

Population-Poverty Linkages and Health Consequences: Understanding Global Social Group Inequalities

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Abstract

Population dynamics and determinants of poverty are associated in a way that affects access to resources which influence health. The popular belief often is that population growth causes problems including poverty. Scientific arguments, however, have fairly well established that it is the nature of development, which is important to ensure availability, access and utilization of resources, services and opportunities for different population groups. Population growth is an insufficient explanation for denial of access to resources because development disparities across the globe render different populations exposed to vulnerabilities of varied kinds. Disparities in health between different social groups are the function of the unequal way in which the determinants of health are distributed in society. Beyond its effects on health, inequality has far reaching consequences on social trust and cohesion affecting social institutions; and also on mortality and health outcomes. Factors such as income, employment status, housing, education, social position, and social exclusion have direct and indirect bearings on health over lifetimes. In many countries there is evidence of a social gradient in health, with those in more advantaged positions enjoying generally better health and lower mortality. In India, caste is an important axis on which discrimination and denial occur causing poor health outcomes. In terms of income and social indicators, India is one of the most unequal countries in the world. The present paper endeavours to understand the determinants of disparity among population groups across countries which influence access to health care with special reference to India.

Keywords

Health care, poverty, discrimination and health, disparity in access to resources, caste

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Introduction

The relationship between population and poverty is entwined with the dynamics and composition of the former; nature and degree of the latter; and resource distribution. Population size is determined by its growth, while poverty is a function of access and utilization of resources, services, and opportunities. Population and poverty therefore need to be seen in the light of inclusive development and human rights. Population growth itself remains an insufficient explanation of the inverse relationship between population and access to resources. There are many trajectories extending explanations which have moved away from the original Malthusian elucidation of population checks (Sen, 1995; Srinivasan and Mohanty, 2008). Population growth rates and average family size worldwide have fallen by roughly half over the past four decades as modern contraception became more accessible and popular. While the change is more visible among those with access to resources, the deprived do not respond to the lowered family size as mortality among them is high and survivorship low.

The doomsday neo-Malthusian 'limits to growth' ideas reached the pinnacle in works such as *Silent spring* by Rachel Carson (1962) and *Population bomb* by Paul Ehrlich ((1968). A critical counter-tradition was created by Julian Simon and Herman Kahn through their works *The ultimate resource*(1981, 1996) and *The resourceful earth* (1984) in which they argued that population growth does not necessarily lead to resource depletion, certainly not when it happens among the deprived groups. Their growth, in contrast, contributes to the pool of workers ready for exploitation by the rich and the possessed. Simon and Kahn (1984) propounded that human innovation can solve many problems. The water and air quality have improved over time, despite increasing populations. Poverty and misery have also reduced globally as scientific innovations shaped. In this improvement, however, something notable is the persistent gap in access to resources between the vulnerable and the non-vulnerable populations across the globe.

The two most populous countries of the world, China and India with population size 1,365,480,000 and 1,246,420,000 respectively on July 9, 2014 as per their population clock, are home to 36.4 percent (China, 19 percent and India, 17.4 percent) of world's total population, and have most of the world's poor despite the fact that poverty is on decline globally. In 1990, there was 36 percent population living below poverty line which reduced to 18 percent in 2010 (World Bank Report, 2010). The Expert Group of the World Bank acknowledged that the goal set to reduce extreme poverty to nine percent by 2020 will require more than just economic growth. The need to develop policies that allocate resources to people living in poverty was emphasised, thereby the need for creating an enabling environment for opportunities to access resources and services. Thus, inclusive growth was seen as a mechanism to address poverty by improving sanitation, developing irrigation facilities, and water systems for farming and expanding health coverage for the underserved people till universal health care could be put in place (Planning Commission of India, 2011).

Disparity in Wealth Ownership

Unlike the popular belief that population growth is the root cause of all problems including poverty; scientific arguments have fairly well established that it is the nature of development, inclusive or otherwise, which ensure availability, access and

utilization of resources, services and opportunities for different population groups. Had population growth been the reason, then neither would have China emerged as an economic competitor to the U.S. nor Singapore would have ruled the trade in the East Asian territories. In India, the mega cities would not have commanded the supremacy and Ladakh and Arunachal Pradesh would have been the most developed regions in the country. While the Dependency Theory lends an explanation to the interrelationship between the depressed and developed regions (So, 1990), income and social factors through the lens of social identity explain differentials that affect access (Das, 2013; Sharma 2015). Often the latter becomes more rigid in governing access (Thorat and Atwell, 2007; Mosse, 2019¹). Inequality hinders access at global, national, regional, local as well as household and individual level. The poorest forty percent of the world's population accounts for five percent of the world's income, while the richest twenty percent accounts for three-fourths of world income. About 0.13 percent of the world's population controlled a quarter of world's assets in 2006. It is noteworthy that the richest ten percent control varying proportions of wealth across the globe. The share of national wealth controlled by the top ten percent of the population suggests that India along with Brazil is second only to Middle East and Sub Saharan Africa (sixty-one percent each) with fifty five percent of national income being garnered by the top ten percent rich (refer Figure 1).

