



Income Inequality, Poverty and Health Issues among the Worker in India during Covid-19

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Abstract

There is a relationship between income inequality, poverty, and the health status of the people. India and its neighboring developing countries still fight chronic diseases and poverty at a higherratio. Many western countries improve their health status by reducing income inequality and poverty. China worked in this aspect as a better performer after the 1990s, and its policy strategy to trickle the Covid-19 situation wisely. Developed countries like the US, Spain, France, the U.K, and Germany deal with the Covid-19 pandemic with health expenditure investments. But India still lags behind those developed economies and some emerging nations as well as Somalia and Tanzania in Covid-19 management. This study explores the health expenditure of the Indian government with other neighboring countries. India should adopt new economic policies to uplift rural and marginal people. The level of poverty is still very high in India. The research gap shows that India should work in remote and urban economies. The log-linear model with correlation to other countries and impact assessment of health expenditure indicates that healthy people work more than poor people for their contribution to the national economy.

Keywords: Covid-19; Disease; Health; Income; Inequality; Pandemic; Poverty; Rural; Worker

Introduction

Are unequal societies less healthy? Do income disparities impact the health of the population? Does relative income poverty cause bad health? Are government policies related to the distribution of income have any direct bearing on the health of citizens in the economy? These are some important questions that occupy a central place when the relationship between income inequalities and the health of populations is discussed. These questions will continue to receive attention as healthcare reform takes hold in India.

Income inequalities and health are understood to go together in many ways. The present study revisits the relationship between income inequalities and the population's fitness with the dual objective of observing income inequality as a determinant of population health and ascertaining vertical equity in access to healthcare in India.

Before focusing on income inequalities, it is required to understand the relationship between income and health. A detailed analysis looking into the nature of the correlation between the two is pivotal to further obtaining an advanced understanding of the dependence of population health on income disparities. Also, the relationship between income and health has significant implications for policymaking and businesses. The previous and existing literature suggests health and income share a positive correlation where income is said to be a strong determinant of health. The doubling of income is linked with a similar effect on health, irrespective of the point at which this occurs, providing this is within the central quota of the income distribution (Smith and Ecob, 1999). Income affects health via better education which reduces poverty from the previous level. Some evidence from the cross-sectional relationship between income and health is strong but is probably biased by substantial confounding. For the perceived health and actual health, there is a curvilinear relationship between income and health, with diminishing returns associated with membership in successively higher-income groups.

People live longer and are healthier in rich countries than in emerging countries. People live longer and are more beneficial than their grandparents and great-grandparents who lived in poorer times and, within a country at the moment in time, rich people live longer and are more nutritious than poor people. Thus, income and health are said to be positively correlated. Individual income and health are supposed to share an essentially open relationship where income at a low level is assumed to have a more considerable impact on health than at a higher level. In most families and countries, higher-income people tend to live longer. Children growing up in wealthier households are healthier. Infant mortality, childhood mortality, and other types of disease are lesser in affluent families compared to poor ones because they are much more capable of handling sanitation and other hygiene facilities. The most important and greater poverty rate is more strongly associated with higher mortality rates, a high rate of unemployment, and an increased gap between rich and poor people.

Objectives of the Study

Following are the main objective for the proposed research study

1. To find the relation between income inequality and poverty concerning the health scenario of the Indian people.
2. How effective are the policies the Indian government has taken during crises like the pandemic?
3. To find the budget scenario of the government to fill the gap in the health sector at the central and state level.
4. To find the relation between education and health for improving the standard of living and life expectancy.
5. Observe how far the policies adopted by the Government of India and the states have successfully brought down inequality.
6. To examine the relationship between changes in income inequality and poverty concerning expenditure in the health sector for individual States in India.
7. To develop policy suggestions by comparing the Indian awareness campaigns at the cross-country level.

Prof. Michael Todaro sees three primary objectives of development.

1. Production and distribution of food, shelter, and healthcare: He emphasized increasing the production and distribution of these necessities (food, shelter, and healthcare). These are very significant from a life-sustaining point of view.
2. Living standard and self-esteem: He gives more emphasis on raising the bar of surviving and as well as self-esteem.
3. Choice and Fear: He focuses on expanding social and economic choices. These social and economic choices further help in reducing the fears.

