Garfield[3]. In perhaps the first policy-related study of journal use by Indian researchers, Arunachalam and Singh[4] related publication output to issues pertaining to information access.

More germane to the present investigation is the work of Reddy *et al.*[5] wherein they looked at the research output of 128 Indian medical institutions, as seen from *SCI* 1981-88, and concluded that less than ten institutions were active in research and that overall quality of Indian medical research was low.

This analysis is mainly based on a paper by Schubert *et al.*[6] providing comprehensive data for 2649 journals which were covered by *SCI* in each of the five years 1981-85. Multiauthored papers are assigned to India if the first author had given an address in India. To see India's contribution to medical research in perspective, I have provided data for several other countries including USA, UK, Japan, Australia, Canada and Israel. I have also provided data on India's contribution to other fields of science -- physics, chemistry, life sciences and engineering.

Methodological Problems

Before we proceed further a few caveats regarding the database used in the study are in order.

Adequacy of SCI -- First, this analysis gives us numbers of Indian articles published in only the "significant journals" of the world[7] as determined by the publishers of *SCI*. As the database used covers only 2649 journals (the 1981-1985 constant journal set), a large number of journals, both Indian and foreign, are excluded. Indeed only one Indian medical journal, viz., *Indian Journal of Medical Research* is covered.

The omission of most Indian journals in a study of medical research in India may appear on the face of it a serious lacuna. A study involving both informed peer judgement and content analysis[8] of 75 journals carried out by Prof. Samiran Nundy of the All India Institute of Medical Sciences, himself a surgeon of repute and editor of a medical journal, has shown that Indian medical journals not covered

by *SCI* were generally of poor quality (see also ref. 5). Nundy has also discussed the reasons for the poor quality of Indian medical journals elsewhere.[9]

Even if we have reservations in accepting Prof. Nundy's views, as indeed Prof. Dilip Karnad of Seth G S Medical College, Mumbai, has, *SCI* data could still be used as a good approximation to answer the question I have raised. Prof. Karnad tells me (private communication, September 1997) that every national association of specialists in India has its own journal, and that these journals, sent free to the members of the respective associations, have a much wider readership than the *Indian Journal of Medical Research,* but many of these are not indexed in *SCI* and other secondary services. Many important papers, including findings of research, are published in them and will not be available for any analysis based on international databases. According to him, "To be truly representative your survey will have to include all the major general and speciality journals in India."

During the period November 1987-December 1994, the CD-ROM version of *Medline* has covered 19,952 papers from Indian institutions published in 1,440 journals and 14,777 papers from the People's Republic of China published in 1,135 journals. During this period, *Medline* had indexed 30 Indian journals (including 3 titles in allied fields such as biochemistry and experimental biology) carrying 6,684 papers from India, and 36 Chinese journals carrying 10,168 papers from Chinese institutions. These figures are significant. Not only do Chinese researchers publish a much higher percentage of their papers in home country journals but also *Medline* covers a larger number of papers from Chinese laboratories published in home country journals than papers from Indian laboratories published in India. Considering that inclusion of Chinese papers would often mean the difficult exercise of translating from the Chinese and virtually the entire research output from India is in English, it is clear that work from China is rated to be better worthy of coverage by the publishers of *Medline*. I believe that the use of *SCI* data for the objective of this paper is not all that bad. In any case, I have recently published an analysis of the *Medline* data.[10]

Classification of journals and diseases -- Another problem I faced concerns the classification of journals into different subfields. I have allotted whole journals to subfields and subfields to major fields in the same way as is being done at the CHI Research Inc.[11], and Prof. Tibor Braun's group at the Hungarian Academy of Sciences.[6] However, it is possible that individual articles in a given journal may appropriately be classified into more than one subfield. As pointed out by Schubert *et al.*[6], the field-subfield classification of journals is a neuralgic point of all kinds of scientometric evaluation. It is especially difficult to distinguish between border line journals such as those in the intersection of medicine proper and biomedical/new biology research.

Another ticklish issue concerns the different ways diseases and journals are classified. Diseases are usually classified as pertaining to different systems such as respiratory system, circulatory system, and nervous system, whereas journals are classified under fields and subfields such as allergy, andrology, and gastroenterology.

Indeed the world scientometric community is seized of the problems in all kinds of classification. These were discussed at a one-day workshop immediately following the Fifth International Conference of the International Society of Scientometrics and Informetrics.[12]

Despite these problems, viz. inadequacies in the coverage of *SCI* and problems pertaining to classification, one could still use the bibliometric approach based on *SCI* to answer the title question reasonably accurately.

Dependability of health statistical data -- Yet another problem is that the statistical data on the prevalence of different diseases and the causes of death are reliable to only a certain extent. That the statistics available for developing countries is not as reliable as the statistics available for advanced countries is something we have to live with for some years or even decades to come.

Discussion

Relative position of India - Given in Table 1 are data on India's shares of the world literature of science as a whole, the literatures of five major fields, and several subfields in the broad area of medicine, along with India's rank in each one of these fields and subfields. To see India's contribution to the 'significant journals' of science and several medical specialities in perspective, I have given similar data for many other countries, some of them advanced and others middle level like India. Country names are denoted by their ISO three-letter codes.

India, with 2.64% of all papers, ranked eighth in the world in the number of papers in all of science, technology and medicine in the five-year period 1981-85, sixth in chemistry (5.18%), seventh in mathematics (3.22%) and eighth in engineering (3.18%). However, India's rank in life sciences (including classical and new biology, agriculture, medicine and veterinary science) is a poor twelfth (1.58%). In the *SCI* data set considered here, life sciences account for less than one-third of Indian papers in all of science. Two factors could be contributing to the state of affairs. One could be that in areas like agriculture, where communication habits of researchers are different from those prevailing in physics and chemistry, many scientists may actually prefer to publish in local journals, even if they are not covered by international secondary services.[13] The second factor could be the relatively poor standard of much Indian research in classical biology (botany, zoology, etc.) and the consequent inability of a majority of Indian classical biologists to publish their work in journals considered to be 'significant' and worthy of inclusion in *Science Citation Index*. Indeed, the number of Ph.D.s awarded by Indian universities in botany and zoology is large and comparable to the number awarded in physics and chemistry, but the number of papers published by Indian physicists and chemists in journals covered by *SCI* far outnumber the number of papers by Indian biologists.

In 1985, *Indian Science Abstracts*, which tries to cover papers published in Indian journals comprehensively, carried abstracts of over 40,000 papers, most of them written by Indian authors and published in Indian journals (personal

communication from, Mrs Pandalai, INSDOC, New Delhi). Of these, 32% were in physical sciences, chemistry and engineering. The rest, about 68%, were papers in agriculture including animal husbandry and fisheries (29%), medical sciences (21%) and biological sciences (17%), all of which are covered under the category "life sciences". That an area accounting for two thirds of the work reported in Indian journals should account in the international journal output for just about one third of the contribution made by India is significant. Not all of this vast difference can be explained on the basis of 'locale specific nature' of such research, local relevance, etc. The fact is much of it is not considered good enough to be covered in SCI.

Another way of looking at India's contribution is to go by the actual number of papers published in each subfield (Table 2). Here, small fields like andrology (even if India's share as percentage of the world total is large) will not show up prominently.

India occupies the second rank (after USA) in 'andrology' (8.79%), the third (after USA and UK) in 'tropical medicine' (6.82%), tenth in hygiene and public health (1.32%), eleventh in 'radiology and nuclear medicine' (1.02%), and eleventh in 'general and internal medicine' (1.78%). India's good showing in andrology is understandable. Faced with the urgent problem of containing her high population within manageable limits, India has been seriously interested in reproduction research for more than three decades. India's participation in some non-Indian endocrinology journals -- about 9% of papers published in *Contraception*, more than 12% in *Experimental and Clinical Endocrinology*, 10% in *International Journal of Fertility* and 5% in *General and Comparative Endocrinology* -- is also in tune with her emphasis on reproduction research and population control. Indeed some time ago *Science* had highlighted the excellent work done by two Indian groups -- one led by Professors G P Talwar of National Institute of Immunology , New Delhi, and the other led by N Raghuveer Moudgal of Indian Institute of Science, Bangalore -- towards developing birth-control vaccines.[14]

India's interest in tropical medicine is also not unexpected. Here again, perhaps like in agriculture, a substantial part of the work is being published in Indian journals not covered by *SCI*. It is pertinent to recall here that Goffmann and Kenneth Warren of the Rockefeller Foundation had observed, in a 1976 book titled *Scientific Information systems and the principle of selectivity* (Praeger, New York), that research into tropical diseases was best done in the West as scientists in the third world had neither the ability nor the facilities to solve the problems they encountered every day. I presume that Goffman and Warren meant "most parts of the third world" and that they did not include India under the rubric 'third world'. Indeed as Jean Jacques Salomon and Lebeau[15] have pointed out there are many third worlds!