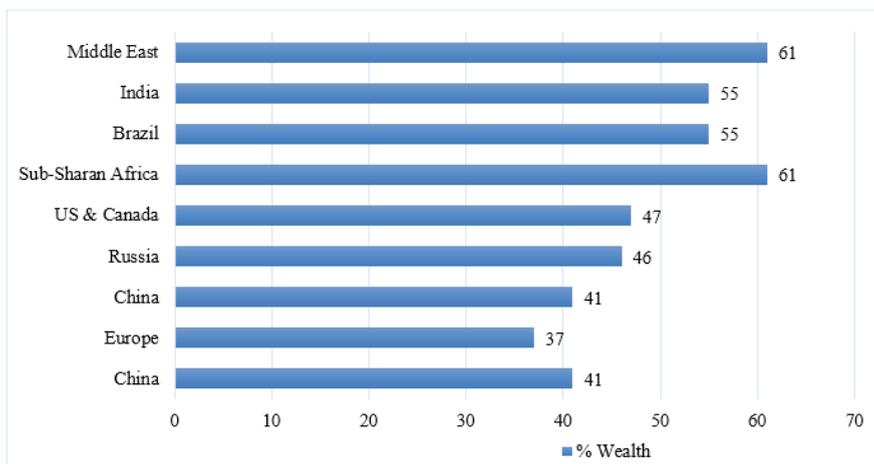


Fig 1. Percent Wealth Owned by Richest 10 % Population, 2016

Source: World Inequality Report 2018

In terms of income and social indicators, India is one of the most unequal countries in the world. It ranks 147 among about 200 countries (WIR, 2018), and a lowly 97 among 118 developing countries on the Global Hunger Index (GHI). In comparison to other countries, maternal mortality in India is 174 per 100,000 live births as compared to Middle East (six per 100,000 live births) and Canada (seven per 100,000 live births). Median wealth per adult in India at 1289 USD, is less than half of Sri Lanka (2415) and Middle East (2426) and Gini's co-efficient for wealth is 35.6 (Table 1). But the commitment to reduce inequality is fairly low.

Table 1. Indicators of Health, Wealth and Inequality

Countries	MMR*	CRI®	Median Wealth per adult	WB Gini's Co-efficient#
China	27	81	16333	38.6 (2015)
USA	14	23	61667	41.5 (2016)
Canada	7	18	106827	34.0 (2013)
Sub Saharan Africa	693	97	332	42.1 (2012)
Brazil	44	39	24263	46.9 (2017)
India	174	147	1289	35.7 (2011)
Middle East	6	98	2426	40.7 (2007)
Sri Lanka	33	102	2415	39.8 (2016)

Note: The maternal mortality ratio (MMR) is the annual number of female deaths per 100,000 live births from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes). The MMR includes deaths during pregnancy, childbirth, or within forty two days of termination of pregnancy, irrespective of the duration and site of the pregnancy, for a specified year.

Source: CIA World Factbook 2018*; Development Finance International and Oxfam Report October 2018. The Commitment to Reducing Inequality Index 2018®; Credit Suisse's *Global Wealth Databook*. World Bank Gini's Co-efficient.# Accessed on 30 November 2017

Unemployment rate has grown from 6.8 percent in 2001 to 9.6 percent in 2011 and further to 8.4 percent in August 2019. Unemployment grew faster for illiterates than for literates (CMIE, 2019). There are more illiterate among poor, SC and ST than non-poor, non-SC and non ST (RGI, 2011). About 28 percent SC and 50 (percent ST are in the lowest wealth quintile as against less than 10 percent of the high caste Hindus (IIPS and ICF, 2017).

Determinants of Disparities in Health

Disparities in health between different ethnic groups are the function of unequal way in which the determinants of health are distributed in society (Robson 2004; Whitehead, 2007). Beyond its effects on health, inequality has far reaching consequences on social trust and cohesion affecting social institutions (Kawachi and Berkman 2000; Kawachi et al. 1997). The growing inequality has influenced not only mortality, but a range of health outcomes, as well as social and political phenomena (Wilkinson, 1994; Kawachi et al. 1997; Nayar, 2007). These factors include such determinants as income, employment status, housing, education, social position, and social exclusion which have direct and indirect bearings on health over lifetimes (Siegrist, J and M Marmot, 2006). In many countries there is evidence of a social gradient in health, with those in more advantaged positions enjoying generally better health and lower mortality (Wilkinson and Marmot 2003; WIR, 2018). To illustrate, in Aotearoa, New Zealand, there is differential distribution of social, environmental, economic, and political determinants of health for Māori and non-Māori people. In 2005, 49 percent of Māori secondary school students left school without completion, compared to

22 percent of non-Māori. Only nine percent of Māori students left school with a completion certificate allowing them to enter university, compared to thirty fourpercent of non-Māori students (Ministry of Education, Government of New Zealand, 2006). Similarly, the socio-economic disparities in life expectancy have widened among non-Latino whites in the USA (Vega and Amaro, 1994; Olshansky et al. 2012; Sasson 2016). In India too, a gap is evident in the differential access to care services among the scheduled communities -castes and tribes, as compared to the non-scheduled (Acharya, 2010; Baru, et al., 2010; Acharya, 2013; Acharya, Mukherjee, and Kumar, 2015; Acharya, 2018). While social factors like taking permission to visit a facility, finding someone to accompany, and the concern for the availability of female provider show little gap across different population groups, infrastructure and location factors like distance and possession of money to access care, show a comparatively larger gap between the groups (Refer Figure 2).

