

Under-fives Mortality

Lancet Global Health published an impressive study by Li Liu et al on national, regional, and state-level all-cause and cause-specific under-5 mortality in India in 2000–15: a systematic analysis with implications for the Sustainable Development Goals.^[1] Authors suggest that progress in India is crucial to improving child survival globally. The leading causes of preterm birth complications, pneumonia, intrapartum-related events, neonatal sepsis or meningitis, diarrhoea, and injuries should receive more attention from child survival policy makers and programmes. However, failure to mention the high levels of undernutrition in the country anywhere in the article is a serious slip, which is contributory to many causes of death, especially pneumonia and diarrhoea among 1-5 year olds.

Malnutrition burden in India remains high. Sharma^[2] reporting on the nutrition profile generated using the National Family Health Survey 2015-16 (NFHS-4) explained that India achieved improvements in stunting between 2006 and 2016, with a decline from 48% to 38.4% among children below 5 years. A majority of districts across India, however, have a high stunting burden, with more than a third of children stunted in 441/640 districts. Similarly, wasting among children under five slightly increased over time at the national level. “The problem is extremely widespread across India, with 487 districts where more than 15% of children are wasted. “Nearly 160 districts have levels of severe wasting above 10%. Among them, 37 districts, scattered across different states, have levels of wasting that are above 15%—these 37 districts need high priority attention. There is a real need for going a step further and supporting the districts by providing analytics even at a sub-district level using program data such as that available from the real-time monitoring systems within the Union health ministry and the Integrated Child Development Services. India has failed to address malnutrition among under-5s under her primary health care programme. On paper, ASHA workers are responsible for giving nutritional advice for child feeding to the mothers, but systematic growth monitoring is far from being implemented in the population.

Over one third of all child deaths are **linked to malnutrition**. Leading causes of death in under-5s are pneumonia, diarrhoea and health problems during the first month of life. Around 70% of these early child deaths are due to conditions that could be prevented or treated with access to simple, affordable interventions, low birth weight being one through Antenatal and Postnatal Care. Children in LMICs are ten times more likely to die before the age of five than children in developed countries. Improved nutritional status of Under-5s, not only improves mortality leading to longevity and life expectancy, but also the economic development of a nation.

Causes of under-five child deaths

Six conditions account for about 70% of all child deaths: acute lower respiratory infections, mostly pneumonia (19%), diarrhoea (18%), malaria (8%), measles, (4%), HIV/AIDS (3%), and neonatal conditions, mainly pre-term birth, birth asphyxia, and infections (37%). The relative contribution of HIV/AIDS to the total mortality of children under-five, especially in sub-Saharan Africa, has also been increasing steadily. **Malnutrition** is a factor in more than half of the children who die after the first month of life.

Poor families are often unable to obtain even the most basic health care for their children. Poor or delayed care-seeking contributes to up to 70% of all under-five child deaths. Of the 12 countries where more than 20% of children die before their fifth birthday, nine have

suffered a major armed conflict in recent times. Countries with weak and fragile health systems have not been able to provide effective child survival strategies that are crucial to reduce under-five child deaths, and especially neonatal deaths. Basic health services have been lacking as well as nutrition, water supplies and sanitation facilities. Almost half a million deaths each year due to malaria in children under-five in sub-Saharan Africa could have been prevented with the use of insecticide-treated bed nets, shown to reduce under-5 mortality rates by up to 20%.

Absence of essential maternal care during pregnancy and child birth, absence of perinatal and neonatal care by far is responsible for more than 70% of all Under-5 mortality. Furthermore, low birthweight (LBW) of less than 2500 g is an important marker of maternal and fetal health, predicting mortality, stunting, and adult-onset chronic conditions.

