

Analytical evaluation of Malaria Research Papers in MEDLINE & SCI during the period of 1986-90 & 2001-05.

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Abstract:

Vector-borne infectious diseases such as Malaria, Filariasis, Dengue, Japanese Encephalitis, Yellow Fever, Kala-azar and Chikungunya contribute to a large proportion of health problems in many countries. The global scientific community is constantly engaged in devising new tools and implementing new strategies to overcome the menace of vector-borne diseases. Amongst all these diseases Malaria continues to pose serious public health threat in different countries. Over 70% of the population is at risk of being infected with malaria. The disease has continued to be the leading cause of morbidity and mortality in the developing countries. To combat the disease research on vaccines, drug development, environmentally safe insecticides, alternative approaches to vector control are needed.

The scope of paper addresses the challenge of reducing the global malaria burden through studying the coverage of papers dealing on the topic from two very important International databases namely SCI & MEDLINE for the two-time period 1986-90 & 2001-05 with a gap of 10 years. Total coverage of malaria papers during 1986-90, by MEDLINE was 5888 while SCI covered 3967 papers. During 2001-05 the coverage by MEDLINE leaped many folds (12,491). In SCI also number of papers covered is more

that is 10123. This trend shows that since MEDLINE is the world's most comprehensive source of life sciences and biomedical bibliographic information.

1 Introduction:

Significance of malaria as a health problem is increasing, as approximately 300-500 million people worldwide are affected and between 1 and 1.5 million die from it every year. Previously extremely widespread, the malaria is now mainly confined to Africa, Asia and Latin America. Though geographical area affected by malaria has reduced considerably over the past years, but control of the disease is becoming more difficult and gains are being eroded.

If we look at Indian scenario, it was believed that use of DDT during 60's completely eradicated malaria but in the next decade the disease further re-emerged with widespread areas. During eighties, the disease further aggravated with a focal out breaks during nineties, and situation of mortality was highest during 1995.

Problem of controlling malaria is associated with inadequate health infrastructures, deteriorating social and economic conditions, global climate change and mass movement of refugees. The situation has become more complex due to emergence of multi drug resistant strains of parasite.

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In view of the importance of malaria research in the field of human health and well being it becomes important to map out the research activities of Indian Scientists. Since research publications are one of the major outputs of any research activity, which can be quantified also.

2 Method:

After collection of data from two sources like MEDLINE and SCI we made a comparative study between the MEDLINE and SCI data on malaria, the total papers in the years (1986-1990) and (2001-2005).

By taking top five countries from developed (USA, UK, France, Germany and Israel) and developing countries (India, Thailand, South Africa, China and Malaysia).

Calculated the Relative commitment (RC) of Developed and Developing countries from MEDLINE and compare the trend with SCI. Also compare between different year groups.

Calculated the top ten Journals which covers maximum papers during the chosen time period.

3 Data:

Malaria related bibliographic data was collected for the study from MEDLINE and Science Citation Index (SCI) for the particular time period.

4 Result:

Total coverage of malaria papers during 1986-90, by MEDLINE was 5888 while SCI covered 3967 papers. During 2001-05 the coverage by MEDLINE leaped many folds (12,491). In SCI also number of papers covered is more that is 10123.