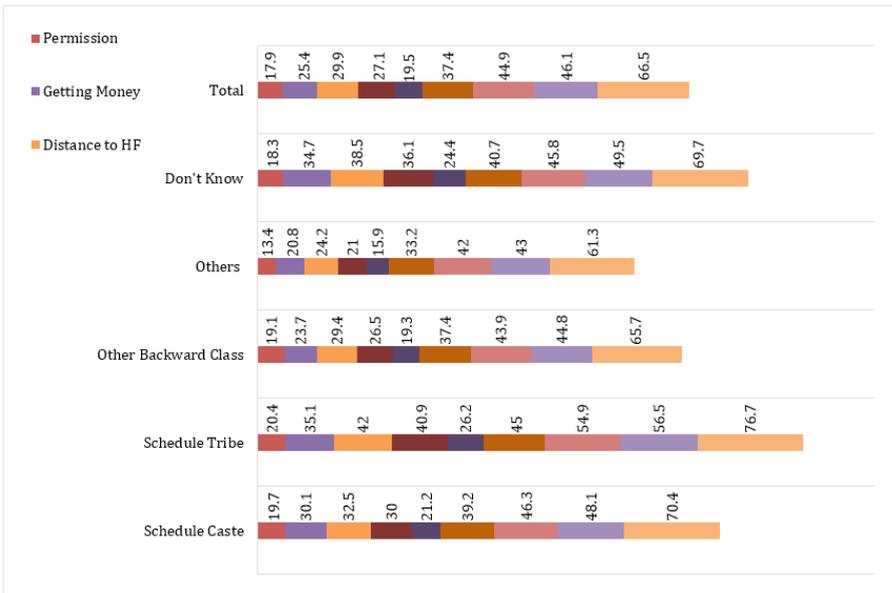


Fig 2. Problems in Accessing Health 2015-16

Source: Table 11.21, NFHS 4

Underlying and Proximate Determinants of Health

Internationally, there is increasing recognition of the role that various social, economic, environmental, and political factors play in determining health experiences and outcomes for individuals and social groups (Howden-Chapman and Tobias 2000; Wilkinson & Marmot 2003).

Age and Marital Status

Men and women across social groups suffer from different types of diseases at different ages. An important determinant of health is physical access to health facilities. Better

access to health facilities results in less time consumed to access healthcare and often it increases demand. Similarly, marital status also affects health. Single people have a greater tendency to use more medical care as compared to married and with children (Chetty et al. 2016; Bosworth, Burtless, and Zhang 2016).

Education and Income

Education is known to influence health outcomes including reproductive health (Mason, 1984; Caldwell, 1994; Desai, 2000) and emotional connects with it (Basu, 2006). It encourages preventive care. However, low education levels are linked with poor health, more stress, and low self-confidence (Wilkinson and Marmot 2003). This affects the propensity for improved incomes. Higher incomes create conducive environment for higher expenditures for health; and create demand for newer and expensive healthcare. It is evident that the percentage spent on health declines as income increases. Income and social status are directly associated and are linked to better health. The greater the gap between the richest and poorest people the greater the differences in health (Bunker, et al., 1989; Deaton, 1999; Nayar, 2007; Baru, et al., 2010).

In general, lower incomes are associated with higher morbidity and mortality for many illnesses and injuries. It is evident among Māori and non-Māori, death rates of those on high incomes declined more sharply in recent years than those of people with low or middle incomes (Blakely et al., 2000, 2001, 2007; Subramanian et al., 2003, 2006; Subramanian, 2008; Subramanian and Kawachi, 2004). The income gap between Māori and non-Māori remains substantial. The median annual income for Māori adults (those aged 15 years and over) in 2006 was \$20,900, compared with \$24,400 for the total population. The median annual income was \$25,900 for Māori males and \$17,800 for Māori females. The average weekly income (from all sources) for Māori was \$471 for the June 2005 quarter, compared with \$ 637 for European/ Pākehā, \$ 412 for Pacific peoples and \$ 415 for other ethnic groups (Ministry of Health, New Zealand and University of Otago, 2006). The living standards for Māori in 2004 were lower than the total population, a pattern also evident in the 2000 Living Standards Survey (Jensen et al., 2006). There was slight change in average living standards for Māori between 2000 and 2004, but there was an increase in the proportion of Māori experiencing 'severe hardship' from seven percent in 2000 to seventeen percent in 2004. Forty percent of Māori families as compared to nineteen percent of European families were living in hardship in 2004 (Wagstaff and Doorslaer, 2000; Jensen et al., 2006).

Similarly, the reindeer-herding indigenous Sami men had lower income than Swedish men. The Sami people are the indigenous ethnic group of northern Scandinavia and the Kola Peninsula (Tynes and Haldorsen, 2007). The differences in income increased slightly over the past decades due to declining profitability of reindeer husbandry. It has been shown that the increase in income has been similar among Sami and non-Sami between 1970 and 2000, except for the reindeer-herding men who show a significantly lower income and slower increase in income compared with non-Sami men (Tynes and Haldorsen, 2007; Sjolander, 2011).

Access to Resources

Access and use of resources which prevent or treat disease influence health. Underlying and proximate determinants of health also include household size. Generally, the greater

the household size the greater the demand for health services, but is equipoised by the effects of income. Health Insurance makes health a 'cheaper' commodity for those utilizing healthcare. It affects the demand for healthcare in two ways- lowers effective rates and increases the use rates; and it increases the utilization of more expensive services (Feldstein, 2011). Social support from families, friends and communities is linked to better health. The culture milieu in which customs, traditions, and the beliefs of the family and community are embedded, they all affect health (Banerji, 1982; Baraik and Kulkarni, 2006).