Tremendous gains at moderate costs can be achieved by implementing following measures:

1. Contraceptive use is vital for avoiding unwanted pregnancies, especially among teenagers;
2. Antenatal care, if provided adequately and to all pregnant mothers, improves outcome of pregnancy and survival of the newborn;
3. Skilled attendance at delivery, including essential obstetric care improves chances of survival of both mother and the newborn;
4. Postnatal care is often neglected after the spontaneous delivery. Care of the mother for postpartum bleeding, puerperal infection, initiation of breast feeding soon after birth, assessment soon after birth and care of the newborn to ensure absence of any problems must take place;
5. Child health needs to be maintained at its optimum and monthly growth monitoring is the best way to achieve this. It takes care of children who are not thriving well or are not gaining adequate growth/weight. It provides an opportunity for routine immunisations and help to mother in care of the child and for her family planning needs;
6. Financial investments in maternal newborn and child health (MNCH) is essential to reduce maternal and childhood mortality. Governments should consider it as a cost effective and efficient investment in the future of the country;
7. Universal Health Coverage starts with every pregnant women receiving a comprehensive health care to both mother and the child before, during and after childbirth and children receiving growth monitoring so that their optimal potential is realised as they are passed on to schools for further education and development.

References:

- [\[1\]](#) Li Liu et al. National, regional, and state-level all-cause and cause-specific under-5 mortality in India in 2000–15: a systematic analysis with implications for the Sustainable Development Goals. *Lancet Global Health*. June 2019 issue.
- [\[2\]](#) Sharma, NC. Malnutrition burden in India remains high. *Nutrition Profile of 640 Districts*. Live Mint. Update. 14 Dec 2017

Please see the illustrations related to the article below:

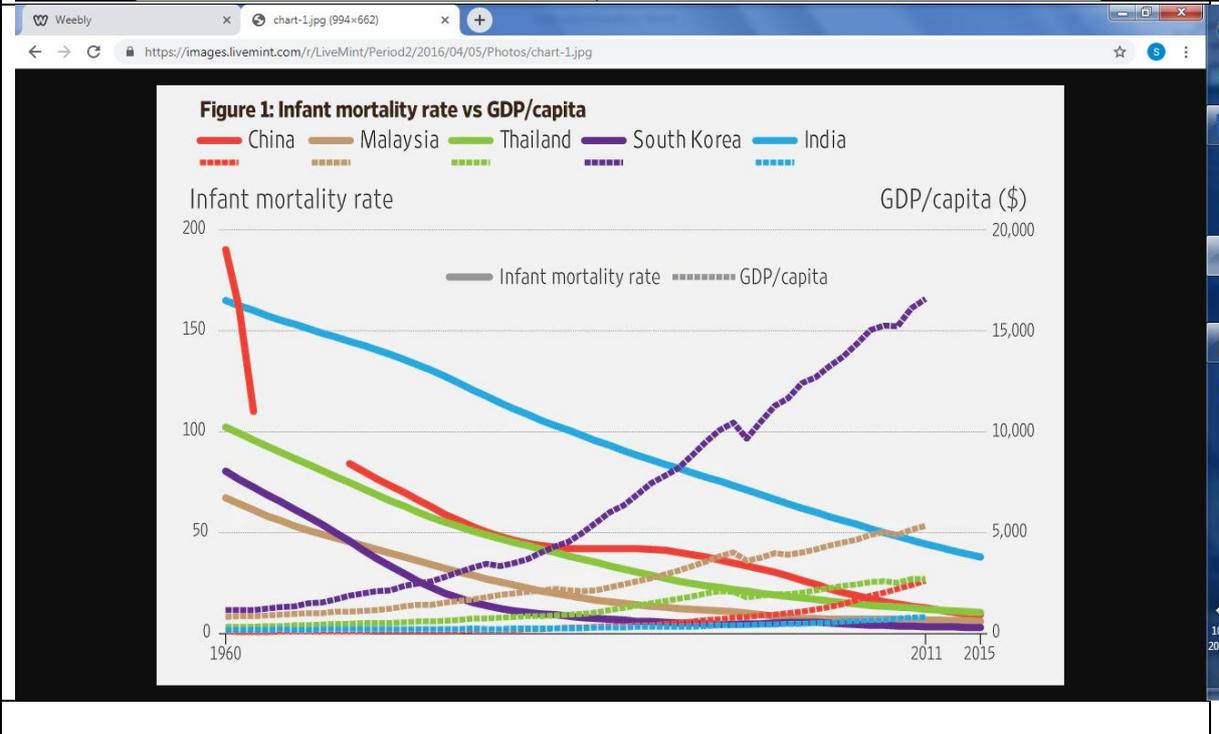
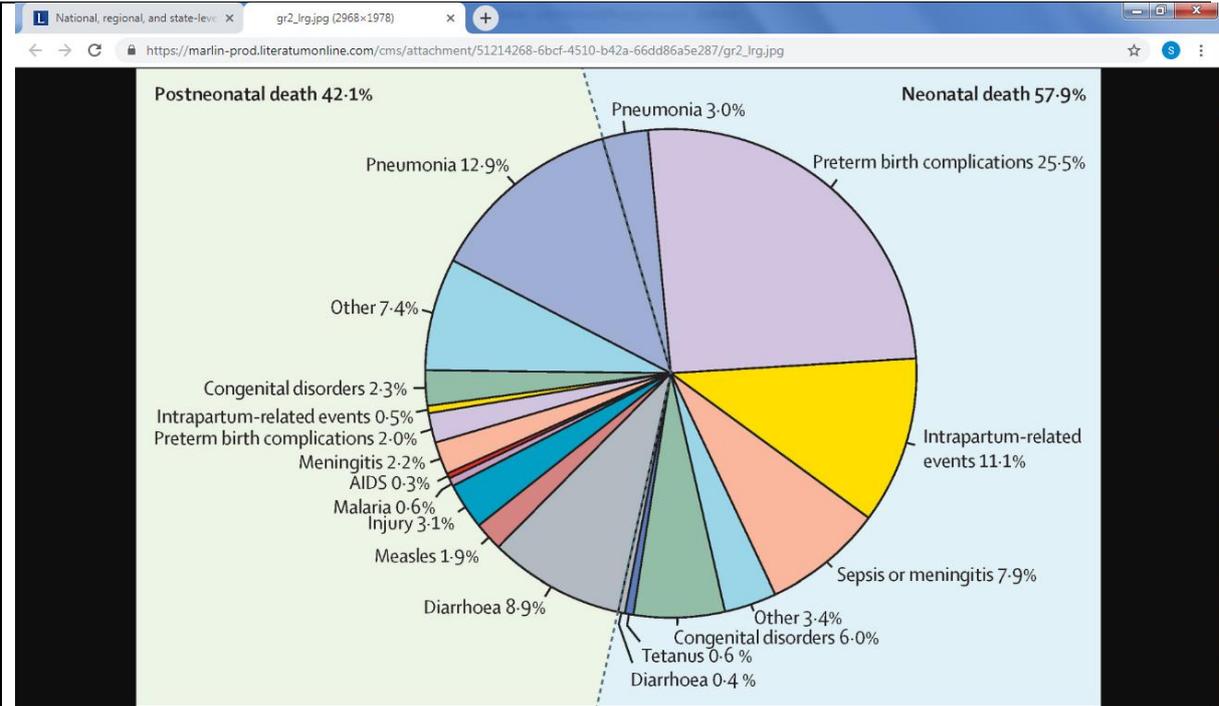