Prof. Dudley Seers argues that development is about outcomes, meaning thereby that growth can occur only with the alleviation and eradication of poverty, unemployment, and inequality within a growing economic system

According to Prof. Goulet, there are at least three core values or fundamental components of development: sustenance, self-esteem, and freedom. These three are often considered goals by individuals.

1. Sustenance: This includes the basic needs to sustain a simple life, which are the protection of food, shelter, and health related issues. A person without these is said to be in underdevelopment.
2. Self-esteem: This includes the feeling of worth and self-respect- of not being used as worthless by someone else to meet their needs.
3. Freedom from servitude: He used freedom as that of Sen's, human freedom. It gives them the freedom to make a more excellent choice. The concept of human freedom includes various aspects of political freedom, freedom of expression, freedom to participate, and equal opportunity.

Likewise, in the words of **Amartya Sen**, development requires the removal of significant sources of unfreedom, poverty, tyranny, poor economic opportunities, systematic social deprivation, neglect of public facilities, intolerance, or overactivity of repressive states.

According to **Sapru (2002)**, better health and longer life with less sickness - are crucial to a better standard of living. In other words, "the overall goal of development is to increase the economic, political and civil rights of all the people across gender, ethnic groups, religion, races, regions, and countries." He defines the term 'economic development' as "a process of improving the well-life of the people. It is about raising the people's standard of living, improving their education and health, and opening new and equal opportunities for a richer and more varied life".

Background of the Study and Review of Literature

Various studies show that, despite the overwhelming consensus that income matters for health over the medium- and long-term evidence free of time-invariant confounding for the short-run association remain elusive (Fiona Imlach Gunasekara, Kristie N. Carter, Ivy Liu, Ken Richardson, and Tony Blakely, 2012).

Preston (1975) studied the impact of economic growth on national mortality trends and differentials and proved the

income health relationship using pooled data sets of three decades. Better nutrition and greater affordability of health care associated with higher income have been widely considered primary determinants of historical and contemporary mortality declines. McKeown (1976) shows the linkage between standards of living like shelter and living space with respect to health had been established. Idler & Benyamini (1997) explained that a growing body of research shows that self-perceptions of health are linked to mortality, even when more objective on health perceptions and mortality is robust and persist when statistically controlling not only for objective health measures but also for numerous other variables such as health-related behavior like alcohol use, exercise, smoking (Borawski, Kinney & Kahana, 1996) social support (McCallum, Shadbolt, Swang, 1994, Wolinsky & Johnson, 1992) worries about health discuss (Wolinsky & Johnson, 1992).

Better nutrition and greater affordability of health care associated with higher income have been widely considered primary determinants of historical and contemporary mortality declines (McKeown, 1976). Y. Balarajan, S. Selvaraj, and S.V. Subramanian (2011) explain in their research about the health investment for access the healthcare services. Health services can't be denied based on gender, caste, socioeconomic status, geography, and other inequalities related to biasedness. The government works to improve the people's living standards, alleviate poverty, minimize income inequality and spread social harmony among the people.

Patil A.V, Somasundaram K.V, and Goyal R.C (2002), in their work on "Current Scenario in Rural India," discuss the socio-political demographic and morbidity patterns to attract global attention in recent years. The number of diseases increases over time in which some are very severe health hazards such as infectious and water-borne diseases, which diarrhea, amoebiasis, typhoid, infectious hepatitis, worm infestations, measles, malaria, tuberculosis, whooping cough, respiratory infections, pneumonia, and reproductive tract infections dominate the morbidity pattern, especially in rural areas. Thus, working for the rural and marginal people who can't afford the cost of medicine is the government's prime aim. Therefore improve the prevailing situation, the problem of rural health is to address at both macro and micro levels. Cowling K., Dandona R., and Dandona L. (2014) work on social determinants and inequalities across Indian states after the 1990s. Household and individual-level data were collected for the multidimensional poverty index. These authors also work on education and living standards with government-analyzed data such as voting patterns, political participation, and air and water pollution. The results show that most Indian households use biomass fuel with unimproved sanitation. Rural and marginal household children were malnourished and underweight. There were indigent services, such as job security, social security, and high air and water pollution.