The Persistent Gap

These determinants work in favour of the non-vulnerable populations. More often than not the vulnerable are located in areas which are distant from facilities. Educational attainment is poor among them causing lower employability and income levels. Access to health services, health insurance is also low. Often, lifestyle habits of the vulnerable populations are associated with incomes and working conditions, and are detrimental to health. Their living conditions are often inhuman- crowded, congested and insanitary. Work and working conditions are equally difficult. Household size is large and low incomes prevent choice of care. Social and familial support may be available minus economic support. Certain cultural taboos may be observed with rigidity, often to camouflage the economic distress.

Illustrations from Different Geographical Settings

Different countries have formulated affirmative policies and programmes to support their vulnerable populations in various ways at different points of time. Affirmative action, known as 'employment equity' in Canada, 'reservation in India,' 'positive discrimination' in the UK, 'equal opportunity' in New Zealand, and 'quota' in Scandinavian countries, is the policy of favouring members of a disadvantaged group who currently suffer, or have historically suffered from discrimination in access to education, employment, or housing. The nature of affirmative action policies varies from region to region. Some countries use a quota system, whereby a certain percentage of government jobs, political positions, and school vacancies must be reserved for members of a certain group; an example of this is *the reservation system in India*. In some countries quotas are not used, but disadvantaged groups are given preference or special consideration in selection processes. The term 'affirmative action' was first used in the United States in 1961, which included a provision to 'take *affirmative action* so as to ensure that in providing employment, no one discriminated on the basis of race, creed, colour, or national origin' (Bergmann, 1999; Sowell, 2004). However, despite such efforts from countries, the differentials between social groups- the privileged and the discriminated--- still prevails. Reflections from some regions support this.

The affirmative action policies in Canada have addressed the concern for employment, education, and housing among the First Nations. Paula Arriagada and Darcy Hango (2016) of Statistics Canada, examined the essential literacy and numeracy skills of the off-reserve First Nations and Métis adults for education and employment outcomes by profiling the literacy and numeracy skills of off-reserve First Nations, Métis and non-Indigenous non-immigrant populations. The analysis was based on Canadian data from the 2012 Programme for the International Assessment of Adult Competencies (PIAAC). The results suggest that, while for all groups, literacy and

numeracy skills levels increase with education; and employment outcomes rise with skill; this relationship is significantly stronger for the non-indigenous than indigenous populations. The off-reserve First Nations and Métis adults have lower literacy and numeracy scores than non-aboriginal adults. For example, just over one-third (35 percent) of off-reserve First Nations people and 50 percent of Métis aged 25 to 65 had higher literacy scores, compared with 57 percent among non-aboriginal adults. Among those with a university degree, however, the proportion of off-reserve First Nations adults with higher skills remained lower than that of non-aboriginal adults. As regards employment outcomes, the off-reserve First Nations adults with higher literacy and numeracy skills were less likely to be employed than non-indigenous adults aged 25 to 54, even if they had lower skill levels, and even after accounting for other factors that can affect the probability of employment. Among those who had higher literacy skills, off-reserve First Nations adults aged 25 to 54 had a 75 percent probability of being employed, compared with 87 percent of Métis adults and 91 percent of non-indigenous adults at similar skill levels.

Unemployment is known to be associated with poor health outcomes (Keefe and ACSW 2010; Blakely et al 2002). This association is closely related to public policies. In New Zealand, Māori work opportunities and work conditions were differentially impacted by economic and social policies of the 1980s and 1990s. The differential position of Māori in the labour market accounted for the widening gaps in mortality rates between Māori and non-Māori people during the 1980s and 1990s (Ministry of Health, New Zealand & University of Otago, 2006). It is noteworthy that unemployment rates for Māori have decreased from 13.0 percent in 2001 to 7.6 percent in June 2007 but remain three times higher than that of Pākehā and similar to that of the Pacific population (7.8 percent) (Ministry of Health, New Zealand & University of Otago, 2006). There are also differences in the occupational distribution of Māori and non-Māori populations. In 2006, Māori were most likely to be employed in service industries (16.7 percent), and as plant/machine operators and assemblers (16.4 percent) (Department of Labour, 2006). There is evidence that Māori face discrimination in the labour market – in getting a job, in the type of job obtained, and the wages paid for a particular type of work (Deaton, 1995; Das, 2013).

Morbidity, Mortality and Life Expectancy

To understand the differentials in life expectancy and specific causes of death among the reindeer-herding and non-reindeer-herding Swedish Sami, the Swedish Causes of Death Register over the period 1961–2000 was used. No difference in life expectancy was observed between the Sami and the non-Sami population. The incidence of specific causes of death was also quite similar among Sami and non-Sami (Soininen and Pukkala, 2008). These results are basically in agreement with mortality studies conducted in the Norwegian and the Finnish Sami populations (Sjolander, 2011). In a recent study on some lifestyle habits, it was found that, although the level of consumption of alcohol was similar, subgroups among reindeer-herding Sami men have more hazardous drinking pattern compared with non-Sami in Sweden, Norway and Finland (Wiklund, Holm, Eklund, 1991).

