



Communication

Knowledge Domain and Emerging Trends on Echinococcosis Research: A Scientometric Analysis

Supplemental data

Table S1. Top 10 countries contributed to publications on echinococcosis research from 1980 to 2017.

Rank	Country	Count	Centrality	Percent (%)
1	TURKEY	1,133	0.00	14.74%
2	FRANCE	582	0.30	7.57%
3	PEOPLES R CHINA	574	0.56	7.47%
4	USA	521	0.56	6.78%
5	ENGLAND	485	0.44	6.31%
6	GERMANY	482	0.14	6.27%
7	SWITZERLAND	480	0.64	6.24%
8	INDIA	376	0.00	4.89%
9	AUSTRALIA	356	0.34	4.63%
10	SPAIN	355	0.00	4.62%



Table S2. Top 10 institutions contributed to publications on echinococcosis research from 1980

to 2017.

Rank	Institution	Count	Centrality	Percent (%)
1	Univ Zurich (German)	229	0.14	2.98%
2	Univ Bern (Switzerland)	203	0.14	2.64%
3	Univ Salford (England)	173	0.23	2.25%
4	Univ Franche Comte (France)	166	0.22	2.16%
5	Xinjiang Med Univ (China)	150	0.04	1.95%
6	Univ Republica (Spanish)	116	0.03	1.51%
7	Ataturk Univ (Turkish)	102	0.10	1.33%
8	Hokkaido Univ (Japan)	96	0.04	1.25%
9	Queensland Inst Med Res (Australia)	79	0.03	1.03%
10	Asahikawa Med Coll (Japan)	78	0.03	1.02%



Table S3. Top 10 authors of publications and cited authors on echinococcosis research in terms of co-citation counts and centrality from 1980 to 2017.

Rank	Publications			Co-citations		Centrality	
	Author/ Country	Count	Percent (%)	Citation counts	Cited author	Centrality	Cited author
1	Craig PS/ UK	171	2.22%	1508	Eckert J, 1980	0.54	Beard TC, 1980
2	Gottstein B/ Switzerland	167	2.17%	907	Thompson RCA, 1982	0.54	Nelson GS, 1981
3	Wen H/ China	126	1.64%	787	Craig PS, 1984	0.49	Eckert J, 1980
4	Vuitton DA/ France	123	1.60%	783	Mcmanus DP, 1982	0.39	Schwabe CW, 1982
5	Ito A/ Japan	120	1.56%	751	Gottstein B, 1984	0.36	Kern P, 1980
6	Deplazes P/ Switzerland	113	1.47%	661	Schantz PM, 1980	0.36	Purriel P, 1983
7	Mcmanus DP/ Australia	109	1.42%	587	Vuitton DA, 1988	0.33	Mcmanus DP, 1982
8	Kern P/ Germany	94	1.22%	486	Deplazes P, 1994	0.31	Gemmell MA, 1980
9	Lightowers MW/ Australia	79	1.03%	462	Torgerson PR, 2003	0.30	Verster AJM, 1982
10	Giraudoux P/ France	77	1.00%	421	Rausch RL, 1980	0.29	Farag H, 1980



Table S4. Top 10 journals of publications and cited journals on echinococcosis research in terms of co-citations counts and centrality from 1980 to 2017.

Rank	Publications			Co-citations		Centrality	
	Journals	Count	Percent (%)	Citation counts	Cited journal	Centrality	Cited journal
1	Vet Parasitol	260	3.38%	2245	Parasitology	0.78	Nature
2	Parasitol Res	250	3.25%	2202	Int J Parasitol	0.71	Clin Exp Immunol
3	Parasitology	180	2.34%	2201	Am J Trop Med Hyg	0.71	Immunology
4	Acta Trop	161	2.09%	1846	Acta Trop	0.71	Tropenmed Parasitol
5	Am J Trop Med Hyg	147	1.91%	1593	Parasitol Res	0.69	J Exp Med
6	Int J Parasitol	145	1.89%	1561	Vet Parasitol	0.67	Acta Trop
7	J Helminthol	125	1.63%	1415	T Roy Soc Trop Med H	0.66	Int J Parasitol
8	Ann Trop Med Parasit	124	1.61%	1409	Ann Trop Med Parasit	0.65	Brit Med J
9	Parasitol Int	105	1.37%	1257	J Parasitol	0.65	Acta Gastro-Ent Belg
10	Parasite Immunol	104	1.35%	2245	Mol Biochem Parasit	0.64	Med J Australia



Table S5. Top 10 co-cited references related to echinococcosis research from 1980 to 2017.