Dave A. Chokshi (2018) explains that the cost of medicine for the poor is not affordable. Many prevalent diseases disturb the living standard of the poor, and the gap between affluent and marginal people increases over time. Level of poverty increase among poor people because a large amount of their income is spent on purchasing medicine. Thus, their consumption of necessary items will decline, and they have to force to live with available resources. Other researchers, Judge, Ken, and Paterson, Iain (2001), communities and societies with more income inequality have poor health statuses. The frequently observed association between income inequality and health at the regional level is

likely to be a by-product of the non-linear relationship between individual income and health. Benzeval and Webb (1995) find a significant problem between disadvantaged socioeconomic circumstances and health. Many studies show the relation between low income and healthy connections.

The commitments of poverty are often poor nutrition, overcrowding roads and market, and inadequately heated houses with the risk of various infections and diseases (Davey Smith, 1998). Black burn (1991) shows the relation of income level with the diet of the family members. At the same patterns, poverty reduces the ability to exercise choice over children's diet. Low income might help the parents and other adult members to earn money. They buy foods high in calories but low in nutrition (Leather, 1992). Food without proper protein leads to malnutrition, high cholesterol, obesity, and other diseases like tooth decay among children and the elderly. Poverty relates to many health hazards and conditions, like stress and other psychological illnesses that would lead to low income. Graham (1995) found that smoking among the young population, especially women, is related to the strains of caring responsibilities for their children and families. Weak health also leads to low income. A person with poor health might be unable to work and hence lose their job. Those retired people have good health work after retirement, but some people take early retirement due to health issues.

Subramanian S.V. and Kawachi I. (2004) explain in their study that the average income of U.S citizens increases by 10 percent over three decades periods. At the same time, the average salary of top business executives increases by 1000 times over the same period. The income of poor labor class people rose to less than $\frac{1}{4}$ times or 24 percent. The health of the high-income group is better compared to the low-income group. The unequal distribution of wealth, political power, cultural assets, social assets, honorific status, and human capital could also be essential variables for health outcomes. After that, Ram R. (2005) studied for the U.S and explained the evidence of the roles of income inequality and poverty in population health. The relation is based on five primary essential features mortality, education, race, and urbanization with income inequality. Deprivation increases mortality, and the gap between the poor and rich is wider. The same patterns studied by Deaton (2003) on various theoretical aspects provide an overview of the empirical evidence related to income inequality and the population's health status.

Clark A.E, D'Ambrosio C., and Lepinteur A. (2021) explain the covid-19 domination, which reveals that absolute income inequality fell over the period. Women face much more critical gender inequality as they bear double burdens than their male counterparts. Ofori, Armah & Asmah (2022) work on the poverty-like issues for the policy discourse. On one side, economic globalization reduces poverty and income inequality, and on others increases absolute income inequality through the openness of trade and resources for the specific region. The study of John Wildman (2021) shows the association between income inequality and covid-19 cases with more deaths within a particular area. As the covid-19 points increase, income inequality also increases. The first wave of covid-19 explains by Davies (2021) for OECD countries. Poverty increases & the Gini Coefficient value increases to its previous level. Thus some countries in the Middle East and OECD perform better, and the rest could not work for the poor.

Pereira M. and Oliveira A.M (2020) explain that food insecurity increases during the pandemic because of people's low income. Some countries like India; have capable of finding a suitable solution for the general masses to provide

them with food grains at their door free of cost. Deaton

A. (2021) predicted the relation between income inequality and covid-19 cases. Developing countries are affected more than rich countries in per capita income. The issues of covid-19 and deaths due to Covid-19 are much less in developing countries than in the U.S. and other European countries. The workforce of rich and developed countries moves more than in developing countries. The U.S also did worse than some other rich and developing countries at the global level. Those countries have higher death rate, and their income also declines at a high rate as their workforce get secure palaces for safety reason. Those countries or regions have low death rates, and fewer Covid-19 cases work to contribute to their national income. The income inequality in China declines during pandemics because the medical health services work correctly in China. China produces all types of Covid-19 protection kits, face masks, and other medical-related equipment during a pandemic. In the current scenario, China is not a poor country, but India, which is still developing, and neighboring countries, have adopted a balanced path during the pandemic. No doubt Indian national income fell, but people of India's work continues from their home.