The robustness of the relationships between primary care, income inequality, and population health was tested in weighted multivariate regressions, income inequality measures such as Gini coefficient, Robin Hood Index) and were found to be significantly associated with mortality. Primary care physician-to-population ratios

were significantly associated with lower mortality. Specialty care was associated with higher mortality. Family medicine, however, was consistently associated with lower mortality. Thus, enhancing primary care, particularly family medicine, even in states with high levels of income inequality, could lead to lower mortality in those states (Shi, Macinko, Starfield, Wulu, Regan, Politzer, 2003). The gradient in the relationship between SES and health shows that each level of the hierarchy exhibits less morbidity and mortality than lower levels (Adler et.al., 1993, 1994; Marmot et. al., 1991). Studies document that the gradient is characterized by a threshold, usually around the median for income, where additional increases in SES have a diminished effect in reducing morbidity and mortality rates (Kitagawa and Hauser, 1973; Pappas et al., 1993; McDonough et al., 1997; Wilkinson, 1986; Williams, 1990).

A growing body of research also reveals that even though overall mortality rates have been declining, socioeconomic differentials in mortality have been widening in recent decades. Comparing data from the 1960s to those for the late 1970s and 1980s, U.S. studies reveal that income and educational differentials have widened over time (Duleep, 1989; Pappas et al., 1993; Williams and Collins, 1995). Similarly, widening socioeconomic differentials in mortality have been observed in England, Wales, France, Finland, Norway, and the Netherlands (Department of Health and Social Security, 1980; Kunst and Mackenbach, 1994; Mackenbach et al., 1989).

In India, there has been a steady decline in decadal growth of population from 24.80 percent in 1971 to 17.64 percent in 2011. Infant Mortality Rate (IMR) has declined from 165 per 1000 live births in 1950-55 to 53 in 2005-2010. Crude Birth Rate has almost halved from 43.3 during the same years to 23.1 during 2005-2010. Crude Death Rates (CDR) dropped from 25.5 to 8.3 during the same period. Fertility too, declined from 5.9 to 2.73. So has the early childhood mortality reduced, even across social groups, but the gap between the SCs/STs and others continues (refer Figure 3).

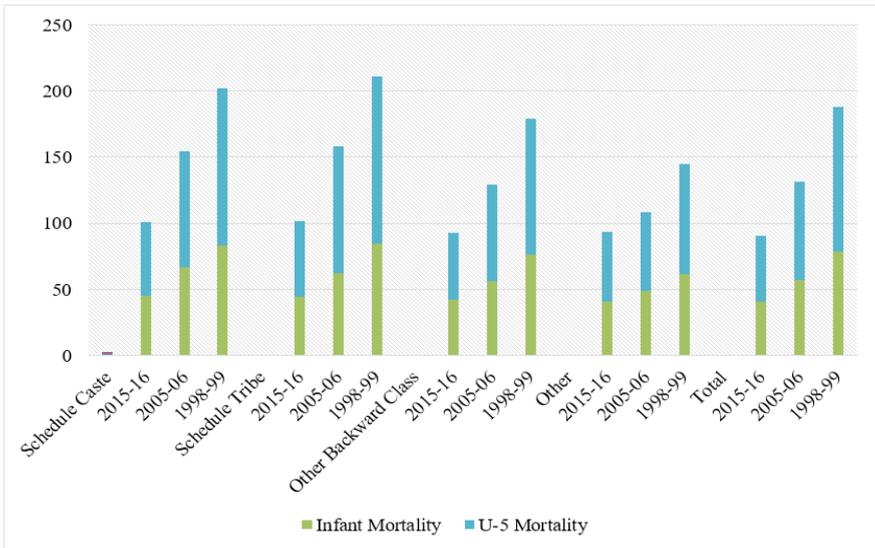


Fig 3. Early Childhood Mortality Across Social Groups in India

Source: IIPS and ICF, 2017

Similar is the case with literacy which has also improved for both SCs and STs in last six decades (RGI, 2011). For the scheduled caste population the literacy level improved almost six times from 10.27 percent in 1961 to 66.1 percent in 2011. Similarly for the scheduled tribe population it increased from 8.53 percent in 1961 to 59.0 percent in 2011. The gap between SC and the non-SC/ST in 1961 was 17.64 percentage points, which reduced to 10 percentage points in 2011, while the gap between ST and non-SC/ST was 19.38 percentage points in 1961 which reduced to 17.1 in 2011. While the reduction in gap was more than seven percentage points for SCs from 1961 to 2011, the same was less than two percentage points for STs. Thus, despite the improvement in literacy levels, the gap among the marginalised and non-marginalised groups has remained (Figure 4). The gap between the vulnerable populations- SCs and STs; and the others is well marked and is evident from the time series data of the National Family Health Surveys 1-4. While affirmative action policy is likely to be the supporting factor for this improvement, the persistent gap is a consequence of prejudices and biases which create barriers in access to resources.