Figure 1.A

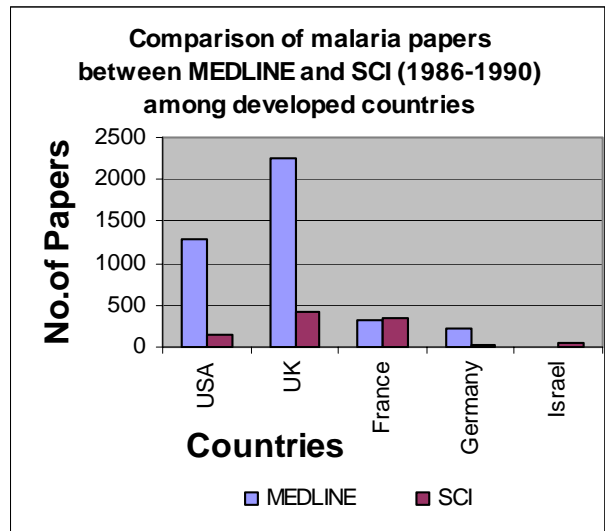


Figure 1.B

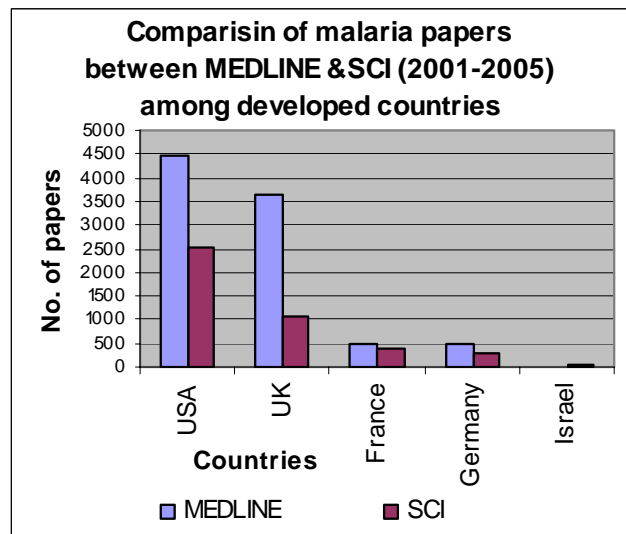
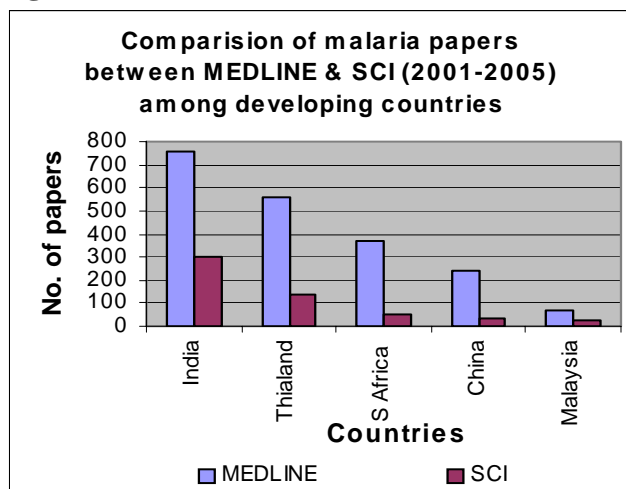
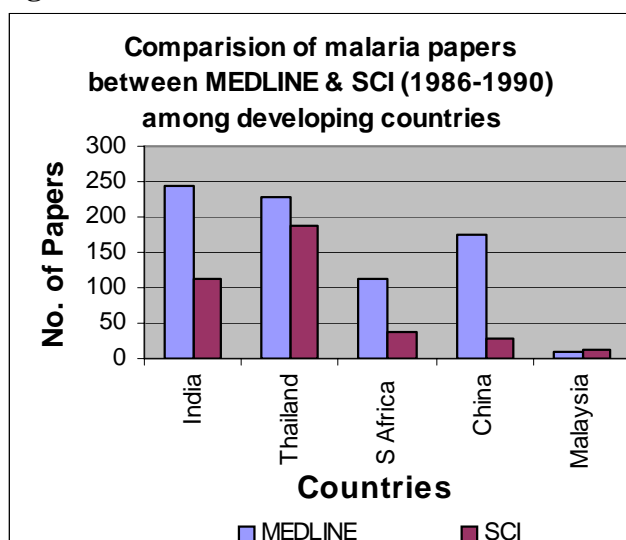
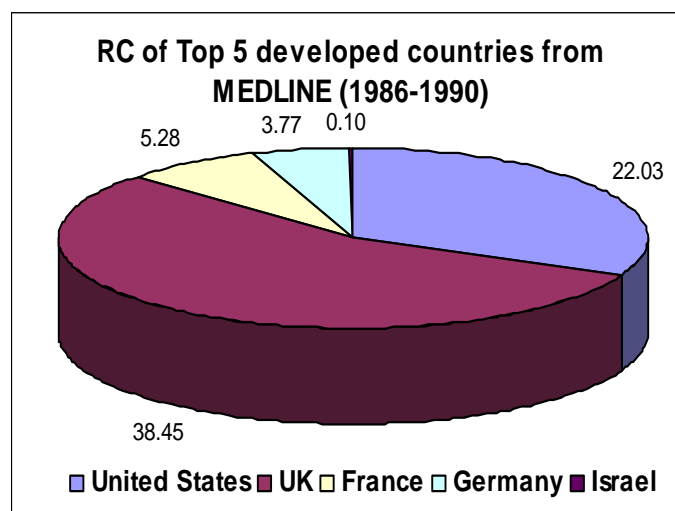


Figure 1.C**Figure 1.D**

- Among the developing countries India is more actively participating in malaria research in the recent years and previous years also (*Figure 1.A,B,C,D*).

Analyzing the data of MEDLINE brings out:

- The Relative Commitment (RC) of USA leaped from 22.03(1986-90) to 35.72(2001-05) among the developed countries followed by UK, France, Germany and Israel (*Figure 2.A,B*).
- Among the developing countries the RC of India has increased from 4.16(1986-90) to 6.04(2001-05) followed by Thailand, South Africa, China and Malaysia (*Figure 2.C,D*).

Figure 2.A

- Comparison between MEDLINE and SCI data shows the trend that MEDLINE covers maximum papers regarding malaria as compare to SCI.
- Among the developed countries USA covers maximum papers in the recent as well as in previous years followed by UK, France, Germany and Israel.

