Age and sex-specific adult mortality risk in India in 2014: analysis of 0.27 million nationally surveyed deaths and demographic estimates from 597 districts

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Report generated on: November 19, 2015

Overview

Identification

ID NUMBER
ind-cghr-adultm-dist-2014-v01-1

Version

VERSION DESCRIPTION
Version 1.0: Data used in Ram et al.'s (2015) research paper published in the Lancet Globla Health.

PRODUCTION DATE
2015-12-01

Overview

ABSTRACT
Background: As child mortality decreases rapidly worldwide, premature adult mortality is becoming an increasingly important contributor to global mortality. Any possible worldwide reduction of premature adult mortality before the age of 70 years will depend on progress in India. Indian districts increasingly have responsibility for implementing public health programmes. We aimed to assess age-specifi c and sex-specifi c adult mortality risks in India at the district level.

Methods: We analysed data from fi ve national surveys of 027 million adult deaths at an age of 15–69 years together with 2014 demographic data to estimate age-specifi c and sex-specifi c adult mortality risks for 597 districts. Cause of death data were drawn from the verbal autopsies in the Registrar General of India’s ongoing Million Death Study.

Findings: In 2014, about two-fi fths of India’s men aged 15–69 years lived in the 253 districts where the conditional probability of a man dying at these ages exceeded 50%, and more than a third of India’s women aged 15–69 years lived in the 222 districts where the conditional probability of a woman dying exceeded 40%. The probabilities of a man or woman dying by the age of 70 years in high-mortality districts was 62% and 54%, respectively, whereas the probability of a man or woman dying by the age of 70 years in low-mortality districts was 40% and 30%, respectively. The roughly 10-year survival gap between high-mortality and low-mortality districts was nearly as extreme as the survival gap between the entire Indian population and people living in high-income countries. Adult mortality risks at ages 15–69 years was highest in east India and lowest in west India, by contrast with the north–south divide for child mortality. Vascular disease, tuberculosis, malaria and other infections, and respiratory diseases accounted for about 60% of the absolute gap in adult mortality risk at ages 15–69 years between high-mortality and low-mortality districts. Most of the variation in adult mortality could not be explained by known determinants or risk factors for premature mortality.

Interpretation: India’s large variation in adult mortality by district, notably the higher death rates in eastern India, requires further aetiological research, particularly to explore whether high levels of adult mortality risks from infections and non-communicable diseases are a result of historical childhood malnutrition and infection. Such research can be complemented by an expanded coverage of known eff ective interventions to reduce adult mortality, especially in high-mortality districts.

UNITS OF ANALYSIS
Indian Districts

TOPICS

Topic	Vocabulary	URI
public health		
mortality		

KEYWORDS
India, districts, adult mortality, male mortality, female mortality, conditional probability of dying, age-specific mortality, sex-specific mortality

Coverage

GEOGRAPHIC COVERAGE
597 districts of India

UNIVERSE
India/districts

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

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Usha Ram	Centre for Global Health Research, Li Ka Shing Knowledge Institute, St Michael's Hospital, University of Toronto, Toronto, ON, Canada

FUNDING

Name	Abbreviation	Role
Canadian Institutes of Health Research		
US National Institutes of Health		
University of Toronto		

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Centre for Global Health Research	CGHR	University of Toronto, Canada; St. Michael's Hospital, Canada	Original producer

DATE OF METADATA PRODUCTION
2015-11-16

DDI DOCUMENT VERSION
Version 1.1. This is the very first version of this DDI document

DDI DOCUMENT ID
ind-cghr-adultm-dist-2014-v01-1

Sampling

Sampling Procedure

Indirect estimation

Questionnaires

Overview

Data from several surveys and studies were used to create the data presented here.

Data Collection

Data Collection Dates

Start	End	Cycle
2014-06-01	2014-06-30	N/A

Data Collection Mode

Combination of multiple surveys and census

DATA COLLECTION NOTES

Several surveys such as the District Level Household Surveys of 2002–04 and 2007–08, Special Fertility and Mortality Survey of 1998, Sample Registration System data of 1998–2003, and the Million Death Study of 2001-2006 were used to produce the data presented here. The data is for the year 2014. See Ram et al.'s (2015) research paper in the Lancet Global Health for more information.