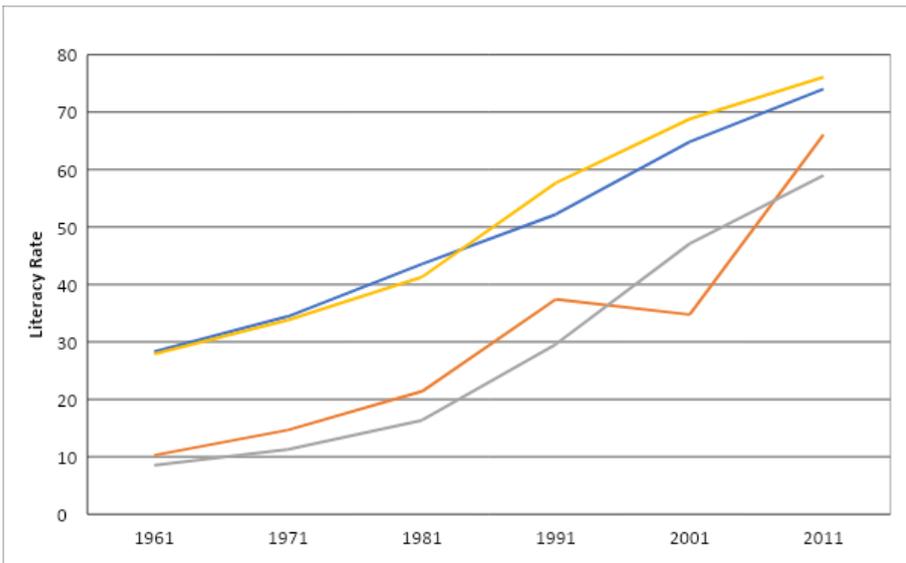


Fig 4. Trends in Literacy rate in india (1961–2011)

Source: RGI, 2011

Inequality Related Discrimination

Differentials and inequalities are known to cause discrimination and exclusion. The European Union Minorities and Discrimination Survey (EU-MIDIS II) conducted by the EU Agency for Fundamental Rights (FRA) revealed that the immigrants, their descendants and ethnic minorities face widespread discrimination across the European Union (Teivainen, 2017). The survey revealed that ethnic discrimination and hatred was prevalent; and the laws and policies remain inadequate for protecting people against discrimination while job-seeking.

“With every act of discrimination and hate, we erode social cohesion and create inequalities that blight generations fueling the alienation that may ultimately have devastating consequences,” (O’Flaherty, 2017).

In Finland, people of immigrant and ethnic minority background are more likely to experience discrimination than almost anywhere else in the European Union. Discrimination against people of Sub-Saharan African descent is particularly common in Finland. Almost a half (45 percent) of the respondents reported that they have experienced discrimination over the past year and well over a half (60 percent) that they have experienced discrimination over the past five years while accessing public and private services, such as employment, health care and hospitality services. Despite anti-discrimination policies, reporting discrimination is still restricted. The willingness and ability to report discrimination, varies substantially between EU states. For example, nearly a third (30percent) of respondents of Sub-Saharan African descent in Finland said they reported or filed a complaint about the latest incident of discrimination; in Austria, Italy and Portugal, fewer than a tenth of respondents of similar background said they did so (Teivainen, 2017; Singer and Ryff, 1997, 2001; Williams and Collins, 1995; Williams, et.al., 1999).

Denial of Access and Consequences on Health

It is fairly well established that health and wealth are closely related (Wilkinson, 1986, 1997), and economically disadvantaged populations experience worse health status on multiple indicators of physical and mental health. Inequality has important consequences for the health of individuals and groups. Better understanding of the mechanisms involved suggests concrete ways to improve the health of vulnerable individuals and population subgroups. Health is related to social change. Social environments that are less divisive, less undermining of self-confidence, less productive of social antagonism, and more supportive of developing skills and abilities are likely to contribute to the overall health and welfare of the population (Mackenbach, Stronks, Kunst, 1989; Singer and Ryff, 1997, 2001). Inverse associations between socioeconomic hierarchies and morbidity and mortality is well documented (Sorokin, 1927; Antonovsky, 1967; Bunker et al., 1989; Williams, 1990; Baru, et al., 2010). These hierarchies have usually been defined by household income, years of education, and occupational status or position. Persons of higher socioeconomic status (SES) live longer and have lower rates of morbidity than their less favored counterparts (Behm, 1980; Department of Health and Social Security, 1980; Grosse and Auffrey, 1989).

Differences in equality with which income is distributed is related to variations in health between and within countries. There was a significant correlation ($r=0.62$) between the proportion of total household income received by the less well-off 50percent of households and variation between states in death rates for the United States (Kaplan, Pamuk, Lynch, Cohen, Balfour, 1996). Income inequality is associated with health outcomes and with investments in human and social capital. Economic policies that increase income inequality are also known to have a detrimental effect on population health (Wilkinson, 1986, 1997; Lynch et al., 1998). In an ecological

study, the associations between state-level income inequality and pregnancy-related mortality among non-Hispanic (NH) black and NH white populations across the US was examined. In addition, income inequality was found to be associated with racial inequities in pregnancy-related mortality. These findings highlight the persistent racial inequity in maternal death in the US (Vilda, Wallace, Dyer, Harville, Theall, 2019). Health outcome variance is greater at the bottom of these hierarchies for low levels of education and income, than at the upper end (Bunker et al., 1989; Wilkinson, 1986, 1997).

Improvements in the health of rich compared to non-rich have increased health disparities. For some health conditions, however, there has been no change in health or worsening health status over time for economically disadvantaged populations (Williams and Collins, 1995). Differences between SES groups in access, utilization, and the quality of medical care are important in the widening health inequality (Mackenbach et al., 1989), increases in income and wealth inequality in both the United States and Western Europe (Danziger and Gottschalk, 1993) appear to be the driving force behind the widening health disparities (Williams and Collins, 1995).