Figure 2.B

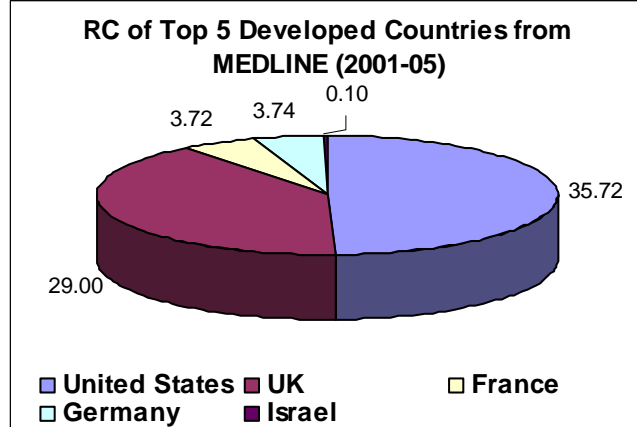


Figure 2.D

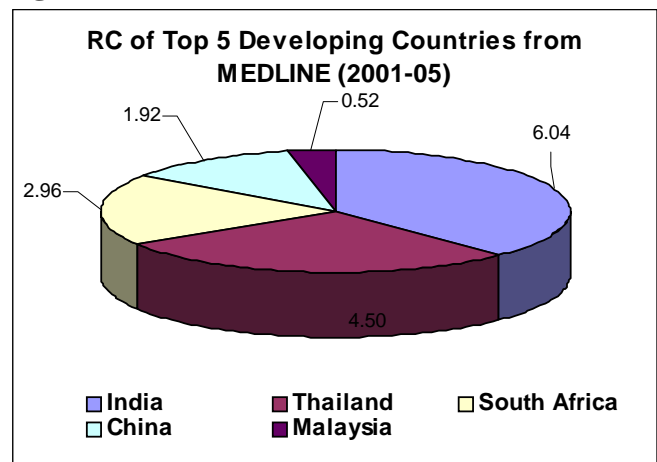
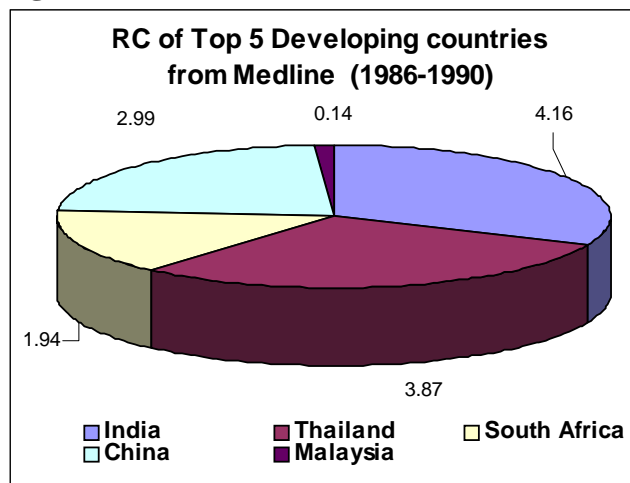


Figure 2.C



- Further studying the trend of journals enlisted in both the databases it was found that the topmost journals covering malaria papers were almost same in both MEDLINE and SCI. American Journal of Tropical Medicine and Hygiene has grabbed 1st position (2001-05) replacing Transactions of the Royal Society of Tropical Medicine and Hygiene (1st during 1986-90).

Table 1

SCI 2001-05			Medline 2001-05		
Journals	No of papers	% coverage	Journals	No of papers	% coverage
Am J Trop Med Hyg	261	4.74	Am J Trop Med Hyg	426	3.41
Mol Biochem Parasitol	149	2.70	Mol Biochem Parasitol	259	2.07
Trends Parasitol	133	2.41	Trop Med Int Health	220	1.76
Trop Med Int Health	127	2.31	Trans R Soc Trop Med Hyg	215	1.72
Trans Roy Soc Trop Med Hyg	111	2.01	Trends Parasitol	193	1.54
Infect Immun	109	1.98	Infect Immun	177	1.42
Lancet	99	1.80	J Biol Chem	176	1.41

Ann Trop Med Parasitol	90	1.63	Lancet	174	1.39
J Biol Chem	90	1.63	J Am Mosq Control Assoc	143	1.14
J Med Entomol	86	1.56	Ann Trop Med Parasitol	142	1.14

5 Discussion:

Through this data we can find that contribution of total no. of articles in MEDLINE is more as compared to SCI during 2001-05 as well as during 1986-90. But while looking at the % contribution of both the databases there is no significant change as the total no. of articles on malaria covered in SCI is less. With regard to countries of journals the scenario was that the journals covered in SCI are more from the developed countries with USA standing in top followed by UK, Germany, Netherlands, France and so on (In recent years UK is in top followed by USA (2001-2005). While in MEDLINE journals from the developing countries like India, China, Brazil, Thailand are being covered. From the journal analysis it is concluded that in the recent years American Journal of Tropical Medicine and Hygiene has grabbed 1st position (2001-05) replacing Transactions of the Royal Society of Tropical Medicine and Hygiene (1st during 1986-90). Through the findings we can conclude that more research papers should be covered to increase the scope of research.

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