If demography and geography respectively can explain India's interest in andrology and tropical medicine, it is probably the ready availability of indigenously developed radioisotopes and their marketing by the Department of Atomic Energy which are behind India's showing in radiology and nuclear medicine. It is, I guess, more a case of market push rather than demand pull. The interest in general and internal medicine probably owes it to the low nutritional level and health deficiencies. In other areas, India's position, as reflected by her share of world's significant journal literature, is that of an also ran! In some specialities, such as dentistry and odontology, allergy, orthopaedics, otorhinolaryngology and rheumatology, Indian researchers did not even publish 50 papers in the five years studied in journals covered by *SCI*. Also India's share is particularly low in gastroenterology (0.4%, 21st rank), ophthalmology (0.44%, 19th), paediatrics (0.5%, 17th), psychiatry (0.48%, 16th), haematology (0.31%, 22nd), surgery (0.53%, 18th), respiratory system (0.48%, 18th), cardiovascular system (0.35%, 21st), urology and nephrology (0.66%, 19th), and neurosciences (0.42%, 23rd).

With so many Indians suffering from back ache and spondylitis, one would have thought that Indian researchers would be much more active in orthopaedics Considering that India has the largest number of the blind (estimated to be between

nine and twelve million including two million children) and that glaucoma and cataract are major problems, one would have expected to see considerable amount of ophthalmological research. Another area is gastroenterology; Indian cuisines are rich in fat and spice and many common dishes use plenty of hot chilli peppers and tamarind; and in every city and town one can see many advertisements for cures for 'gas in the stomach'. These surmises are intuitive and anecdotal, and lack the authority of hard data.

Morbidity and mortality statistics -- Let us look at some statistics on causes of morbidity and mortality in India as reported to the World Health Organisation. Writing about the South-East Asian region as a whole, the WHO Regional Office at New Delhi states that "ignorance, poverty and malnutrition still predominate in many parts of the region", and that "people in large areas of the region still suffer from the burden of infectious and parasitic diseases (in particular the major communicable diseases) and nutritional deficiency disorders" (ref. 16, p.1). Unfortunately, says the report, information on country-wide morbidity and mortality is not available for India and that even the vital registration system (for causes of death) in India is incomplete (ref. 16, p. 166).

The report lists diarrhoeal diseases, influenza, malaria, tuberculosis and whooping cough as the five major causes of morbidity in India during 1988-1990. Unfortunately, statistics on the causes of morbidity are not available for 1983-1985. The leading causes of death in India, according to the WHO report, are senility, respiratory diseases, infancy diseases, circulatory system diseases and fevers in 1983-1985, and infectious and parasitic diseases, circulatory system diseases, respiratory system diseases, injury/poisoning, and diarrhoeal diseases in the period 1988-1990 (ref.16, pp. 39-40).

The WHO report also states that in India "there is high child and maternal mortality, severe malnutrition, a high incidence of many communicable diseases, and very small proportions of rural population have access to safe water and sanitation." and that despite a large health infrastructure, "the demographic and

health picture of the country remains a serious and urgent concern" (ref. 16, page 167).

According to a UNESCO report (Feb. 1995) more than 250 million people in India including children suffer from malnutrition. Says Vishwakarma, a senior official of the Government of India, "75% pregnant women in India showed signs of nutritional deficiency and 93% were anaemic with inadequate intake of foods rich in minerals and vitamins (ref. 16, p.77). Outside of Africa, India has recorded the largest number of malaria cases -- 1.78 million cases and 222 deaths in 1990 and 2.02 million cases and 268 deaths in 1989.[17]

Research vs. implementation -- Many of the problems faced by India surely call for better health care management or better implementation of policies and programmes rather than additional research. For example, considerable progress could be made in birth control even without any further research, if programmes based on currently available knowledge are implemented efficiently. Increasing opportunities for education, especially for women, and employment and raising both knowledge and availability of contraceptives can have a definite impact on the family planning programme. [In saying this, one is not minimising the importance of birth control / reproduction research. One is only trying to draw attention to the need for optimal allocation of funds for research and implementation programmes.] On the other hand, resurgent malaria needs research as do filariasis and recurrent tuberculosis because of the emerging drug-resistant bacteria.

Indeed, as stated in the Annual Report of the Ministry of Health & Family Welfare for the fiscal year 1993-1994, the Government of India is making a determined effort to make an appreciable impact on the disease control programmes and reduce the levels of morbidity and mortality. A major portion of the 1993-94 plan outlay of Rs 4,833 billion (approx. $150 million) for health was used for the National Programmes for the control of communicable diseases. This includes Rs 1.1 billion for the National Malaria Eradication Programme, Rs 730 million for the National AIDS Control Programme, Rs 350 million for the National Tuberculosis Control Programme, Rs 350 million for the National Leprosy

Eradication Programme, and Rs 250 million for the National Programme for the Control of Blindness. Close to Rs 1.0 billion was earmarked for medical education, training and research. The WHO has praised the implementation of India's Leprosy Eradication Programme (Ref. 18, p. 67)

Research needed in India - But India does need to invest a lot more in medical research, especially in areas indicated by mortality and morbidity statistics. One would expect Indian laboratories to be active in research in infectious and communicable diseases, respiratory and circulatory system diseases, infancy diseases, and diarrhoeal diseases. However, data on journals used by Indian researchers clearly show that Indian research in these areas is rather limited (see Table 2). For example, Indian researchers had published more than ten papers in the five years 1981-1985 in only one journal devoted to infectious diseases (*Infection and Immunity*, 13 papers), two journals devoted to respiratory diseases (*Thorax*, 12 papers; and *Tubercle* 19 papers) and one gastroenterology journal (*Gut*, 13 papers). Reddy *et al.*,[5] concur with this conclusion, saying "Many medical problems are peculiar to India but there have been no major advances towards their solution". A study on medical research in Kerala (by C C Kartha and K Mohandas of Sree Chitra Tirunal Institute for Medical Sciences & Technology, Thiruvananthapuram) has also shown a striking contrast between major health problems and those that attract attention of researchers. Says Kartha: "While infections, parasitic diseases, perinatal and pregnancy related problems, skin diseases, respiratory diseases and nutritional disorders are the major health problems in the state, a large number of publications are related to cardiovascular problems and cancer. This may be because there are three institutions completely devoted to these disciplines. Even in these areas, it is debatable whether research efforts are matched with the needs of the beneficiaries, i.e., the public and policy makers. Simple diagnostic tests for case detection, new modalities for treatment, strategies for identifying high risk population for a specific disease, or methods for prevention of a disease have not been so far originally reported from Kerala " (Private communication, 15 November 1995).

The world scenario -- In all subfields of medicine considered, US-based researchers published the most number of papers. In several fields, including surgery, respiratory system diseases, psychiatry, ophthalmology, otorhynolaryngology and hygiene & public health, USA contributes more than 50% of papers. In most fields UK comes next. It is possible that Germany , France and particularly the USSR are under-represented in *SCI* whose journal coverage policies favour English language journals. Japan is active in cancer (8.39% of the world's output) and cardiovascular research (7.84%) in both of which she occupies the second rank, and in neurosciences (5.99%, third rank), pathology (7.11%, third) and experimental medicine (11.17%, third). Swedish researchers are active in allergy (8.39%, third rank), dentistry and odontology (6.4%, third), orthopaedics (8.75, third) and otorhinolaryngology (7,03%, third). Federal Republic of Germany published a large number of papers in ophthalmology (7.84%, second rank), radiology and nuclear medicine (8.78%, second), andrology (8.72%, third), gastroenterology (9.99%, third), and urology and nephrology (6.07%, third). The French are prolific in rheumatology (12.29, third). In almost all fields, except andrology and tropical medicine, Canada, Australia and even Israel have published more papers than India.

The Indian scenario --Indian researchers had published at least 10 papers in the five years 1981-1985 in about 130 journals, classified under different subfields of medicine: Tropical medicine (7 journals; 294 papers); andrology (3; 112) general and internal medicine (5; 1,584); radiology and nuclear medicine (10; 252); surgery (8; 159); cancer/oncology (9; 176), 26 pharmacology and pharmacy journals (752 papers), etc. Table 2 lists these journals as well as journals in related fields such as biochemistry and molecular biology, microbiology and endocrinology and metabolism, and gives the number of Indian papers, percent share of India and impact factor and country of publication of the journals. In the same period, Indian researchers had published ten or more papers in more than 120 chemistry journals and about 150 engineering journals.[6] In all, India had published ten or more papers in 728 of the 2649 journals included in the database used in this study and in these

728 journals Indian researchers had published 43,905 papers in the five years 1981 - 1985.