Data Processing

No content available

Data Appraisal

No content available

File Description

Variable List

fig2_fig3a_data

Content	Data used to create figures 3C and 3D in research paper.
Cases	597
Variable(s)	7
Structure	Type: Keys: ()
Version	version 1.0
Producer	Usha Ram
Missing Data	

Variables

ID	Name	Label	Type	Format	Question
V1	sid2011	State ID for year 2011	contin	numeric	
V2	did2011	District ID for year 2011	contin	numeric	
V3	mcpd1569	Conditional probability of a man dying at an age of 15–69 years	contin	numeric	
V4	fcpd1569	Conditional probability of a woman dying at an age of 15–69 years	contin	numeric	
V5	pcpd_014	Conditional probability of children dying at an age of 15–69 years	contin	numeric	
V6	excessmtof1569	Relative male–female gap in the conditional probability of dying at an age of 15–69 years	contin	numeric	
V7	id	Concatenation of sid2011 and did2011	discrete	character	

fig3cd_data

Content	Data used to create figures 3C and 3D in research paper.
Cases	35
Variable(s)	11
Structure	Type: Keys: ()
Version	verison 1.0
Producer	Usha Ram
Missing Data	

Variables

ID	Name	Label	Type	Format	Question
V8	id	State ID for 2011	discrete	character	
V9	name	State name	discrete	character	
V10	pctbelow145cm_w	Percent women below 145 cm	contin	numeric	
V11	meanbmi_w	Mean bmi , women	contin	numeric	
V12	meanbmi_m	Mean bmi , men	contin	numeric	
V13	anyanemia_w	Anyanemia, women	contin	numeric	
V14	anyanemia_m	Anyanemia, male	contin	numeric	
V15	meanh_w	Mean height, women	contin	numeric	
V16	meanh_m	Mean height, men	contin	numeric	
V17	meanw_w	Mean weight, women	contin	numeric	
V18	meanw_m	Mean weight, men	contin	numeric	

webtable5

Content	Population (15-69 years), deaths (15-69 years), death rate (15-69 years), age-standardized death rate (15-69 years), district level conditional probability of dying at an age of 15-69 years for men, India, 2014.
Cases	621
Variable(s)	11
Structure	Type: Keys: ()
Version	version 1.0
Producer	Usha Ram
Missing Data	

Variables

ID	Name	Label	Type	Format	Question
V19	s_name	2011 state name	discrete	character	
V20	s_code	2011 state code	discrete	character	
V21	d_name	2011 district code	discrete	character	
V22	did_11	2011 concatenated state and district code	discrete	character	
V23	pop1569	total male pop aged 15 to 69 for 2014	contin	numeric	
V24	deaths_1569	total death count for male pop aged 15 to 69 for 2014	contin	numeric	
V25	deathr_1569	death rate for male pop aged 15 to 69 for 2014	contin	numeric	
V26	deathasr_1569	age standardized death rate for male pop aged 15 to 69 for 2014	contin	numeric	
V27	cpod_1569	conditional probability of dying at an age of 15-69 years in 2014	contin	numeric	
V28	cpod_llc	lower confidence bound for cpod 2014	contin	numeric	
V29	cpod_ulc	upper confidence bound for cpod 2014	contin	numeric	

webtable6

Content	Population (15-69 years), deaths (15-69 years), death rate (15-69 years), age-standardized death rate (15-69 years), district level conditional probability of dying at an age of 15-69 years for women, India, 2014
Cases	621
Variable(s)	11
Structure	Type: Keys: ()
Version	version 1.0
Producer	Usha Ram
Missing Data	

Variables

ID	Name	Label	Type	Format	Question
V30	s_name	2011 state name	discrete	character	
V31	s_code	2011 state code	discrete	character	
V32	d_name	2011 district code	discrete	character	
V33	did_11	2011 concatenated state and district code	discrete	character	
V34	pop1569	total female pop aged 15 to 69 for 2014	contin	numeric	
V35	deaths_1569	total death count for female pop aged 15 to 69 for 2014	contin	numeric	
V36	deathr_1569	death rate for female pop aged 15 to 69 for 2014	contin	numeric	
V37	deathasr_1569	age standardized death rate for female pop aged 15 to 69 for 2014	contin	numeric	
V38	cpod_1569	conditional probability of dying at an age of 15-69 years in 2014	contin	numeric	
V39	cpod_llc	lower confidence bound for cpod 2014	contin	numeric	
V40	cpod_ulc	upper confidence bound for cpod 2014	contin	numeric	