**S6 Table: Summary of the literature on socioeconomic inequalities in leprosy, 2004-2013.**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Top 20 GBD 2010;****Author, Year** | **Aim of study** | **Outcome,****detection method** | **Study design, statistical method, sample size** | **Study sample (period, area, population, age, randomization)** | **Measure of SEP** | **Strata** | **Prevalence** %(N inf/total N) | **Univariate association**OR (95% CI) | **Multivariate association**OR (95% CI)**(Adjusted for…)** |
| #2, Brazil; Imbiriba ENB *et* *al.*, 2009 | To analyze the epidemiology of leprosy according to spatialdistribution and living conditions of the population | Leprosy detection rate (annual mean # of leprosy cases between1998-2004 per 10,000 population) National Information System for Notifiable Diseases (SINAN) | Ecological design;Logistic regression;N= 9,919,029 citizens, number of cases=4,104  | 1998-2004;Manaus City, Northern Brazil;Citizens of Manaus;All ages;Residents of 1,536 census tracts  | Living conditions at census tract level[[1]](#endnote-1)  | LowAverage/lowAverageHigh | Mean detection rate: 4.21 per 10,000 | 4.43 (3.14-6.24), p<0.0013.05 (2.15-4.32), p<0.0011.67 (1.14-2.44), p=0.011 (ref) | NR |
| #2, Brazil;Kerr-Pontes LRS *et al.*, 2006 | To identify socioeconomic, environmental, and behavioral factors associatedwith leprosy in patients with no known leprosy contacts | Clinical diagnosis of leprosy;Typical skin lesion withloss of sensitivity and/or enlargement of one of the major nerveswith loss of sensitivity and/or positive skin smear for *M. leprae* | Case-control design; Logistic regression, cluster effect (municipality) taken into account; N = 226 cases,857 controls | 2002;4 municipalitiesin Ceará state (one of poorest states in north-eastern Brazil);Patients from Primary Health Care Centers;>18 yrs;4 out of 19 municipalities with the highest detection rate, reflecting geographical and socio-economic diversity of the State. Cases: leprosy patients diagnosed in the previous 2 years who returned for routine monitoringControls: patients from same clinic and municipality coming for reasons other than skin problems  | Schooling[[2]](#endnote-2)Food shortage at any timeAccess to safe drinking water 10 yrs previouslySewage disposal 10 yrs previouslySand/mud floor 10 yrs previously | LowMiddleHighEverNeverNoYesNoYesYesNo | Cases/controls130/38756/22640/24463/163161/68791/298133/54641/111180/74144/119182/737 | 2.05 (1.29-3.27)1.51 (0.93-2.47) 1 (ref)1.65 (1.11-2.42)1 (ref)1.17 (0.96-1.43)1 (ref)1.44 (0.95-2.80)1 (ref)1.46 (1.04-2.06)1 (ref) | 1.87 (1.29-2.74)1.50 (0.91-2.50)1 (ref)1.54 (1.45-1.63)1 (ref)(Age, gender, weekly regular bath in open water, low frequency of changing bed linen, BCG scar) |
| #2, Brazil; Murto C *et al.,* 2013 | To examine (i) migration as a risk factor for leprosy and (ii) social and behavioral risk factors for leprosy among past 5-year migrants  | Clinical diagnosis of leprosy;National Information System for Notifiable Diseases (SINAN) | Case-control design;Logistic regression and Fishers exact test;N=80 cases 55 controls (matched) | 2009-2010;Maranhão state, Brazil (4 leprosy endemic municipalities);Cases from SINAN database, controls from Program for Family Health; ≥15 yrs; past 5 year migrantsControls were randomly selected by age and sex.  | Education:family illiteracybIncome (US$)[[3]](#endnote-3)Public waste service | YesNo≤297 US$>297 US$NoYes | (cases/controls)(32/12)(39/39)(38/17)(39/37)(22/6)(58/49) | 2.67 (1.13-6.51), p=0.021 (ref)2.12 (0.97-4.71), p=0.0491 (ref)3.1 (1.1–10.02), p=0.031 (ref) | NR |
| #2, Brazil; Sales AM *et al.*, 2011 | To evaluate risk factors associated with developing leprosy among the contacts of newly diagnosed leprosy patients | Chance that contacts of leprosy patients get leprosy;Examined by specialized dermatologists andneurologists | Cohort design; Two-level logistic regression(1st level: contacts, 2nd level: index cases);N= 1,201 newly diagnosed patients and6,158 contacts (319 co-prevalent cases, identified at first examination after diagnosis of index case;133 incident cases that were apparently leprosy free at time of diagnosis of index but who developed leprosy during follow-up)  | 1987-2007;Leprosy Outpatient Clinic, Rio de Janeiro, Brazil;Contacts of newly diagnosed leprosy patients;All ages;All contacts who returned to the clinic for examination wereeligible | Education level (yrs) *Of index cases**Of contacts*Income level(number of minimum wages)*Of index cases**Of contacts* | <4 yrs4-10 yrs>10 yrs<4 yrs4-10 yrs>10 yrs<4 yrs4-10 yrs>10 yrs <4 yrs4-10 yrs>10 yrs<22-3>3<22-3>3<22-3>3<22-3>3 | (232/3,829)(70/1,497)(17/850)(78/3,829)(31/1,497)(24/850)(255/4,327)(25/718)(39/1,112)(98/4,327)(7/718)(28/1,112)(73/1,254)(84/1,428)(40/1,491)(27/1,254)(33/1,428)(24/1,491)(82/1,162)(150/2,435)(87/2,561)(25/1,162)(69/2,435)(39/2,561)Total