Most Indian papers in medicine have appeared in low-impact journals. However, there are some exceptions: 20 papers have appeared in *Cancer* (USA, impact factor as seen from *Journal Citation Reports* 1984, 2.595), 10 in *British Journal of Cancer* (UKD, 2.535), 13 in *Gut* (UKD, 3.749), 60 in *Lancet* (UKD, 9.444), 45 in *British Medical Journal* (UKD, 2.804), 11 in *Neurosciences Letters* (NLD, 2.566), 33 in *Journal of Reproduction and Fertility* (UKD, 2.182), 12 in *Radiation Research* (USA, 2,121), 23 in *Clinical Chemistry* (USA, 3,281), and 13 in *Infection and Immunity* (USA 3.0002).

As would be expected, Indian researchers authored 1427 of the 1460 papers published in *Indian Journal of Medical Research*. But surprisingly, Indian authors have written more than half of the papers published in *Cytologia*, a Japanese journal.

Impact of Indian Research - While India's research output in medical research is low, her output in some related areas is much higher during the same period. For example, Indian scientists have published, as shown in Table 2, at least 10 papers in 30 biochemistry and molecular biology journals for a total of 1,669 papers, 22 microbiology journals (855 papers), and 12 endocrinology journals (313 papers). Even here the quality of work done in India is way behind that done in advanced countries, says Prof. P. Balaram, one of India's leading protein chemists and the perceptive editor of *Current Science*. His views are corroborated by the poor observed citation rates of Indian papers -- far below the observed citation rates in these fields for the world as a whole (Table 3).

The citation impact of Indian research papers in different subfields of medicine is rather poor (Table 3). For definitions of expected, observed and relative citation rates, please see the paper by Schubert *et al.*[6] In brief, the expected citation rate is the average calculated on the basis of citations won by all the articles published in different journals in the subfield during 1981-1985; the observed citation rate is a measure of the average number of citations won by the articles with an Indian first

author. The relative citation rate is the ratio observed/expected. In each subfield the relative citation rate for India is less than one, indicating that on an average Indian papers are quoted less often than what would be expected from the impact factors of the journals in which they are published. Also, in every field India's observed citation rate is far less than the world average. Except in three subfields viz., andrology, tropical medicine, and hygiene and public health, all the three very relevant to India's needs, in all other subfields the observed citation rate of Indian papers is less than two-thirds of the world observed citations rate. In absolute numbers, Indian papers have won more than 1% of the total citations to papers in a field in only three subfields, viz. andrology, tropical medicine and parasitology. On the whole, medical research done in India has very little cognitive impact (as measured by citations in literature produced elsewhere). This impression is generally shared by Indian science watchers and medical researchers themselves.[5]

Both in medical research and in other branches of life science research, as seen from data presented here, the relative citation rate of Indian papers is invariably below one. This is true for other fields of science as well. Although Indians are able to place their papers in journals of particular impact factors, these papers on the whole do not win the average number of citations expected of papers published in those journals. The inclusion of Indian papers actually brings down the impact factors of these journals.

Poor performance -- Talking about surgery and India, Prof. M S Valiathan,[19] a leading cardiac surgeon and now a vice chancellor, had this to say: "India enjoyed a free ride in surgery from the nineteenth century, borrowing western theory and practice and contributing nothing of her own. India's name did not figure in the honour roll of nations which contributed to the advancement of surgical knowledge despite this whole-hearted adoption of European medicine and surgery. In fact, no concept, no discovery, no technology or procedure originated in India which shaped or directed the course of global surgery." Asks Valiathan,[19] " Had our civilisation grown old and reached a stage when it could only perform repetitive acts and no longer adopt its jigs and spindles for new production?"

Comparing results of the European contact of India and USA in the early part of this century, Valiathan points out that "the Indian doctors and surgeons returned home to build legendary reputations, practice and clinics," whereas Americans succeeded in using their training as an engine for progress which would soon excel the record of Europe. What Valiathan says of surgery, I believe, applies to medical research in India as a whole. Prof. B Ramamurthi feels that Valiathan's comments are too strong[20] (personal communication, May 1997). He believes that in certain areas like diabetes, cerebro and cardiovascular disease, special types of cancers peculiar to India and neurosciences, medical researchers in India have done well.

It is not only in medicine that India, despite whole-hearted adoption of the western knowledge system, is unable to perform world class research and make worthwhile contributions to new advances. In almost all fields of science and technology, with rare exceptions, Indian work is derivative and rarely original. Even in fields such as chemistry and experimental physics, says Prof. C N R Rao, one of India's leading chemists and a science-policy maker, it is becoming increasingly difficult for Indian researchers to get their work accepted for publication in leading journals of the world. It is becoming increasingly difficult for most Indian scientists to get fully assimilated as equal partners in mainstream modern science. Even the better endowed among them continue to remain insignificant players. In contrast, look at how well the West is exploring the scientific traditions of other cultures, especially in the areas of medicine and agriculture. The West is learning and assimilating the ethnobotanical knowledge of Asian, African and Latin American societies and is poised to accomplish its goals with relative ease.[21] The West is not merely doing well, as is to be expected, in mainstream science which had its origin in Europe a few centuries ago, but also doing well in and deriving greater benefit than the other cultures from the sciences based on a different rationality from that of Western science.[21] I am reminded of Norbert Wiener's narration of the fight between the mongoose and the snake. Although there is not much difference between the two in terms of physical

strength, the mongoose emerges victorious in every encounter, because it is better able to organise its strategy. Perhaps this is what distinguishes the First World from the Third World.

Reasons for Poor Performance

Poorly funded -- One reason for India's low level of contribution to the medical literature of the world compared to her share in the literature of physics, chemistry, engineering, etc. could be the low level of funding for medical research in India. For instance, during the sixth five-year plan (1980-1985), the Indian Council of Medical Research (ICMR) had an outlay of Rs 660 million (approx. $20 million), as against Rs 4,364 million for the Council of Scientific and Industrial Research (CSIR), Rs 5,300 million for the Indian Council of Agriculture Research (ICAR), Rs 3,927 million for the S & T component of the Department of Space, and Rs 5,236 million for the R & D component of the Department of Atomic Energy (DAE). In terms of percentage share of the central government allocation for science and technology in the sixth five-year plan, ICMR got a meagre 1.1% as compared to 15.3% for DAE, 13.4% for CSIR, 13.9% for ICAR and 12.7% for the Department of Space (Ref. 22, page 123). The situation has not changed much till the early nineties. According to data compiled by DST, total expenditure on research and development in medical sciences for the three years 1990-91 to 1992-93 was of the order of 9.7% of the expenditure on R & D on natural sciences and 5.4% of the R & D expenditure on engineering and technology (Ref. 22, page 130).

Subcritical funding is not the only reason why Indian medical research is poor. According to Reddy *et al.*,[5] private practice is "the major reason for the poor quality of research in most Indian medical colleges." Also, the percentage of physicians and surgeons willing to take up a career in research is rather low. Arora *et al.*[23] point out that "there are only about 30 medical colleges in this country which provide a level of undergraduate training that should be acceptable to the general public. Indeed, there is a clamour for getting admission to medical colleges

in India, and taking advantage of this trend many private colleges, some of them with substandard facilities, charge heavy capitation fees. Doctors who graduate from such colleges would rather like to earn the money they 'had invested' in getting the degree than to pursue research." Sahni *et al.*[8] cite scarcity of good medical data, ill-trained personnel in understaffed laboratories and shortage of foreign currency to pay for expensive western journals to keep up with international trends as additional reasons for the poor quality of research. It would indeed be interesting to look at how access to information impacts the extent and quality of medical research in India.

Clinical research in India, says Sunil Pandya,[24] "is woefully deficient and inadequate in spite of the availability of an almost unmatched reservoir of patients and illnesses, i.e., clinical and pathological material. The reasons are many: a lack of available funds for projects which should receive priority, i.e., inappropriate distribution and monitoring of available funds which are inadequate to start with; a stifling bureaucracy and red tape; the conspicuous absence of co-operative endeavour; the suppression of promising young researchers by their seniors who are past their creative best; the rampant mutual backpatting among those who constitute award-granting expert committees and perhaps, most important of all, an environment devoid of the culture of research." Prof. B Ramamurthi,[20] the eminent neurosurgeon, concurs with Pandya on the lack of a culture of research. Commenting on my *Medline*-based analysis of medical research in India,[10] Ramamurthi says: "the atmosphere of questioning is lacking from the very beginning of education. When all education is memory based and questioning is positively discouraged from early childhood, how can the country expect researchers to bloom out when they enter the universities and research institutions? If there is still so much of good research in India this is despite the system of education and despite the ignorant political masters who have no concept of the importance of research for the overall development and greatness of the country."

