Prevalence and Distribution of Leishmaniasis, Kingdom of Saudi Arabia, 2010 – 2014

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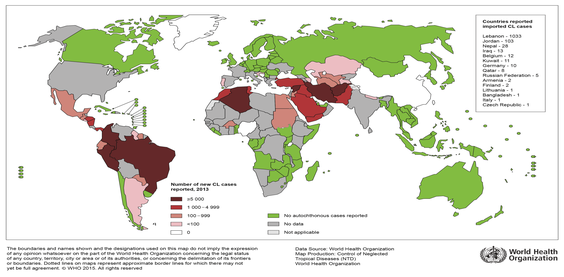
INTRODUCTION

- Leishmaniasis is vector-borne, parasitic disease transmitted to mammals by bite of infected sand fly
- Major public health concern; 98 countries affected
- Endemic in Middle East, including Saudi Arabia
- Ninth most common infectious disease
- 0.2 to 0.4 million visceral leishmaniasis and 0.7 to 1.2 million cutaneous leishmaniasis cases annually
- Mortality rate between 20,000 and 40,000 deaths/year

Status of endemicity of cutaneous leishmaniasis, worldwide, 2013



World : Endemicity of cutaneous leishmaniasis, 2013

STUDY PURPOSE

- Measure distribution and prevalence of leishmaniasis in KSA from 2010 to 2014
- Discuss National Control Program
- Calculate incidence rates and stratify by province, type of disease, nationality, and gender

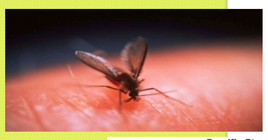
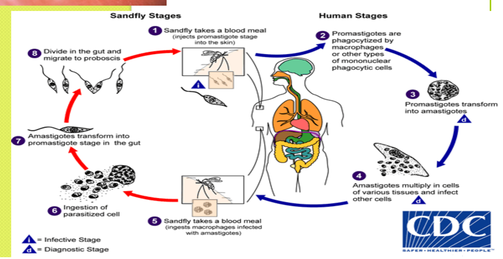


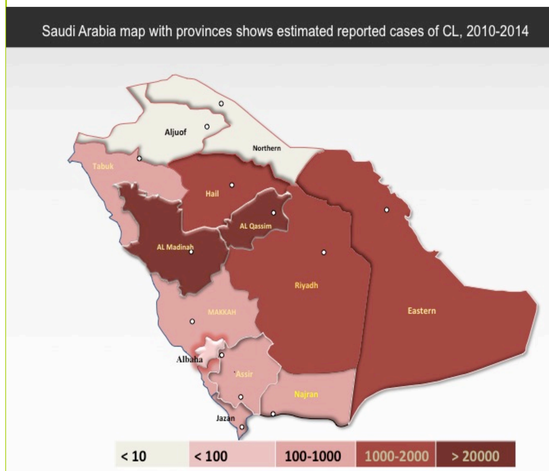
Photo: Sand fly and the Life cycle



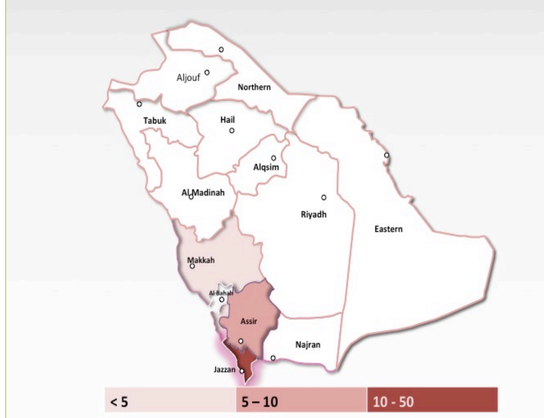
METHODS

- Secondary retrospective analysis of Leishmaniasis IRs per 100,000 population in KSA and 95% confidence intervals (CIs) from 2010 – 2014
- Stratified by nationality, gender, and 13 administrative provinces
- Study exempt from IRB review

Saudi Arabia map with provinces shows estimated reported cases of CL, 2010-2014



Saudi Arabia map with provinces shows estimated reported cases of VL, 2010 - 2014.



RESULTS

- Significantly decreasing trend of leishmaniasis
- IR among Saudis lower than IR among non-Saudis
- Higher IRs of leishmaniasis in AL-Madinah, Al-Qasim, and Hail
- CL much higher among those aged 14-44, and VL much higher among those aged 1-4

Table 1. Reported Cases of Cutaneous Leishmaniasis and Incidence Rates, by Year, Kingdom of Saudi Arabia, 2010 – 2014

Year	#	IR°	95% CI*
2010	4129	14.97	14.52- 15.44
2011	1951	6.87	6.57- 7.18
2012	1464	5.01	4.76- 5.27
2013	1988	6.62	6.34- 6.92
2014	2190	7.11	6.82 - 7.42

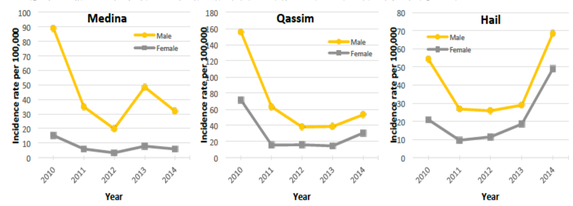
°IR = incidence rate per 100,000 population
*CI = confidence interval

Table 2. Reported Cases of Cutaneous Leishmaniasis and Incidence Rates, by Year and Nationality, Kingdom of Saudi Arabia, 2010 – 2014

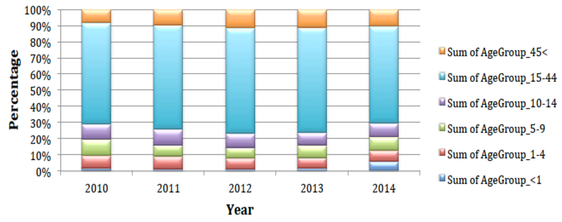
Year	Saudi			Non-Saudi			P-value
	#	IR°	95% CI*	#	IR°	95% CI*	
2010	2179	11.48	11.00 - 11.9	1950	22.70	21.71- 23.72	0.0001
2011	1015	5.23	4.91 - 5.55	936	10.43	9.78 - 11.11	0.0001
2012	761	3.83	3.57 - 4.11	703	7.51	6.97- 8.08	0.0001
2013	1028	5.18	4.87- 5.50	960	9.87	9.26 - 10.51	0.0001
2014	1191	5.75	5.43 - 6.08	999	9.92	9.32- 10.55	0.0001

°IR = incidence rate per 100,000 population
*CI = confidence interval

Figure 1. Incidence Rates° of Reported Cases of Cutaneous Leishmaniasis, by Year and Provinces, Kingdom of Saudi Arabia, 2010 – 2014



Figuer 3. Percentage of Cutaneou Leishmanaiasis cases by age group form 2010-2014



CONCLUSION

- Leishmaniasis IR decreased from 2010 to 2012 then increased slightly through 2014
- Variations by province probably linked to two types of species that cause leishmaniasis
- Main industry in certain provinces is agriculture; can contribute to risk of exposure
- Lack of data showing exactly which sector and region cases were reported from made it difficult to make more precise assessment of IR within provinces

RECOMMENDATIONS

- Implement active surveillance in highly endemic provinces
- Reevaluate reporting system and investigate of risk factors in all regions
- Promote health education about leishmaniasis
- Publish guidance manual through national control program

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