Figure 3: Significant improvement, but a long way to go

Positive trend (green) Negative trend (orange)

	India	Change	MDGs	COMPARATORS				
				US	Brazil	China	Thailand	
Overall Indicators	•Infant mortality rate (1,000 live births, 2012)	44	-50% (1990-2012)	27	6	13	12	11
	•Maternal mortality rate (per 100,000 live births, 2012)	178	-68% (1990-2012)	109	27	68	36	28
Public health indicator	•DTP3 vaccination (% immunized, 2013)	72%	20% (2000-2013)	100%	94%	95%	99%	99%
CD prevalence	•Tuberculosis (cases in millions, 2012)	2.8	-38% (2000-2012)	-	0.02	0.12	1.4	0.11
	•Malaria (cases in millions)	1.1	-48% (2001-2012)	-	0	0.24	0.003	0.03
NCD prevalence	•Cancer (annual incidence in millions, 2012)	1	25% (2004-2012)	-	1.6	0.4	3.1	0.1

Notes: MDG is Millennium Development Goals; NCD is non-communicable diseases; DTP3- Diphtheria-tetanus-pertussis immunization; in-text malaria and economic growth link from <http://www.ncbi.nlm.nih.gov/books/NBK2622/>

Sources: WHO; World Bank; CBHI; Bain analysis