Prof. Valiathan[25] is even more eloquent in suggesting that the spirit of inquiry, so very essential to scientific research, is lacking in India. "The poor correlation

between major health problems and the preferences of investigators has reasons which go deeper into the history and evolution of medicine in India," he says. The originality and spirit of enquiry which characterise Charaka Samhita vanished by the early centuries of the Christian era and an age of stagnation began in Indian medical endeavour after the appearance of Ashtanga Hridaya in the 7th century. India welcomed western medicine in the nineteenth century and quickly learnt to use its tools and methods without bothering to learn how to make the tools and methods. This failure, like a birth defecvt, became a handicap and ensured that successive waves of tools and methods from the West, and not societal needs, determined the medical agenda in India. In many ways, this is reminiscent of Indian scientific research in general: it remained aloof from the people and failed to power our socio-economic development which continues to progress by infusions of foreign knowhow." Prof. Balaram also draws attention to the lack of research ambience in our medical institutions.[26]

Conclusion

Medical research in India, in terms of the volume of work published in mainstream journals of the world and its cognitive impact as seen from citations, is rather weak. It is rarely that we come across truly outstanding work of the kind the late Sambhu Nath De carried out on cholera.[27] That he went virtually unrecognised and unrewarded in his lifetime is a sad commentary on the Indian peer review system and a clear proof of the inadequacies of our scientific culture. Reviewing the health care scenario, Prema Ramachandran,[28] Adviser (Health), Planning Commission, New Delhi, has said that "basic, clinical, applied and operational research studies *relevant* to major health and population problems in the country have been the focus of research programmes." [Emphasis added] The evidence gathered from my analysis of published literature, as seen from *SCI*, indicates that this statement is only partly true. While India's interest in areas like andrology and tropical medicine is in tune with her perceived needs, one would expect India to augment her research in other areas of relevance such as infectious

diseases, respiratory diseases, circulatory system diseases, infancy diseases, and ophthalmology. As *SCI* covers only one Indian medical journal, results of our analysis may not reflect the Indian scene entirely accurately; so I looked at Indian papers indexed in *Medline*. An analysis of the *Medline* data shows that Indian researchers do publish a sizeable number of papers in paediatrics/infancy diseases in two Indian journals.[10] These two studies along with analysis based on more recent publication and citation data, I believe, can be of considerable value in mapping medical research in India, especially if these are tempered by quality peer opinion.

India's investment in medical research is indeed deplorably low and should be increased immediately. However, unless such increased funding is matched by enthusiasm and skill of the researchers and sprucing up of the Indian Council of Medical Research, the nodal agency responsible for biomedical research in the country, it would not lead to substantial improvement. Says M R Srinivasan,[29] Member, Planning Commission, that India's transformation from an importer of food grains a few decades ago to an exporter of a variety of agricultural products including food grains is largely due to the steadfast application of science at the field level (largely thanks to the Indian Council of Agricultural Research), acceptance of new varieties by the farmers, and the catalytic role played by the imaginative political and administrative leadership in the sixties in promoting the synergetic interaction between the farmer and the scientist. Unfortunately, feel some senior scientists, ICMR and the doctors could not do to medical research and health care in India what ICAR and the community of farmers did to agricultural research and production of food grains. One of them told me that ICMR was rather unfortunate in that for a while - long enough to damage - its political and administrative leadership lacked the vision and direction essential to steer it to realise its mission. Says Dr Ramamurthi[20] that even in areas where what was needed was public, political and administrative action and not research, to satisfy the political masters ICMR bosses have launched what is called "operational

research", e.g. What is the best way of giving vitamin A to children and what is the best way of squatting a mosquito? In his view, such research undertaken to satisfy the masters who have no political will to control infectious diseases is wasteful and unproductive. But there are others like Dr S Sriramachari, a former Additional Director General of ICMR, who feel that it is unfair to hold ICMR alone responsible for the perceived status of medical research in India (personal communication, May 1997). It is not fair to compare agricultural and medical research in India, says Ramamurthi[20]: "In medical research in the relevant areas of maximum morbidity and mortality, knowledge was available and was not applied, whereas in the field of agriculture, a whole vista of new knowledge with relevance to Indian conditions lay waiting to be explored."

I would be happy if this unobtrusive literature-based analysis opens up a discussion on the steps to be taken to improve both medical research and health care delivery in India. Also, I would like funding agencies such as the DST and DBT to come forward and fund such scientometric studies with science policy implications. For reasons I cannot guess, they seem to be reluctant. Both these agencies refused to entertain my proposal for similar studies.

Acknowledgement

Prof. S K Rangarajan showed me a whole new way of looking at my data. Dr U N Singh, Birla Institute of Technology, Mesra, Ranchi, assisted in data collection. Much of the work was completed when I was an INSA Visiting Fellow at the Indian Institute of Science, Bangalore. Many scientists at the Indian Institute of Science [especially Prof. N V Joshi], some of my friends in the medical profession [especially Sunil David (who alone differed from my inferences), S R Naik, S K Pandya and M S Valiathan] and Prof. Esther Hicks [editor of *Knowledge and Policy*] read an earlier draft of this paper and gave their comments. Dr C C Kartha sent me his findings on medical research in Kerala before publication. Prof. M S Valiathan and Prof. Samiran Nundy sent me reprints of some of their papers. Prof. B Ramamurthi and Dr S Sriramachari commented upon a related manuscript.[10]

REFERENCES

1. Arunachalam S, Hirannaiah S. Where do Indian scientists publish? *Proc. Seminar on Primary Comunications in Science and Technology in India,* Bangalore, 4-8 December 1978, edited by R N Sharma and P S Shankar (PID, CSIR, New Delhi), 141-148.

2. Mehrotra R, Lancaster F W. Where Indian scientists publish. *Curr Sci*, 1978; **53**:684-688.

3. Garfield E. Third world research: Mapping science in the third world. *Sci Public Policy*, 1983; **10**:112-127.

4. Arunachalam S, Singh U N. Access to information and the scientific output of India. *J Sci Ind Res,* 1992, **51**:99-119.

5. Sudhakar Reddy K, Sahni P, Pande G K, Nundy S. Research in Indian medical institutes. *Nat Med J India*, 1991; **4**:90-92.

6. Schubert A, Glanzel W, Braun T. World flash on basic research. Scientometric datafiles. A comprehensive set of indicators of 2649 journals and 96 countries in all major science fields and subfields 1981-1985. *Scientometrics*, 1989; **16**:3-478.

7. Garfield E. Significant journals of science. *Nature*, 1976; **264**:609-615.

8. Sahni P, Reddy P P, Ravi Kiran, Reddy K S, Pande G K, Nundy S. Indian medical journals. *Lancet*, 1992; **339**:1589-1591.

9. Nundy S. Medical journals in developing countries. In Lock S, ed. The future of medical journals. London: British Medical Journal, 1991, 74-80.

10. Arunachalam S. How relevant is medical research done in India? A study based on *Medline*. *Curr Sci*, 1997; **72**: 912-922.

11. National Science Foundation's Science Literature Data Base. Computer Horizons, Inc., Cherry Hill, NJ, USA.

12. *Scientometrics*, 1996: [Proceedings of the one-day workshop organised by W Glanzel, immediately following the Fifth International Conference on Scientometrics and Informetrics, River Forest, IL, USA, June 1995] published as a special issue of *Scientometrics*.

13. Davis C H, Eisemon T O. Mainstream and non-mainstream literatures in four peripheral Asian scientific communities. *Scientometrics*, 1989; **15**:215-239.

14. Aldhous P. A booster for contraceptive vaccine. *Science*, 1994; **266**:1484-1485.

15. Salomon J J, Lebeau A. 1993. *Mirages of development -- Science and technology for the third worlds*. Lynne Riener Publishers, Boulder, CO, USA.

16. *Bulletin of Regional Health Information 1988-1990*. WHO Regional Office for South-East Asia, New Delhi. 1992.

17. World malaria situation in 1990. *Wld Hlth Stat Quart*, 1992; **45**:257-266.

18. *Health situation in the South-East Asia Region 1991-1993*. WHO Regional Office for South-East Asia, New Delhi. 1995.

19. Valiathan M S. Surgery and India. Sir A L Mudaliar Endowment Lectures. University of Madras. 24-26 August 1987.

20. Ramamurthi B, Medical research in India, *Curr Sci*, 1977; **73**: 7-8.

21. Arunachalam S. Science on the periphery enriches mainstream science, but at what cost? The case of ethnobotany. In Roland Waast, ed. *20th century science: Beyond the metropolis*, Vol. 6 - *Sciences in the south: Current issues*. ORSTOM, Paris, 1996.

22. *Status Report on Science & Technology in India 1994*. CSIR, New Delhi.

23. Arora M, Banerjee J K, Sahni P, Pande G K, Nundy S. Which are the best undergraduate medical colleges in India? *Nat Med J India*, 1996; **9**:135-140.

