

A Bibliometric Study of World Research Publications on Scabies

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Abstract

This study presents bibliometric analysis of world research publications on scabies. Research articles published in journals on scabies were retrieved from PubMed by conducting an advanced search in the database. The objective of the study was to find out yearly growth of scabies research output, authorship pattern, most active authors and journals. A total of 1467 records were retrieved and after deleting 7 duplicate records, 1460 articles were found relevant for analysis.

Keywords: Bibliometric analysis, scabies, sarcoptes Scabiei publications.

1. Introduction

The word scabies is derived from Latin word scabere, which means to scratch¹. Scabies is a disease of global proportions in both human and animal populations². It is a highly contagious and common parasitic infestation caused by *Sarcoptes scabiei* var *hominis*, the microscopic fertilized female mite that burrows into the skin to obtain nutrients^{3, 4}. Scabies is one of the commonest dermatological conditions prevalent globally and affects people of all races and social classes^{3, 5, 6}. Scabies mite usually is spread by direct, prolonged, skin-to-skin contact with a person who has scabies and causes intense itching, lesions and rashes anywhere on the body, but especially on the trunk, folds of the skin and on the extremities severely affecting sleep and quality of life^{4, 5, 6, 7}. Outbreaks of scabies in refugee camps, nursing homes, extended-care facilities, and prisons are common^{5, 6}. Scabies outbreaks can be costly to control and may easily reoccur if not properly contained and treated⁷. Scabies has been added to WHO's list of neglected tropical diseases (NTDs), in recognition of the very large burden of disease caused by the mite *Sarcoptes scabiei*⁸. More research is needed on the management of scabies in an institutional setting and at a community level⁹.

No scientometric study has been carried out on scabies literature so far. Sweileh conducted a study on global output of research on epidermal parasitic skin diseases. This study analyzed 4186 documents on EPSD (scabies, tungiasis, pediculosis, hookworm-related cutaneous larva migrans (HrCLM), myiasis, and cutaneous strongyloidiasis) from 1967 to 2017, downloaded from Scopus database. The objective was to study growth pattern of publications and citations, most active journals, countries, institutions, authors and highly cited articles on EPSD. The quantitative assessment of global research output on scabies can provide better understanding of growth trends in the subject.

2. Methodology

For the present study, PubMed database was accessed to retrieve publication data on scabies. An advanced search was conducted using search terms Scabie*, scabic*, Sarcoptes Scabiei and the Boolean operator 'OR' was applied to get comprehensive results. The search results were filtered for journal article and for the period 2001-2015. The search produced 1467 records and after deleting 7 duplicate records, 1460 articles were found relevant for analysis.

3. Objective of the study

Present study was conducted with the objectives to:

- Study yearly growth of research output on scabies.
- Ascertain authorship pattern.
- Find out most active journals.
- Find out most active authors in scabies research.

4. Data Analysis

Table 1: Yearly Distribution of Articles

Year	No. of Publications	Percentage
2001	95	6.51
2002	89	6.10
2003	96	6.58
2004	98	6.71
2005	76	5.20
2006	87	5.96
2007	81	5.55
2008	88	6.03
2009	97	6.64
2010	91	6.24
2011	86	5.89
2012	105	7.19
2013	117	8.01
2014	117	8.01
2015	137	9.38
2001-2005	454	31.10
2006-2010	444	30.41
2011-2015	562	38.49
Total	1460	

It is clear from above table that a large number of articles (38.49%) on scabies were contributed during quinquennial 2011 to 2015. About 31.10% articles in the field of scabies research were contributed during 2001 to 2005 and 30.41% during 2006 to 2010. The number of global publications on scabies increased from 95 in 2001 to 137 in 2015. The year 2015 registered maximum number of publications (137) followed by 2013 and 2014 with 117 articles each year.

Table 2: Authorship Pattern

Year	Authorship Pattern						
	Single Author	Two Authors	Three Authors	Four Authors	Five Authors	More than Five Authors	Not Available
2001	15	16	21	15	5	20	3
2002	15	18	15	13	7	15	6
2003	15	20	26	12	3	18	-
2004	22	15	28	10	10	13	1
2005	13	14	10	10	9	18	2
2006	12	21	14	11	14	13	2
2007	10	14	10	16	10	21	-
2008	13	14	9	12	13	26	1
2009	14	12	11	15	7	38	-
2010	5	15	13	15	19	24	-
2011	8	13	14	14	11	26	-
2012	5	10	17	21	14	36	2
2013	7	18	26	15	22	29	-
2014	12	11	22	20	18	34	-
2015	10	12	24	22	21	49	-
Total	176	223	260	221	183	380	17
Percentage	12.05	15.27	17.81	15.14	12.54	26.03	1.16

Table 2 depicts that 26.03% papers have been contributed by more than five authors and 17.81% by three authors. About 15.27% papers on scabies were written by two authors and 15.14% by four authors. Nearly 12.54% research articles have been contributed by five authors, followed by 12.05% by single authors. The formula given by Subramanyam¹⁰ is applied to calculate degree of authorship collaboration on the subject:

$$C = \frac{Nm}{Nm+N_s} = \frac{1267}{1267+176} = 0.88$$

(C= degree of collaboration, Nm= number of multi-authored papers, N_s= number of single-authored papers)

