

Prevalence and epidemiological distribution of leishmaniasis In Saudi Arabia: A systemic review and meta-analysis

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Introduction:

Leishmaniasis is a parasitic disease caused by protozoan parasites of the genus Leishmania. The disease is endemic in many parts of Saudi Arabia, with the majority of cases concentrated in six regions, including Al-Qassim, Riyadh, and Eastern Province. This research aims to provide a meta-analysis of recent epidemiological studies on leishmaniasis in Saudi Arabia. This Research will discuss the current epidemiological status of the disease, including the number of cases reported in Saudi Arabia.

Methods:

This systematic review includes studies conducted on the prevalence of leishmaniasis in Saudi Arabia using the following databases: PubMed, EMBASE, and Scopus. This study was conducted in the period from February 1, 2013, to February 1, 2023. This study follows PRISMA guidelines for writing systematic and meta-analyses. The meta-analyses were calculated with the Open Meta Analyst software to determine Saudi Arabia's prevalence of Leishmaniasis. Subgroup analysis was performed comparing geographical distribution.

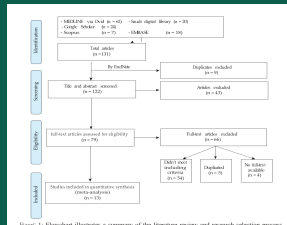


Figure 1: Flowchart illustrating a summary of the literature review and research selection process.

Result:

In our investigation, 13 studies were included, reporting 7832 cases in total, 1834 of which were females and 5998 of which were men the percentage being 22% and 78% respectively. The cases were scattered over 10 Saudi Arabian areas, with the bulk being in Al Madinah Al Munawwarah (23.25%), Asir province (23%), Al-Qassim (17.4%), and Hail (11.1%). The result of cases of leishmaniasis from 2013-2023 showed a decline in incidence and prevalence among the Saudi Arabia population through these 10 years.

Place of Residency	number(N)	Gender(N)	Age Mean(SD)
Al Madinah Al munawwarah	1821(23.25)	1420(78) M / 401 (22) F	57.27
Asir	1802(23.0)	1297 (72) M / 468 (26) F	38.71(14)
Al Qassim	1363(17.4)	913 (67) M / 450(33) F	34.21(13.3)
Hail	875(11.1)	682 (78) M / 192(22) F	28.51(9)
Eastern	795(10.15)	644 (81) M / 151 (19) F	31.27(5)
Riyadh	644(8.22)	309 (48) M / 335 (52) F	36.84(7.2)
Tabuk	245(3.12)	166 (68) M / 78 (32) F	16.85(3.5)
Najran	125(1.59)	95 (76) M / 30 (24) F	32.21(3)
Makkah	91(1.16)	71 (78) M / 20 (22) F	22.19(4)
Jizan	71(0.9)	32 (45) M / 39 (55) F	26.61(7.7)

Table1: Demographical and characteristics data of the patients
 F:Female, M: Male, SD: Standard deviation



Figure 2: Geographical distribution of Leishmaniasis in Saudi Arabia

Conclusion:

Leishmaniasis is prevalent in Saudi Arabia with regional differences this is influenced by geographical factors between the regions and the presence of sandflies, the high number of reservoir hosts, and the environmental conditions that favor the survival of the parasite.

References:

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