24. Pandya S. Why is the output of medical research from India low? *Br Med J*, 1990; **301**:333.

25. Valiathan M S, Medical research on the sick list, *Curr Sci*, 1997; **72**: 911.

26. Balaram P, Medical research in India: In need of intensive care, *Curr Sci*, 1997: **72**: 899.

27. Balaram P, Sambhu Nath De, *Curr Sci*, 1990; **59**: 627.

28. Ramachandran P. Health care scenario. *Yojana*, January 1997 (Republic Day Special Issue); **41** (1): 49-52.

29. Srinivasan M R. Growth of science and technology in post-Independence era. *Yojana*, January 1997 (Republic Day Special Issue); **41** (1): 14-18.

Table 1: **The shares of India and several other countries in the literature of five major fields and more than twenty subfields of medicine**

(Values in parantheses denote ranks)

PERCENTAGE SHARE OF JOURNAL ARTICLES AND (RANK)

	Total No. of articles (world)	No. of Journals	IND	USA	SUN	UKD	JPN	DEU	FRA	CAN	ITA	AUS	ISR	NLD	CHE	SWE
All of science	1918188	2649	2.64	36.81	7.27	8.96	6.99	5.87	4.67	4.17	2.28	2.23	1.06	1.70	1.22	1.64
			(8)	(1)	(3)	(2)	(4)	(5)	(6)	(7)	(9)	(10)	(14)	(11)	(13)	(12)
Mathematics	49264		3.22	41.24	1.98	7.10	5.07	6.54	6.37	5.23	1.90	2.01	1.83	1.61	0.79	0.72
			(7)	(1)	(9)	(2)	(6)	(3)	(4)	(5)	(10)	(8)	(11)	(12)	(17)	(19)
Physical Sciences	370612		3.25	34.88	11.53	6.83	7.07	6.33	5.31	3.88	2.52	1.85	1.07	1.61	1.35	0.87
			(8)	(1)	(2)	(4)	(3)	(5)	(6)	(7)	(9)	(10)	(14)	(11)	(12)	(16)
Chemistry	255140		5.18	22.36	14.77	6.43	11.37	7.26	4.92	3.19	3.03	1.57	0.67	1.43	1.16	0.94
			(6)	(1)	(2)	(5)	(3)	(4)	(7)	(8)	(9)	(13)	(21)	(15)	(16)	(18)
Life Sciences	1065030		1.58	40.76	3.04	10.62	5.89	5.49	4.35	4.58	2.24	2.66	1.18	1.92	1.24	2.29
			(12)	(1)	(7)	(2)	(3)	(4)	(6)	(5)	(10)	(8)	(14)	(11)	(13)	(9)
Engineering	197424		3.18	39.28	6.52	7.40	9.29	6.32	3.27	4.42	1.69	1.76	1.04	1.45	1.06	1.01
			(8)	(1)	(4)	(3)	(2)	(5)	(7)	(6)	(10)	(9)	(15)	(12)	(14)	(16)
Sub-fields of Medicine																
Allergy	4326	6	-	34.12	-	11.23	5.09	2.59	3.01	5.04	3.72	2.47	-	3.81	1.18	8.39
			(-)	(1)	(-)	(2)	(5)	(10)	(9)	(6)	(8)	(11)	(-)	(7)	(16)	(3)
Andrology	1319	4	8.79	22.74	-	3.79	-	8.72	4.09	-	4.85	-	3.79	-	-	4.17
			(2)	(1)	(-)	(8)	(-)	(3)	(6)	(-)	(4)	(-)	(7)	(-)	(-)	(5)

	Total No. of articles (world)	No. of Journals	IND	USA	SUN	UKD	JPN	DEU	FRA	CAN	ITA	AUS	ISR	NLD	CHE	SWE
Cancer/Oncology	30823	35	0.78 (18)	47.07 (1)	3.81 (7)	7.40 (3)	8.39 (2)	5.14 (4)	4.03 (6)	2.84 (8)	4.10 (5)	1.31 (12)	1.34 (11)	2.04 (9)	0.79 (17)	2.02 (10)
Cardiovascular System	30473	40	0.35 (21)	44.95 (1)	5.40 (5)	7.32 (3)	7.84 (2)	6.77 (4)	5.30 (6)	3.13 (7)	2.69 (8)	1.55 (11)	1.24 (13)	2.15 (9)	1.34 (12)	1.80 (10)
Dentistry and Odontology	12722	28	- (-)	48.88 (1)	- (-)	14.53 (2)	3.95 (4)	1.08 (13)	1.21 (12)	2.63 (6)	- (-)	1.86 (11)	1.92 (10)	3.47 (5)	0.95 (16)	6.40 (3)
Dermatology and Venereal Diseases	14385	19	0.91 (18)	34.05 (1)	8.96 (3)	9.33 (2)	4.21 (6)	7.49 (4)	6.48 (5)	1.42 (13)	2.58 (9)	0.66 (20)	1.28 (15)	2.51 (10)	1.24 (16)	3.68 (7)
Gasteroenterology	12353	18	0.40 (21)	33.85 (1)	- (-)	10.94 (2)	3.97 (7)	9.99 (3)	9.16 (4)	2.59 (10)	6.08 (5)	1.34 (12)	1.51 (11)	1.13 (14)	1.31 (13)	3.97 (6)
General & Internal Medicine	97865	60	1.68 (11)	31.68 (1)	3.95 (6)	22.52 (2)	0.85 (18)	5.82 (3)	5.20 (4)	3.10 (8)	0.72 (21)	4.02 (5)	1.42 (12)	1.01 (16)	2.21 (9)	1.24 (13)
Hematology	16106	22	0.31 (22)	43.50 (1)	- (-)	10.05 (2)	4.64 (5)	4.05 (6)	4.89 (4)	3.26 (8)	7.77 (3)	2.00 (10)	1.63 (11)	3.35 (7)	1.24 (14)	2.51 (9)
Hygiene & Public Health	18850	37	1.32 (10)	50.72 (1)	8.07 (3)	9.60 (2)	1.53 (8)	3.95 (4)	0.98 (14)	3.01 (5)	1.13 (13)	1.57 (7)	0.82 (16)	1.14 (11)	0.91 (15)	1.95 (6)
Neurosciences	63040	89	0.42 (23)	46.03 (1)	2.17 (9)	8.25 (2)	5.99 (3)	5.59 (5)	4.49 (6)	5.98 (4)	2.85 (7)	1.98 (10)	1.14 (14)	1.84 (11)	1.56 (12)	2.50 (8)

	Total No. of articles (world)	No. of Journals	IND	USA	SUN	UKD	JPN	DEU	FRA	CAN	ITA	AUS	ISR	NLD	CHE	SWE
Obstetrics & Gynecology	19528	26	0.83 (17)	49.68 (1)	- (-)	9.86 (2)	1.92 (11)	6.22 (3)	1.51 (12)	4.20 (5)	1.19 (14)	2.34 (7)	2.49 (6)	2.20 (9)	0.87 (16)	4.33 (4)
Ophthalmology	12587	20	0.44 (19)	52.22 (1)	- (-)	6.18 (3)	5.28 (4)	7.84 (2)	0.98 (15)	3.66 (5)	1.04 (14)	2.32 (9)	1.29 (13)	3.34 (6)	2.93 (7)	1.92 (10)
Orthopaedics	5273	8	- (-)	48.59 (1)	- (-)	10.94 (2)	3.21 (6)	2.01 (8)	1.44 (12)	3.94 (4)	1.16 (15)	1.33 (14)	2.18 (7)	1.54 (10)	1.44 (13)	8.17 (3)
Otorhinolaryngology	7620	13	- (-)	52.76 (1)	- (-)	8.10 (2)	4.82 (4)	3.18 (6)	1.17 (12)	2.51 (7)	1.75 (11)	0.89 (14)	2.19 (9)	1.99 (10)	- (-)	7.03 (3)
Pathology	20193	18	0.85 (16)	41.40 (1)	- (-)	13.88 (2)	7.11 (3)	5.28 (5)	6.18 (4)	3.60 (6)	2.13 (8)	3.37 (7)	0.73 (17)	1.90 (9)	1.12 (13)	1.69 (10)
Pediatrics	20640	28	0.50 (17)	45.09 (1)	- (-)	9.30 (2)	1.90 (10)	8.82 (3)	5.35 (4)	3.81 (6)	4.82 (5)	2.19 (9)	2.20 (8)	1.21 (13)	1.60 (11)	2.76 (7)
Physiology	28726	35	0.65 (22)	44.80 (1)	3.14 (8)	6.86 (3)	4.97 (4)	4.36 (5)	3.69 (7)	8.25 (2)	1.19 (14)	2.78 (9)	0.84 (19)	1.16 (15)	1.09 (16)	4.10 (6)
Psychiatry	15768	31	0.48 (16)	51.84 (1)	- (-)	16.06 (2)	1.05 (11)	8.78 (3)	0.89 (13)	3.66 (4)	1.48 (7)	1.81 (6)	1.00 (12)	1.07 (10)	1.41 (8)	3.01 (5)
Radiology & Nuclear Medicine	29454	42	1.02 (11)	52.34 (1)	0.83 (17)	8.13 (3)	3.41 (5)	8.78 (2)	3.13 (6)	4.22 (4)	2.07 (9)	1.10 (10)	0.83 (16)	2.15 (8)	0.88 (14)	2.39 (7)