Poverty Social Exclusion and Ill-Health

Poverty and social exclusion are often taken for granted while considering ill-health effects (Nayar, 2007). Social exclusion refers to the complete denial of access to resources and services, such as the refusal of being treated at a hospital. In the Indian context it is practiced on the basis of caste and untouchability due to which some groups and individuals are denied the rights and opportunities which the others enjoy. Marginalisation of certain groups occurs in most societies including developed countries. It is more pronounced in underdeveloped countries. In India, caste is the unique feature lending itself as an axis for exclusion and marginalization. Caste is synonymous with low socio-economic status and poverty. In the identification of the poor, scheduled caste and scheduled tribes and in some cases the other backward castes may be considered as socially disadvantaged groups who have a higher probability of living under adverse conditions and are thus prone to ill-health. The health status and utilization patterns of such groups give an indication of their social exclusion as well as an idea of the linkages between poverty and health (Banerji, 1982, Nayar, 2007). Caste, income, and regional inequalities determine health (Baru et al., 2010). The scheduled tribes and schedule castes in poor wealth quintile are at a greater disadvantage in all indicators of health as compared to other groups (Jungari and Chauhan, 2017). Among these marginalised populations, poverty is higher in rural areas as compared to urban despite the fact that there has been a decline in poverty across social groups. In case of poverty ratio too, like literacy, the gap between the vulnerable and the non-vulnerable continues to persist (Table 2).

Table 2. Poverty Ratio Among the Social Groups (Percent)

Place of Residence	Poverty Ratio Among The Social Groups				
	1993-94	2004-05	Percent Change	2011-12	Percent Change
Rural					
SC	62.4	53.5	-8.9	31.5	-22.0
OBC	--	39.8	--	22.6	-17.2
ST	65.9	62.3	-3.6	45.3	-17.0
Others		27.1		15.5	-11.6
All	50.1	41.8	-8.3	25.7	-16.7
Urban					
SC	51.7	40.6	-11.1	21.7	-18.9
OBC	--	30.6	--	15.4	-15.2
ST	41.1	35.5	-5.6	24.1	-11.4
Others	--	16.1	--	8.2	-7.9
All	31.8	25.7	-6.1	13.7	-12.0

Source: Planning Commission, 2012

Consequences of socioeconomic disparities and discrimination on health Socio-economic disparities and discrimination are usually measured in terms of education, income, wealth and unemployment (Glei, Goldman, and Weinstein, 2018). Although there is a large literature on subjective social status (the ‘social ladder’) and its effects on health (Ren et al., 1999; Pak et al., 1991; Shi, 2003; Adler et al. 1994), yet few studies have incorporated subjective measures of economic distress. Both constructs are subjective. Perceived ‘economic distress’ is based on the respondents’ evaluations of their financial and employment circumstances; the ‘social ladder’ notes respondents ranking themselves relative to others.

To quantify socioeconomic disparities based on perceived economic distress, another measure - relative socioeconomic status (relative SES), is often constructed using education, income, assets, and occupation to assign a percentile rank denoting the respondent’s position within the overall distribution. It is distinct from the ‘social ladder’ in that the relative ranking is derived completely from objective criteria rather than from respondents’ own evaluations of their social positions. Economic distress is seen to vary with social ladder. Disparities in perceived economic distress change because people’s perceptions are influenced by a broad set of factors. These perceptions also vary across age due to employability and work opportunities. These opportunities also vary across social ladder and shape the view on economic well-being. These perceptions are defined by their perceived position on social ladder and as well as relative SES (Case and Deaton, 2015, 2017). Thus, the cohort specific social ladder and relative SES are required to be seen in the light of equity in opportunities.

Effect of Caste on Under-nutrition among Children

There are evidences of socio-economic and demographic factors influencing health and nutritional status (Gopalan, et al., 1978; Sukhatme, 1961; Suryanarayana, 1997). Caste is one of the most important social determinants which affect health

and nutrition of children due to present as well as historical discrimination (Nayar, 2007). Most studies tend to argue that these differentials in nutritional status cannot be attributed to caste. They are due to socio-economic factors like education of mother and wealth of the households, etc. Therefore, a logistic regression analysis was done after controlling the effect of other factors to understand the net effect of caste (based discrimination) on nutritional status of children. Predicted probability was calculated to know the percent differences in under nutrition of children belonging to different social groups due to discrimination. To understand the caste difference three categories of social groups such as scheduled caste, scheduled tribe and others were taken. The other backward class (OBC) was merged with others because, after independence OBC emerged as a separate category on the basis of class, not caste; and they have never been discriminated in the access to resources unlike the scheduled castes who have been historically denied access due to social identity induced prejudices. It is evident from literature that more children belonging to scheduled castes and scheduled tribes are poor in health and nutritional status than children belonging to Others or non-SC/ST groups (Ram, Pathak and Annamma, 1997; Roy, Kulkarni and Vaidehi, 2004; Baraik and Kulkarni, 2006). The status of under nutrition among children belonging to different social groups reflects on disparity.

The results reveals that there are around forty eight and fifty five percent of children belonging to scheduled caste and scheduled tribe respectively are undernourished as compared to thirty nine percent belonging to Others. Around 3.9 percent SC children and 5.9 percent ST children are more malnourished compared to children of 'Others'. This difference may be attributed to discrimination. The net relative risk of being malnourished among children belonging to scheduled caste and scheduled tribe are 1.12 and 1.15 times higher as compared to children belonging to 'Others'. Though the relative risk of being malnourished has declined after controlling other factors, but considerable difference due to discrimination persists. Around 8.5 percent SC children and sixteen percent ST children are more malnourished compared to children of 'Others'. (Table-3).