prevalence among contacts: 7.3 | Co-prevalent3.31 (1.87–5.58)2.53 (1.37–4.64)1 (ref)Incident0.70 (0.40-1.21)0.70 (0.37-1.31)1 (ref)Co-prevalent1.50 (1.03-2.19)0.93 (0.53-1.65)1 (ref)Incident0.91 (0.56-1.47)0.38 (0.15-0.94)1 (ref)Co-prevalent2.17 (1.34–3.52)2.31 (1.44–3.70)1 (ref)Incident1.36 (0.70-2.63)1.48 (0.78-2.78)1 (ref)Co-prevalent cases2.18 (1.50-3.17)1.85 (1.35–2.54)1 (ref) Incident1.47 (0.84-2.60)1.90 (1.21-2.96)1 (ref) | Co-prevalent2.72 (1.54-4.79)2.40 (1.30-4.42)1 (ref)Incident0.60 (0.34-1.06)0.70 (0.37-1.32)1 (ref)Co-prevalent1.43 (0.96 -2.15)1.08 (0.61-1.94)1 (ref)Incident 0.82 (0.49-1.36)0.40 (0.16-1.01)1 (ref)(Index cases: gender and bacillary index; Contacts: gender, age, blood relationship, type of close association, BCG scar and BCG vaccine) |
| #2, Brazil; Schmitt JV *et al.*, 2010 | To compare armadillo meat consumption among leprosy patients with that among controls | Leprosy;NR | Case-control design;Logistic regression;N=121 patients and 242 controls(matched) | 2005-2009;Reference dermatological center in Curitiba, state of Paraná (PR), Brazil;Leprosy patients and controls;>15 yrs;All patients >15 yrs with leprosy were eligible, controls were selected among patients with other skin diseases | Family income (minimum wages) | <11-5>5 | (cases/controls)(41/24)(74/186)(6/32) | OR for having a particular income level, cases vs. controls 4.66 (2.65-8.20), p<0.010.47 (0.30-0.76), p<0.010.34 (0.14-0.84), p=0.02 | OR for leprosy7.03 (2.27-21.76), p<0.01 1.63 (0.61-4.38), p=0.34 1 (ref)(Gender, age, hometown population size, current residence, family size, contact with leprosy patients, wild animal food intake and armadillo meat intake) |
| #2, Brazil; Silva DRX *et al.*, 2010 | To analyze the association between social and environmental indicators and the Hansen's disease new case detection rate (HNCDR) in the Brazilian Amazon | Leprosy detection rate (number of new cases per 10,000 population);National Information System for Notifiable Diseases (SINAN) | Ecological design;Pearson correlation;N=NR | 2006;Amazon, Brazil;Entire population;All ages;Population-based | Human development index (HDI) |  | Average and median detection rate for total population:7.78; 7.38 (Bayesian correction)[[4]](#endnote-4)7.81; 7.54 (not corrected)[[5]](#endnote-5) | Pearson correlation coefficient. The higher the HDI, the lower the detection rate: r = -0.36, p < 0.001[[6]](#endnote-6) | NR |
| #7, Bangladesh; Feenstra SG *et al.*, 2011 | To study the association between different socio-economic factors and the risk of acquiring clinical signs of leprosy  | Clinical signs of leprosy;NR | Case-control design;Logistic regression;N = 90 cases and 199 controls | 2009;Northwest Bangladesh (2 leprosy endemic districts)Mainly rural area;> 5 yrs;Recently (2009) diagnosed leprosy patients and controls from random cluster sample (only including 1 patient per household to avoid clustering). Excluding cases in which the economic situation had changed due to the disease. | Wealth quintiles[[7]](#endnote-7)Income level (Bangladeshi Taka)Highest education in household (yrs)Food shortage last year | 1 (poorest)2345 (least poor)Continuous variable≤5 yrs>5 yrsYesNo | (cases/controls) (25/40)(20/40)(16/40)(17/40)(12/39) (41/86)(49/113)(47/128)(43/71) | 1 (ref)0.80 (0.38-1.67) 0.64 (0.30-1.38)0.68 (0.32-1.45) 0.49 (0.22-1.12)Linear trend: OR = 0.85 (0.71–1.02)p-value trend: 0.081.00, 1.00-1.00, p=0.151.10 (0.67-1.81) ,p=0.711 (ref)1.65 (1.00-2.74), p=0.051 (ref) | 1.79 (1.06-3.02), p=0.031 (ref)(Age, gender) |

NR: Not Reported; inf: infected.

1. Living condition based on: number of people/household, household head with no schooling or <1 year of education and household head with no income (source: Brazilian Institute for Geography and Statistics, IBGE). [↑](#endnote-ref-1)
2. Details on how this was defined are not available in the paper. [↑](#endnote-ref-2)
3. The paper reported: ≤R$ 510 and >R$ 510 (time period of income is not reported); currency rate used: 1 Brazilian Real=0.5814 US$ (given in the article). [↑](#endnote-ref-3)
4. Corrected (empirical Bayesian method) leprosy detection coefficient (number of new cases divided by the population of its area multiplied by 10,000 inhabitants) in 2006. [↑](#endnote-ref-4)
5. Non-corrected leprosy detection coefficient in 2006. [↑](#endnote-ref-5)
6. From abstract but does not correspond with Table 2 in the paper. [↑](#endnote-ref-6)
7. Wealth quintiles based on house structure (floor, wall and roof), electricity, ownership of radio, television, computer, mobile phone, refrigerator, fan, air conditioner, wardrobe, table, chair, watch/clock, bicycle, motorcycle/scooter, tractor/motorized farm equipment, local rice husking equipment, owns livestock, owns house, owns land house, owns farmland, toilet facilities. [↑](#endnote-ref-7)