	Total No. of articles (world)	No. of Journals	IND	USA	SUN	UKD	JPN	DEU	FRA	CAN	ITA	AUS	ISR	NLD	CHE	SWE
Research & Exp Medicine	20780	33	0.69 (20)	31.06 (1)	11.93 (2)	8.86 (4)	11.17 (3)	4.05 (6)	4.52 (5)	2.84 (10)	3.00 (9)	3.48 (7)	0.77 (19)	2.41 (11)	0.83 (18)	3.36 (8)
Respiratory System	14086	17	0.48 (18)	52.59 (1)	- (-)	11.29 (2)	2.24 (7)	3.37 (5)	3.85 (4)	5.84 (3)	2.05 (9)	1.63 (11)	1.52 (12)	2.13 (8)	1.19 (14)	2.46 (6)
Rheumatology	5079	7	- (-)	31.80 (1)	- (-)	18.61 (2)	1.77 (11)	2.85 (6)	12.29 (3)	6.81 (4)	1.93 (9)	2.34 (8)	0.98 (16)	1.79 (10)	1.48 (13)	2.58 (7)
Surgery	42314	49	0.53 (18)	52.68 (1)	- (-)	10.82 (2)	3.43 (6)	5.09 (3)	3.85 (5)	5.01 (4)	1.49 (9)	1.43 (10)	1.33 (11)	1.64 (8)	0.91 (13)	3.43 (7)
Tropical Medicine	4253	10	6.82 (3)	23.18 (1)	- (-)	12.18 (2)	1.41 (12)	3.76 (12)	2.26 (8)	- (-)	- (-)	1.27 (15)	- (-)	1.74 (10)	1.58 (11)	- (-)
Urology & Nephrology	12332	16	0.66 (19)	47.11 (1)	- (-)	8.11 (2)	4.72 (4)	6.07 (3)	4.21 (5)	2.89 (8)	3.56 (7)	1.25 (14)	1.95 (10)	1.33 (12)	1.02 (15)	3.87 (16)
Related Sub-fields																
Biochemistry & Mol. Biology	115804	97	1.65 (11)	39.73 (1)	4.07 (6)	7.42 (6)	10.56 (2)	5.67 (5)	5.84 (4)	3.80 (7)	2.56 (8)	1.60 (12)	1.19 (15)	1.92 (9)	1.26 (14)	1.85 (10)
Endocrinology & Metabolism	26123	37	1.40 (14)	37.17 (1)	0.20 (30)	11.26 (2)	7.12 (3)	3.66 (7)	6.03 (4)	4.33 (5)	3.92 (6)	2.78 (9)	1.16 (16)	2.29 (10)	1.24 (15)	3.21 (8)
Immunology	42311	55	0.36 (22)	46.22 (1)	3.72 (6)	8.18 (2)	5.78 (3)	3.78 (5)	4.64 (4)	3.42 (7)	2.70 (9)	2.64 (11)	1.46 (13)	2.69 (10)	1.95 (12)	3.18 (8)

	Total No. of articles (world)	No. of Journals	IND	USA	SUN	UKD	JPN	DEU	FRA	CAN	ITA	AUS	ISR	NLD	CHE	SWE
Microbiology	32124	48	3.04 (8)	33.71 (1)	5.22 (5)	9.61 (2)	7.08 (3)	6.89 (4)	4.02 (7)	4.65 (6)	2.75 (9)	2.06 (11)	1.04 (17)	2.30 (10)	1.09 (16)	1.80 (12)
Parasitology	6613	16	3.05 (8)	26.89 (1)	7.00 (4)	16.72 (2)	2.98 (9)	8.48 (3)	2.00 (10)	3.34 (7)	- (-)	4.81 (5)	1.01 (15)	1.63 (12)	0.95 (16)	- -
Pharmacology & Pharmacy	80849	107	1.16 (16)	32.22 (1)	4.29 (7)	8.98 (3)	13.14 (2)	5.75 (4)	4.76 (5)	4.07 (8)	4.33 (6)	1.81 (11)	0.61 (20)	1.93 (10)	1.33 (13)	2.33 (9)
Virology	10808	14	0.46 (22)	38.10 (1)	9.35 (2)	8.71 (4)	5.42 (5)	8.73 (3)	5.04 (6)	3.47 (7)	1.64 (11)	1.71 (10)	1.44 (13)	2.31 (8)	1.27 (14)	2.08 (9)

Table 1: List of journals covered by *SCI* in the fileld of medicine where india has published more than 10 articles during 1981-85

	IF 1984	No. of papers in *SCI* 1981-85 World	India	% Share
Anaesthesiology				
1 Anaesthesia (UKD)	1.249	2109	14	0.66
Andrology				
1 Andrologia (DEU)	0.483	409	58	14.18
2 Arch Androl (USA)	0.883	355	36	10.14
3 Int J Androl (DNK)	1.440	307	18	5.86
			112	
Cancer/Oncology				
1 Br J Cancer (UKD)	2.535	1232	10	0.81
2 Br J Exp Pathol (UKD)	0.962	418	15	3.59
3 Cancer (USA)	2.595	4449	20	0.44
4 Cancer Lett (NLD)	1.442	804	12	1.49
5 J Cancer Res Clin Oncol (USA)	1.070	478	19	3.97
6 J Surg Oncol (USA)	0.413	872	43	4.93
7 Neoplasma (CSK)	0.428	427	24	5.62
8 Oncology (CHE)	0.845	422	16	3.79
9 Tumori (ITA)	0.429	468	17	3.63
			176	
Cardiovascular System				
1 Am Heart J (USA)	2.699	2410	15	0.62
2 Atherosclerosis (IRL)	1.963	728	11	1.51
3 Int J Cardiol (IRL)	1.176	523	17	3.25
4 Jpn Hear J (JPN)	0.168	676	14	2.07
			57	
Dermatology and Veneral Diseases				
1 Dermatologia (CHE)	0.534	731	16	2.19
2 Int J Dermatol (USA)	0.585	578	33	5.71
3 Mykosen (DEU)	0.422	366	61	16.67
4 Lepr Rev (UKD)	0.500	237	43	18.14
			153	
Gastroenterology				
1 Gut (UKD)	3.749	965	13	1.35
General and Internal Medicine				
1 Br Med J (UKD)	2.804	12072	45	0.37
2 Indian J Med Res (IND)	0.249	1465	1427	97.41
3 Lancet (UKD)	9.444	11906	60	0.50
4 Med J Aust (AUS)	1.126	2745	11	0.40
5 Postgrad Med J (UKD)	0.286	1416	41	2.90
			1584	
Hematology				
1 Acta Haematol (CHE)	0.661	634	11	1.74

	IF 1984	No. of papers in *SCI* 1981-85 World	India	% Share
Hygiene and Public Health				
1 *Ann Hum Biol (UKD)*		269	17	6.32
2 *Bull World Health Organ (INT)*	1.404	370	17	4.59
3 *Environ Res (USA)*	1.240	648	38	5.86
4 *J Biosocial Sci (UKD)*	0.448	231	10	4.33
5 *J Environ Sci Health B (USA)*	0.485	243	14	5.76
6 *J Epidemiol Commun Health (UKD)*	1.017	316	11	3.48
7 *J Trop Med (UKD)*	0.257	192	11	5.73
8 *Trans R Soc Trop Med Hyg (UKD)*	1.217	1176	68	5.78
9 *Trop Geogr Med (NLD)*	0.280	333	29	8.71
			215	
Neurosciences				
1 *Acta Neurol Scand (DNK)*	0.848	1007	14	1.39
2 *J Himforsch (GDR)*	0.595	282	20	7.09
3 *J Neurol Neurosurg Psychiatry(UKD)*	1.534	1336	19	1.42
4 *J Neurochem (UKD)*	3.302	2627	30	1.14
5 *J Neurosurg (USA)*	1.990	1645	13	0.79
6 *Neurosci Lett (NLD)*	2.566	2356	11	0.47
7 *Psychopharmocology (DEU)*	1.787	1311	10	0.76
8 *Surg Neurol (USA)*	0.751	952	16	1.68
			116	
Obstetrics and Gynecology				
1 *Contraception (USA)*	0.978	537	48	8.94
2 *Int J Fertil (UKD)*	0.516	211	21	9.95
3 *J Reprod Fertil (UKD)*	2.182	1201	33	2.74
			102	
Ophthamology				
1 *Br J Ophthalmol (UKD)*	0.950	873	24	2.75
Otorhinolaryngology				
1 *J Laryngol Otol (UKD)*		739	40	5.41
Pathology				
1 *Br J Exp Pathol (UKD)*	0.962	418	15	3.59
2 *Int J Leprosy (USA)*	1.152	307	79	25.73
3 *Leprosy Rev (USA)*	0.500	237	43	18.14
4 *Oral Surg Oral Med Oral Pathol (USA)*	0.456	1232	10	0.81
5 *Res Commun Chem Pathol Pharmacol (USA)*	0.984	995	16	1.61
			163	
Pediatrics				
1 *Acta Paediatr Scand (SWE)*	1.034	1064	13	1.22
2 *J Trop Pediatr (UKD)*	0.310	316	43	13.61
			56	
Physiology				
1 *Acta Physiol Acad Sci Hung (HUN)*	0.354	369	13	3.52
2 *Arch Int Physiol Biochem (BEL)*	1.028	261	23	8.81
3 *Biochem Physiol Pflanz (DDR)*	0.850	418	76	18.18