Table 3. Children Across Social Groups-Observed and Predicted Undernourishment

Percent of Undernourished Children Belonging to Different Social Groups			Predicted Percent of Undernourished Children Belonging to Different Caste		
Caste/ Ethnicity	Under-nutrition	Relative Risk	Under-nutrition (net effect of caste) *	Net difference (due to discrimination)	Net Relative Risk
SC	47.9	1.23	44.8	3.9	1.12
ST	55.4	1.41	46.7	5.9	1.15
Others®	39.4		40.9		
Total	42.7				

Source: Computed from unit level data of National Family Health Survey-4

Note: * indicates the net differences due to discrimination was calculated controlling other factors such as wealth index, mother's education, sex of the child, religion, place of residence, antenatal care, TT injection, place of delivery, vitamin-A supplement and presence of ICDS centres in the village. Here the dependent variable is under-weight and it is dichotomous i.e underweight-1 and normal-0. From the logistic regression result, the predicted percent (predicted probability) was calculated.

® indicates reference category

In other words, the risk of being malnourished for SC and ST children is 1.23 and 1.41 times higher respectively as compared to children belonging to 'Others'. After controlling the effect of other factors, the net differences in under nutrition of children belonging to different social groups has declined. This difference in under nutrition among children belonging to different social groups is due to discrimination. The net effect of social group shows that forty six and forty eight percent children belonging to scheduled castes and scheduled tribes respectively are undernourished as compared to forty one percent of children belonging to 'Others' (Table-4).

Table 4. Logistic Regression-net Effect of Background Factors on undernourished children

Background Factors	B	S.E	Sig.	Exp (B)	Predicted Probability
Caste					
SC					45.8
ST	.160	.031	0.000	1.174	47.7
Others	.239	.043	0.000	1.270	40.9
Mother's Education					
Illiterate					
Primary	-0.167	0.036	0.000	0.846	
Secondary	-0.287	0.033	0.000	0.751	
Higher	-0.797	0.076	0.000	0.451	
Sex of the Child					
Male					
Female	-0.018	0.024	0.461	0.983	
Wealth Index					
Poorest					
Poorer	-0.176	0.035	0.000	0.838	
Middle	-0.413	0.038	0.000	0.662	
Richer	-0.620	0.043	0.000	0.538	
Richest	-1.108	0.057	0.000	0.330	
Religion					
Hindu					
Muslim	-0.047	0.036	0.190	0.954	
Others	-0.243	0.061	0.000	0.784	
Place of Residence					
Urban					
Rural	-0.133	0.036	0.000	0.876	
Antenatal care					
Not taken					
Taken	-0.350	0.035	0.000	0.705	
TT injection					
Didn't take					
Take	-0.015	0.039	0.706	0.985	
Institutional delivery					
No					
Yes	-0.205	0.026	0.000	0.815	
Vitamin A received					
No					
Yes	0.191	0.026	0.000	1.210	
Presence of ICDS centers					
No					
Yes	-0.046	0.035	0.184	0.955	
	N= 29052; -2 Log L= 40573.9; R2= 0.109				

Source: National Family Health Survey-4

The inclusive growth models propose to incorporate the excluded, disadvantaged, and discriminated populations. Among those who are poor, majority also belong to socially disadvantaged groups. Therefore, national or global, inequality and disparity related discrimination affects poor and the vulnerable more than others. It is this realm of resources allocation and access that determines the level of poverty. Inequality over geographical space poses a health hazard. Countries with the smallest spread of incomes and the smallest proportion of the population in relative poverty have the longest life expectancies (Wilkinson, 1994). Evidence from multiple sources suggests that the greater the concentration of income at the upper end of the income distribution, the higher the mortality and morbidity rates (Wilkinson, 1994, 1997; Kaplan et al., 1996; Lynch et al., 1998). Socioeconomic inequality also affects health in more complex ways. It is widely recognized that health is negatively correlated to income inequality (Deaton, 1999; Case and Deaton, 2015).

The role of the government in influencing population health is not limited within the health sector but also by various outside the health systems. The constitution of India makes health in India the responsibility of state governments. It makes every state responsible for 'raising the level of nutrition and the standard of living of its people and improvement of public health as among its primary duties.' The National Health Policy was endorsed by the Parliament of India in 1983, updated in 2002, and further in 2017. But these documents often reflect an oversight in addressing the inequities in health. In addition to poverty, given the social hierarchy in which Indians are embedded, caste identity becomes important because it has excluded the SCs and the STs from a dignified right to life. They have remained backward in education, livelihoods, access to services, schemes and opportunities to live a life with dignity. They are not free and allowed to select occupations of their choice. This has affected their health and well-being due to consequential stress and also low paying and less dignified occupational engagement.

There is considerable variation in health outcomes at all levels of socioeconomic hierarchies. Health outcome difference is greater at the bottom of these hierarchies—for low levels of education and income—than at the upper end. However, while there is evident change in social determinants of health and public policy research, government interest in promoting equity in health policies is not so evident. These issues remain to be brought into the governments' policy agendas. Using a policy analysis lens to identify why healthy public policies are not being adopted to understand and address health equity is the need of the day.

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Endnotes

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