Rank	Co-citation counts	Centrality	Cited reference	Author/publication year/ journal
1	264	0.02	Expert consensus for the diagnosis and treatment of cystic and alveolar echinococcosis in humans	Brunetti E, 2010, <i>Acta Trop</i> (Brunetti et al. 2010)
2	255	0.03	Biological, epidemiological, and clinical aspects of echinococcosis, a zoonosis of increasing concern	Eckert J, 2004, <i>Clin Microbiol Rev</i> (Eckert et al. 2004)
3	130	0.02	A molecular phylogeny of the genus <i>Echinococcus</i> inferred from complete mitochondrial genomes	Nakao M, 2007, <i>Parasitology</i> (Nakao et al. 2007)
4	128	0.05	The taxonomy, phylogeny and transmission of <i>Echinococcus</i>	Thompson RCA, 2008, <i>Exp Parasitol</i> (Thompson 2008)
5	121	0.05	Global socioeconomic impact of cystic echinococcosis	Budke CM, 2006, <i>Emerg Infect Dis</i> (Budke et al. 2006)
6	105	0.01	Guidelines for treatment of cystic and alveolar echinococcosis in humans	Vuitton DA, 1996, <i>B World Health Organ</i> (Vuitton et al. 1996)
7	105	0.12	Prevention and control of cystic echinococcosis	Craig PS, 2007, <i>Lancet Infect Dis</i> (Craig et al. 2007)
8	88	0.06	Human alveolar echinococcosis after fox population increase	Schweiger A, 2007, <i>Emerg Infect Dis</i> (Schweiger et al. 2007)
9	77	0.04	European echinococcosis registry: human alveolar echinococcosis, Europe, 1982-2000	Kern P, 2003, <i>Emerg Infect Dis</i> (Kern et al. 2003)
10	72	0.17	Percutaneous drainage compared with surgery for hepatic hydatid cysts	Khuroo MS, 1997, <i>New Engl J Med</i> (Khuroo et al. 1997)



Table S6. The 6 top-ranked clusters in the echinococcosis field from 1980 to 2017.

Cluster ID	Size	Silhouette	Mean (cite year)	Label (TFIDF)	Label (LLR)	Label (MI)
#0	83	0.909	2008	echinococcus granulosus	cystic echinococcosis	tomographic diagnosis
#1	78	0.897	1995	liver	percutaneous treatment	comparative proteome profiling
#2	72	0.872	2001	echinococcus multilocularis	echinococcus multilocularis	hydatid fluid
#3	68	0.909	1978	mebendazole	infected sheep	Algerian patient
#4	58	0.793	1993	alveolar echinococcosis	pulmonary alveolar echinococcosis	major cyst fluid antigen
#5	54	0.857	1984	hydatid-disease	current management	liver echinococcosis



Table S7. Top 10 keywords of publications on echinococcosis research in terms of citation counts and centrality.

Rank	Citation counts		Centrality	
	Counts	Keyword	Centrality	Keyword
1	1120	Echinococcus granulosus	0.30	Echinococcus granulosus
2	991	Hydatid cyst	0.14	Alveolar echinococcosis
3	761	Liver	0.14	Epidemiology
4	695	Diagnosis	0.11	Albendazole
5	660	Cystic echinococcosis	0.1	Prevalence
6	619	Echinococcus multiloculari	0.1	Diagnosis
7	574	Cyst	0.1	Albendazole
8	550	Alveolar echinococcosis	0.09	Echinococcus multiloculari
9	510	Albendazole	0.08	Cystic echinococcosis
10	400	Prevalence	0.08	Liver



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