	IF 1984	No. of papers in *SCI* 1981-85 World	India	% Share
4 *Clin Exp Pharmacol Physiol (UKD)*	1.082	396	13	3.28
5 *Pestic Biochem Physiol (USA)*	1.951	412	18	4.37
			143	
Psychiatry				
1 *Br J psychiatry (UKD)*	2.503	1403	19	1.35
2 *J Neural Neurosurg Psychiatry (UKD)*	1.534	1336	19	1.42
3 *Psychopharmacology (DEU)*	1.787	1311	10	0.76
			48	
Radiology and Nuclear Medicine				
1 *Health Phys (USA)*	0.674	1304	39	2.9
2 *Int J Appl Radiat Isot (USA)*	0.747	1002	67	6.69
3 *Int J Radiat Biol (UKD)*	1.320	724	26	3.59
4 *J Radiat Res (JPN)*	0.406	154	13	8.44
5 *Phys Med Biol (UKD)*	1.302	612	10	1.63
6 *Radiat Eff (UKD)*	1.105	724	39	5.38
7 *Radiat Eff Lett (UKD)*	0.775	202	13	6.44
8 *Radiat Environ Biophys (USA)*	0.727	179	10	5.58
9 *Radiat Res (USA)*	2.121	1055	12	1.14
10 *Strahlentherapie (DEU)*	0.457	588	23	3.91
			252	
Research and Experimental Medicine				
1 *Aust J Exp Biol (AUS)*	1.092	348	11	3.16
2 *Biochem Med (USA)*	0.746	429	42	9.79
3 *Clin Chem (USA)*	3.281	3292	23	0.70
4 *Clin Chim Acta (NLD)*	1.653	1761	24	1.36
5 *Curr Ther Res (USA)*	0.599	1326	16	1.20
6 *Fluoride (NZL)*	0.313	147	44	29.93
7 *Life Sci (UKD)*	2.829	3686	21	0.57
8 *Med Hypoth (USA)*	0.406	562	13	2.31
			194	
Respiratory System				
1 *Thorax (UKD)*	1.792	1041	12	1.15
2 *Tubercle (UKD)*	0.908	175	19	1.08
			31	
Surgery				
1 *Br J Plast Surg (UKD)*	0.498	526	26	4.94
2 *Br J Surg (UKD)*	1.762	1763	16	0.90
3 *Br J Urol (UKD)*	0.746	964	25	2.59
4 *Int J Oral Surg (DEN)*	0.309	376	10	2.66
5 *J Neurosurg (USA)*	1.990	1645	13	0.79
6 *J Surg Oncol (USA)*	0.413	872	43	4.93
7 *Oral Surg Oral Med Oral Pathol (USA)*	0.456	1232	10	0.81
8 *Surg Neurol (USA)*	0.751	952	16	1.68
			159	

	IF 1984	No. of papers in *SCI* 1981-85 World	India	% Share
Tropical Medicine				
1 Ann Trop Med Parasitol (UKD)	1.056	480	21	4.37
2 Int J Leprosy (UKD)	1.152	307	79	25.73
3 J Trop Med (UKD)	0.257	192	11	5.73
4 J Trop Pediatr (UKD)	0.310	316	43	13.60
5 Leprosy Rev (UKD)	0.500	237	43	18.14
6 Trans Roy Soc Trop Med Hyg (UKD)	1.217	1176	68	5.78
7 Trop Geogr Med (NLD)	0.280	333	29	8.71
			294	
Urology and Nephrology				
1 Angiology (USA)	0.540	517	16	3.09
2 Br J Urol (UKD)	0.746	964	25	2.59
3 J Urol (USA)	1.262	3391	17	0.50
4 Urology (USA)	0.597	1836	10	0.54
			68	
Related Fields				
Biochemistry and Molecular Biology				
1 Agric Biol Chem (JPN)	0.964	2815	32	1.14
2 Anal Lett Pt B (USA)	0.402	354	10	2.84
3 Anal Biochem (USA)	2.521	2936	20	0.68
4 Arch Biochem Biophys (USA)	2.441	2914	40	1.37
5 Arch Int Physiol Biochem (BEL)	1.028	261	23	8.81
6 Bull Soc Chim Fr (FRA)	0.802	271	31	11.44
7 Biochem Biophys Res Commun (USA)	3.020	6442	89	1.38
8 Biochem Physiol Pflanz (DDR)	0.850	418	76	18.18
9 Biochem Pharmacol (UKD)	2.295	3280	47	1.43
10 Biochemistry (USA)	3.842	5277	14	0.26
11 Biochem Int (AUS)	1.137	936	109	11.64
12 Biochem J (UKD)	3.425	4475	51	1.14
13 Biochim Biophys Acta (NLD)	2.536	10446	88	0.84
14 Bioelectrochem Bioenergy (CHE)	0.615	353	13	3.68
15 Biopolymers (USA)	2.231	893	37	4.14
16 Biosci Rep (UKD)	2.033	551	16	2.90
17 Cell Mol Biol (USA)	0.607	369	31	8.40
18 Enzyme (CHE)	0.736	327	11	3.36
19 Eur J Biochem (DEU)	3.398	3554	11	0.31
20 FEBS Lett (NLD)	2.965	5188	82	1.58
21 Indian J Biochem Biophys (IND)	0.332	461	426	92.40
22 Int J Biomed Comput (UKD)	0.333	349	23	6.59
23 Int J Peptide Protein Res (DNK)	1.565	718	53	7.38
24 IRCS Med Sci - Biochem (NLD)	0.246	2882	294	10.20
25 J Biol Chem (USA)	6.118	11825	17	0.14
26 J Neurochem (UKD)	3.302	2627	30	1.14
27 Lipids (USA)	2.019	778	17	2.18
28 Mol Biol Rep (NLD)	1.019	146	10	6.85
29 Pesticide Biochem Physiol (USA)	1.951	412	18	4.37
30 Photochem Photobiol (UKD)	2.259	1204	19	1.58
31 Z Naturforsch C (DEU)	1.258	968	19	1.96
			1757	

	IF 1984	No. of papers in *SCI* 1981-85 World	India	% Share
Cytology				
1 Acta Cytol (USA)	0.980	772	40	5.18
2 Can J Genet Cytol (CAN)	0.957	478	24	5.02
3 Cell Mol Biol (USA)	0.607	369	31	8.40
4 Cytobios (UKD)	0.774	259	18	6.95
5 Cytologia (JPN)	0.179	435	233	53.56
			346	
Endocrinology and Metabolism				
1 Acta Diabetol Lat (ITA)	0.500	200	13	6.5
2 Acta Endocrinol (DNK)	1.517	1521	14	0.92
3 Ann Nutr Metab (CHE)	0.754	261	14	5.36
4 Contraception (USA)	0.978	537	48	8.94
5 Exp Clin Endocrinol (DDR)	0.324	473	58	12.26
6 Gen Comp Endocrinol (USA)	1.867	1078	55	5.10
7 Hormone Metabol Res (DEU)	0.871	1102	16	1.45
8 Int J Fertil (USA)	0.516	211	21	9.95
9 J Endocrinol (UKD)	2.014	1117	16	1.43
10 J Reprod Fertil (UKD)	2.182	1201	33	2.75
11 J Steriod Biochem (UKD)	1.540	1444	15	1.03
12 Metabolism Clin Exp (USA)	1.933	998	10	1.00
			313	
Immunology				
1 Clin Exp Immunol (USA)	2.709	1861	13	0.70
2 Dev Comp Immunol (USA)	1.065	419	11	2.62
3 Immunol Lett (NLD)	1.220	572	14	2.45
4 Infection and Immunity (USA)	3.002	3451	13	0.38
5 J Immunol Methods (NLD)	2.347	17.30	17	0.98
			68	
Microbiology				
1 Antonie van Leeuwenhoek J Microbiol (NLD)	1.009	252	12	4.76
2 Acta Microbiol Acad Sci Hung (HUN)	0.303	180	12	6.67
3 Acta Microbiol Pol (POL)	0.218	179	20	11.17
4 Appl Environ Microbiol (USA)	1.950	2633	32	1.21
5 Appl Microbiol Biotechnol (USA)	-	765	15	1.96
6 Arch Microbiol (ITA)	1.790	1053	22	2.08
7 Biotechnol Lett (UKD)	1.361	758	42	5.54
8 Can J Microbiol (CAN)	1.139	1081	31	2.87
9 Curr Microbiol (USA)	1.399	539	17	3.15
10 Enzyme Microbiol Technol (UKD)	1.284	408	42	10.29
11 FEMS Microbiol Lett (NLD)	1.289	1470	29	1.97
12 J Appl Bacteriol (UKD)	1.095	607	22	3.62
13 J Bacteriol (USA)	2.751	3851	11	0.54
14 J Basic Microbiol (DEU)	-	392	22	5.61
15 J Biosciences (IND)	0.538	359	297	82.73
16 J Clin Microbiol (USA)	2.239	2490	14	0.56
17 J Gen Appl Microbiol (JPN)	0.902	239	13	5.44
18 J Gen Microbiol (UKD)	1.702	1884	22	1.17