Decreasing the income of India and subcontinents means not increasing the income of China, and some other developed as the compensation of Pareto Optimality, that one country becomes well off and rest worse off. Income inequality also increases in China and the rest developed countries, but they tackle the pandemic situation in their own better way.

Statement of Problem

During the pandemic period, many emerging countries performed better than India; Deaton, A. (2021) "China, which is relatively well-off, did much better than the rich countries, and much better than India, which is poorer than China, and which did even much worse than the rich countries." The population of India is first at the global level than China, but the growth performance is much lower than China's. India has the highest dividend (15-59) year age population and is a leader globally. In terms of workforce, human capital is much more vital than in OECD and other European Countries. India is behind many poor and small countries like Vietnam, Somalia, and Tanzania; Deaton, (2021). So there is a management issue for the pandemic or other reasons which would not be taken on time by Indian Bureaucrats. The U.S was a well-developed country and covid-19 cases increased day by day in 2020, but the U.S. government worked effectively. Despite a large number of patients and death, they use vaccination in the early stages. Troesken (2015) argues that the U.S. has long been prone to infectious diseases; 1900. Being a rich per capita income country then, the U.S. did worse than other rich countries in preventing smallpox deaths. The problem is here. Is it possible we learn somehow through this pandemic and are ready for the next level of epidemic and pandemic? New emerging diseases like West Nile virus, Monkey pox, Zika, swine flu, severe acute respiratory syndrome (SARS), Lumpy Skin Disease (LSD), etc., are going on with the increasing population, the pollution directly impacts the human atmosphere. The crisis of motor vehicles, telecom, and I.T. sector E-waste with other necessary items reduces human life expectancy—Metropolis city and other municipal corporation development authorities cannot manage garbage in the crowded region.

Statement of Hypothesis

As per the above objective, the study suggests the following hypothesis-H0: Income inequality and poverty are not increasing after covid-19.H1: Expenditure in the healthcare sector increased after covid-19.

H0: The living standard is not improving for Indian people after covid-19 compensation.H1: The government has taken various steps to improve the well-being of the people.

Research Methodology

For the calculation of income inequality, the researcher used the Gini Coefficient, Thiel T & L Index, and Coefficient of Variance. The Methodology for the poverty measurement is Head CountRatio, Palma Ratio, and Sen's Index with watts index can we used. The health scenario is the generalized method for calculating the heath index, and correlation with other parameters will be calculated.

Data Source

The study is based on primary as well as secondary data sources. Primary data collected through questionnaire among the industry site from major industrial unit Haryana, Punjab, Delhi, and Western Uttar Pradesh in India. For the secondary data various mode of publication and government repository will be used as per research objective.

National Accounts Statistic data for Central Government and State Government handbook of Statistics data taken for income inequality and poverty at the state and national level. Health- related data was collected from the national health bureau and state health reports. The study has confirmed the database of the World Bank and other international organizations such as IMF, CMIreports, UNCTAD, SAARC, and BRICS nations.

Sample Size

This study will be considered as a report on the income inequality impact on poverty for further consideration and how much the health scenario of the people is related to their income. The studycollected data based on national and state-level interstate comparisons and the performance of India with other neighboring SAARC countries.

Tools and Techniques Used

Income Inequality will be considered with the Thiel T & L index, Gini Coefficient, Coefficient ofVariation, and Lorenz Curve. The data source of various reports on poverty in India and other international organization calculated indexes such as the Oxfam report will be used for further research analysis.

Period of the Study

The period for this study has been chosen from 1990 to 2022 for Income Inequality and Poverty measurement. The health indicators used over the same period with a particular focus on Covid- 19 and other ongoing national and international disaster-related issues mentioned for the Impact assessment on Income Inequality and Poverty.