Table 3: Most Active Journals

Name of the Journal	Country of Publication	Impact Factor	No. of Papers Published	%age N=1460	%age N=354
Veterinary Parasitology	Netherlands	2.422	46	3.15	12.99
International Journal of Dermatology	United Kingdom	1.541	27	1.85	7.63
Pediatric Dermatology	United Kingdom	1.041	25	1.71	7.06
Ann Dermatol Venereol	France	-	23	1.58	6.50
Journal of Wildlife Diseases	United States	1.247	23	1.58	6.50
Veterinary Record	United Kingdom	2.050	22	1.51	6.21
PLOS Neglected Tropical	United States	4.367	21	1.44	5.93

Diseases					
Der Hautarzt	Germany	-	17	1.17	4.80
Parasitology Research	Germany	2.558	16	1.09	4.52
Journal of the American Academy of Dermatology	United States	6.898	15	1.03	4.24
Journal of Dermatology	United States	2.788	15	1.03	4.24
PLoS One	United States	2.766	15	1.03	4.24
Parasites & Vectors	United Kingdom	3.163	14	0.96	3.95
Veterinary Dermatology	United Kingdom	1.270	12	0.83	3.39
American Journal of Tropical Medicine and Hygiene	United States	2.564	11	0.75	3.11
Cutis	United States	1.167	11	0.75	3.11
Journal of the European Academy of Dermatology and Venereology	United States	4.287	11	0.75	3.11
British Journal of Dermatology	United Kingdom	6.129	10	0.68	2.82
Clinical and Experimental Dermatology	United Kingdom	1.484	10	0.68	2.82
Dermatology Online Journal	United States	-	10	0.68	2.82
Total of 20 journals			354	24.25%	

Table 3 reveals that top 20 journals contributed 354 papers on scabies, constituting 24.25% of global publication output on scabies. Veterinary Parasitology tops the list with 46 articles, followed by International Journal of Dermatology (27 articles) and Pediatric Dermatology (25 articles). Of the 20 most prolific journals, 9 were from USA, 7 from UK, 2 from Germany and 1 each from France and Netherlands.

Table 4: Most Active Authors

Name of the Author	Affiliation	Number of Papers Published	Percentage
Currie BJ	Royal Darwin Hospital, Darwin, Australia	40	2.74
Walton SF	Menzies School of Health Research and Charles Darwin University, Australia	33	2.26
Fischer K	The Queensland Institute of Medical Research, Australia	25	1.71
McCarthy JS	The Queensland Institute of Medical Research, Australia	24	1.65
Holt DC	Charles Darwin University Australia	23	1.58
Kemp DJ	The Walter and Eliza Hall Institute of Medical Research, Australia	22	1.51
Rossi L	University of Turin, Grugliasco, Italy	22	1.44
Soriguer RC	Doñana Biological Station (CSIC) Sevilla Spain	21	1.44
Loria R	Cornell University, Ithaca, New York, USA	20	1.37
Arlan LG	Wright State University, Dayton, USA	20	1.37

Heukelbach J	Federal University of Cear, Fortaleza, Brazil	19	1.31
Beaulieu C	Universit de Sherbrooke, Canada	19	1.31
Goldust M	Tabriz University of Medical Sciences , Tabriz , Iran	18	1.24
Morgan MS	Wright State University, Dayton, Ohio, USA	18	1.24
Feldmeier H	Charit-University Medicine, Berlin, Germany	17	1.16
Chosidow O	Universit Pierre et Marie Curie, Paris	15	1.03
Carapetis JR	Princess Margaret Hospital for Children, Perth, Australia	14	0.97
Rezaee E	Shahid Beheshti University of Medical Sciences, Tehran, Iran	14	0.97
Mounsey KE	School of Health and Sports Science, University of the Sunshine Coast, Australia	12	0.82
	Total of 20 authors	396	27.12
	Total no. of publications	1460	

Table 4 reveals that top 20 authors contributed 396 articles comprising 27.12% of total publication output on scabies. Currie from Royal Darwin Hospital, Darwin, Australia came to the fore with 40 papers, followed by Walton from Menzies School of Health Research and Charles Darwin University, Australia (33 papers). Of the 20 most productive authors, 9 were from Australia, 3 from USA, 2 from Iran and 1 each from Canada, Brazil, Germany, Spain, Italy and Paris.

5. Major findings

The findings of the study revealed that:

- The research publications on scabies increased from 95 in 2001 to 137 in 2015. The highest number of articles 562 (38.49%) on scabies were produced during quinquennial 2011 to 2015. The research output on scabies increased by 26.58% spurt from 2006-2010 to 2011-2015.
- About 86.79% papers on scabies were contributed by multiple authors and degree of authorship collaboration was 0.88 which clearly indicates dominance of multiple authored papers over single authored papers.
- Top 20 most productive journals produced 24.25% share of global publication output on scabies. The highest number of articles was published in Veterinary Parasitology (46 articles), followed by International Journal of Dermatology (27 articles). Of the 20 most productive journals, 9 were published from USA, 7 from UK, 2 from Germany and 1 each from France and Netherlands.
- Top 20 most prolific authors contributed 27.12% share of total publication output on scabies. Of these authors, 45% were from Australia, 15% from the USA, 10% from Iran and 5% each from Canada, Brazil, Germany, Spain, Italy and Paris.

6. Conclusion

The present study revealed that 86.79% papers on scabies were contributed by multiple authors which shows high degree of authorship collaboration in the subject. The research output on scabies has registered 26.58% spurt from 2006-2010 to 2011-2015. Currie from Royal Darwin Hospital, Darwin, Australia is the most prolific author in the subject. Of the top 20 most prolific authors, 45% were Australian and 15% were Americans.

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