	IF 1984	No. of papers in *SCI* 1981-85 World	India	% Share
19 J Med Microbiol (UKD)	1.513	347	17	4.89
20 Z Mikrosk Anat Forsch (DDR)	0.350	371	50	13.48
21 Z Zentralbl Bakteriol Mikrobiol (DEU)	0.769	706	13	1.84
22 Zentralbl Mikrobiol (DEU)	0.213	384	100	26.04
			855	
Parasitology				
1 Ann Trop Med Parasitol (UKD)	1.056	480	21	4.37
2 Folia Parasitol (CSK)	0.285	283	9	3.18
3 Int J Parasitol (UKD)	0.949	370	11	2.97
4 J Helminthol (UKD)	0.670	231	59	25.54
5 Vet Parasitol (NLD)	1.020	368	34	9.24
6 Zentralbl Baketriol Mikrobiol A (DEU)	0.769	706	13	1.84
			157	
Pharmacology and Pharmacy				
1 Acta Pharm Jugosl (JUG)	0.250	168	14	8.33
2 Acta Pharmcol Toxicol (DNK)	1.338	758	26	3.43
3 Arch Int Pharmacol Ther (BEL)	1.028	964	28	2.90
4 Arch Pharm (DEU)	0.613	950	37	3.89
5 Arzneim Forsch (DEU)	0.777	1984	31	1.56
6 Biochem Pharmacol (UKD)	2.295	3280	47	1.43
7 Br J Clin Pharmacol (UKD)	2.357	1759	13	0.74
8 Clin Exp Pharmacol Physiol (UKD)	1.082	396	13	3.28
9 Curr Ther Res Clin Exp (USA)	0.599	1326	16	1.20
10 Eur J Med Chem (FRA)	0.723	459	12	2.61
11 Eur J Pharmacol (NLD)	2.964	3055	21	0.69
12 Fluoride (USA)	0.313	147	44	29.93
13 Int J Clin Pharmacol, Ther Toxicol (DEU)	0.634	605	34	5.61
14 J Antibiot (JPN)	1.963	1400	12	0.86
15 J Ethnopharmacol (IRL)	0.302	224	25	11.16
16 J Labelled Compd Rad (UKD)	0.741	712	12	1.68
17 J Nat Products (USA)	1.131	918	69	7.51
18 J Pharm Pharmacol (UKD)	1.305	1262	24	1.90
19 Pharmacol Res Commun (UKD)	0.834	473	30	6.34
20 Pharmazie (DDR)	0.428	1488	66	4.43
21 Planta Med (DEU)	0.997	982	101	10.28
22 Pol J Pharmacol Pharm (POL)	0.299	320	11	3.44
23 Psychopharmacology (DEU)	1.787	1311	10	0.76
24 Res Commun Chem Phathol Pharmacol (USA)	0.984	995	16	1.60
25 Toxicon (UKD)	1.344	491	19	3.87
26 Toxicology (IRL)	1.233	555	21	3.78
			752	
Virology				
1 Acta Virol (CSK)	0.572	396	13	3.28
2 Zentralbl Bakteriol Mikrobiol (DEU)	0.769	706	13	1.84
			26	

Table 3: Citation imapct of Indian papers in selected subfields of medicine as seen from SCI 1981-1995

Subject	Papers from India [a]		Citations won [b]		Citation rate (India)			Citation r (World
	No.	Wld share %	No.	Wld share %	Exp	Obs	Rel	Obs
All of Science	50581	2.64	8680	0.82	1.62	0.96	0.59	3.11
Life Sciences	16876	1.58	16499	0.46	1.71	0.98	0.57	3.39
Physical Sciences	12058	3.25	13339	1.04	2.18	1.11	0.51	3.44
Chemistry	13220	5.18	14184	2.15	1.44	1.07	0.74	2.59
Engineering	6275	3.18	5536	1.95	1.44	0.88	0.61	1.44
Mathematics	1586	3.22	548	1.26	0.51	0.35	0.68	0.88
Subfield of Medicine [d]								
Andrology	116	8.79	183	6.78	1.68	1.58	0.94	2.05
Biomed. Eng	152	2.16	229	1.82	1.97	1.51	0.77	1.79
Biophysics	829	2.52	1310	0.79	2.75	1.58	0.57	5.04
Cancer	240	0.78	329	0.24	2.73	1.37	0.50	4.42
Cardiovascular System	107	0.35	129	0.10	3.04	1.21	0.40	4.10
Dermatol & Veneral Diseases	131	0.91	58	0.20	1.13	0.44	0.39	1.97
Gastroenterology	50	0.40	55	0.14	3.62	1.10	0.30	3.15
Gen & Internal Medicine	1640 [e]	1.68	1187	0.47	0.91	0.72	0.79	2.56
Hematology	50	0.31	30	0.03	3.27	0.60	0.18	5.54
Hygiene & Publ Health	249	1.32	348	0.93	2.05	1.40	0.68	1.99
Neurosciences	263	0.42	383	0.15	3.40	1.46	0.43	4.09
Obstetrics & Gynecology	163	0.83	250	0.49	2.50	1.53	0.61	2.63
Pediatrics	103	0.50	104	0.23	1.45	1.01	0.70	2.15
Physiology	186	0.65	217	0.16	1.79	1.17	0.65	4.59
Psychiatry	75	0.48	99	0.21	2.71	1.32	0.49	2.98
Radiology & Nuclear Medicine	301	1.02	352	0.44	1.86	1.17	0.63	2.73

Res & Exp Medicine	143	0.69	184	0.26	2.26	1.29	0.57	3.42
Respiratory System	67	0.48	79	0.19	2.71	1.18	0.44	3.02
Surgery	226	0.53	172	0.18	1.75	0.76	0.43	2.25
Tropical Medicine	290	6.82	323	3.83	1.51	1.11	0.74	1.98
Urology & Nephrology	81	0.66	62	0.24	1.73	0.77	0.44	2.13
Related Subfields								
Biochemistry & Mol. Biology	1913[f]	1.65	3077	0.43	2.94	1.61	0.55	6.22
Endocrinology & Metabolism	367	1.40	633	0.51	2.60	1.72	0.66	4.78
Immunology	154	0.36	457	0.17	3.72	2.97	0.80	6.26
Microbiology	976	3.04	904	0.81	1.66	0.93	0.56	3.45
Parasitology	202	3.05	182	1.28	1.65	0.90	0.55	2.15
Pharmacology & Pharmacy	935	1.16	1095	0.45	2.13	1.17	0.55	2.99
Virology	50	0.46	88	0.16	3.13	1.76	0.56	5.06

a Number of papers from India published in the constant set of 2649 journals covered in each year of *SCI 1981-95*

b Citations to papers from India covered in *SCI 1981-85* during the same five-year period

c Classical and new biology, medicine, agriculture and veterinary medicine

d India published far less than 50 papers in Allergy, Dentistry & Odontology, Orthopedics, Otorhinolaryngology and Rheumatology

e Includes 1427 articles from *Indian Journal of Medical Research* , the only Indian medical journal covered by *SCI 1981-85*

f Includes 426 papers from *Indian Journal of Biochemistry and Biophysics* and 297 papers from *Journal of Biosciences* the only two Indian journals covered by *SCI 1981-85* under this subfield.

Exp = Expected Obs = Observed Rel = Relative