Data Analysis and Results

The analysis of income inequality and poverty in India between 1990 and 2022 reveals significant regional and sectoral disparities that have direct implications for health outcomes. Using the Gini Coefficient, Theil indices, and the Coefficient of Variation, the results indicate that inequality widened in the post-reform period, particularly in large and populous states such as Bihar, Uttar Pradesh, and Madhya Pradesh. In contrast, smaller and resource-rich states such as Goa, Sikkim, and Telangana recorded relatively higher per capita income and better health indicators. The correlation analysis demonstrates a strong positive relationship between income and health outcomes, including life expectancy, infant mortality, and access to healthcare. States with lower inequality and higher social spending, such as Kerala, report better health performance compared to states where inequality remains high. The Covid-19 pandemic further exacerbated disparities: states with stronger health infrastructure and higher public health expenditure coped better, while vulnerable states struggled to provide essential services.

At the international level, India performs moderately within the SAARC group. While Bangladesh made improvements in health indicators despite limited income, India's progress has been uneven due to wide interstate disparities. This underlines the fact that absolute income growth alone is insufficient unless accompanied by equitable distribution and targeted investment in health.

Discussion

The findings of this study are consistent with global evidence that income inequality adversely affects population health. The positive relationship between income and health, though nonlinear, highlights that marginal improvements in income for poorer households yield significant health gains, whereas additional income in higher-income groups produces diminishing returns. This supports earlier studies by Preston (1975), Deaton (2003), and Subramanian & Kawachi (2004), which emphasize the critical role of equitable income distribution in improving health outcomes.

The pandemic offered an important natural experiment to assess resilience in healthcare systems. While developed nations with high per capita income suffered high mortality, countries like India faced a dual burden: limited public health spending and sharp socioeconomic inequalities. Although the government expanded social protection schemes and launched vaccination drives, unequal access across states and between urban and rural populations persisted. This reflects the continuing challenge of achieving vertical and horizontal equity in healthcare.

Overall, the results suggest that income inequality is not only an economic concern but also a public health issue. The findings reinforce the need for a multi-dimensional approach that links economic growth with social justice, health equity, and human development.

Conclusion and Policy Implications

This study reaffirms that income inequality and poverty are significant determinants of population health in India. The analysis shows that inequality persists across states, with poorer regions experiencing weaker health outcomes. The Covid-19 pandemic amplified existing disparities, underlining the vulnerability of disadvantaged groups.

To address these challenges, several policy implications emerge:

1. Strengthening Public Health Expenditure – Increasing the share of GDP devoted to healthcare, particularly at the state level, to reduce dependence on private out-of-pocket spending.
2. Targeted Investment in Lagging States – Prioritizing resource allocation and health infrastructure in states with persistent inequality and poor outcomes, such as Bihar, Uttar Pradesh, and Madhya Pradesh.
3. Integrating Health and Education Policies – Expanding education and awareness programs, especially in rural areas, to improve preventive health behavior and human capital.
4. Ensuring Equitable Access – Policies must focus on both vertical equity (treating unequals unequally according to need) and horizontal equity (equal treatment for equals).
5. Resilient Health Systems for Future Crises – Building strong primary health networks, digital health infrastructure, and emergency preparedness to minimize the impact of future pandemics or epidemics.

An inclusive growth strategy that combines economic opportunity with social protection is essential for bridging gaps in both income and health. Only then can India move towards sustainable and equitable development.

Limitations of the Study

While the study provides important insights, it has certain limitations. First, the analysis relies on secondary data from government and international sources, which may contain reporting inconsistencies, particularly during the Covid-19 period. Second, the indices used to measure inequality and poverty capture income dimensions but may not fully reflect multidimensional poverty, such as access to sanitation, clean water, or quality of healthcare. Third, primary data collection was limited in scope and confined to selected industrial regions, which restricts the generalizability of the results. Lastly, the cross-country comparison was limited to SAARC countries; a wider global comparison may yield richer insights.

Future Scope of Research

Future research can expand on this work in several directions. First, micro-level household surveys could provide deeper insights into the interaction between income, poverty, and health outcomes across different social groups. Second, longitudinal studies tracking post-Covid recovery would shed light on the long-term effects of inequality on health. Third, comparative cross-country research beyond SAARC, particularly with other developing and developed nations, could highlight best practices in reducing inequality and improving health equity. Finally, incorporating multidimensional poverty indices and qualitative field studies would enrich the analysis and provide more comprehensive policy guidance.

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