LIFE EXPECTANCY AND THE RELATED DISPARITIES IN INDIA: AN OVERVIEW OF RECENT EVIDENCE

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Abstract
The average life expectancy has improved steadily and significantly across all regions of the world, including India. This extraordinary rise can be attributed to improvements in living standards, economic growth, and poverty reduction, alongside advancements in neonatal healthcare, antibiotics, vaccines, public health efforts, nutrition, safe drinking water and sanitation. These advancements have played a key role in reducing mortality across all age cohorts. However, despite progressive health gains, disparities persist in longevity. This study, as such, aims to highlight the trends and disparities in life expectancy at birth across India while relying on secondary sources of data. The study results reveal substantial variations in life expectancy among individuals and groups, influenced by factors such as wealth, geography, gender, and caste. Therefore, addressing these disparities is imperative for achieving equitable health outcomes in India.

Keywords: Caste, disparity, geography, gender, hierarchy, India, life expectancy at birth

1. Introduction

Life expectancy is a statistical measure representing the average number of years that a person is expected to live, typically from birth in a given country, territory, or geographic area. In other words, it measures how long, on average a new-born infant can expect to live if the existing death rates remain static. Life expectancy at birth is a fundamental measure of population health status, and is, therefore, a critical indicator of quality of life (QoL). The global life expectancy has seen a steady

progress since the advent of the Industrial Revolution. According to the World Health Organization (WHO), this progress gained momentum after 2000 (WHO, 2016), primarily due to enhancement in living conditions of people. Additionally, the improvement in life expectancy is attributed to advancements in medicine, whereby diseases such as malaria, measles, pneumonia, cholera and smallpox that were hitherto deadly became curable (Cliff et al., 2004). The WHO (2019) reports that between 2000 and 2016, global life expectancy at birth increased by 5.5 years, from 66.5 to 72.0 years. It further states that the healthy life expectancy at birth, representing the number of years one can expect to live in full health, increased from 58.5 years in 2000 to 63.3 years in 2016. However, due to variations in socioeconomic status (SES) and unequal access to food, clothing, shelter, healthcare, and technology, disparities exist in life expectancy across regions and time periods.

Prior research consistently reveals that life expectancy is significantly influenced by income level, with higher incomes often correlating with longer life expectancy (Braveman et al., 2010; Cutler et al., 2006; Marmot, 2005).This is because a higher income implies better access to nutrition, housing, education and care services, all of which lead to better health, lower mortality rates, and longer life expectancy. Consequently, the majority of the longest-living individuals are found in the wealthy nations of the world. On the other hand, people living in less developed countries have inadequate access to basic resources and public health initiatives, resulting in high mortality rates and shorter life spans among them. For instance, in low-income countries, life expectancy is 18.1 years lower than in high-income countries (WHO, 2019). This disparity is particularly striking in Sub-Saharan Africa (SSA) where in 2016 the average life expectancy was only 60.4 years, compared to 80.6 years in the Organization for Economic Corporation and Development (OECD) countries (OECD, 2019). The

lower life expectancy in Africa is attributed to its inadequate economic development and very high mortality rate primarily from diseases such as Human Immunodeficiency Virus (HIV), malaria, tuberculosis, diarrhea and acute respiratory infections (Boutayeb, 2010). Overall, low-income countries face an acute health disadvantage, resulting in a marked decline in longevity. For example, in low-income countries, one child in every 14 new-born dies before reaching the fifth birthday (WHO, 2019).

In India, much like many other parts of the world, life expectancy has shown a steady upward trajectory. According to the National Health Profile of 2019, it has risen impressively from 49.7 years in 1970-75 to 68.7 years in 2012-16. However, despite this improvement, disparities persist in life expectancy, based on various socioeconomic and demographic factors, but the extent of these variations remains inadequately understood. Therefore, this study aims to provide an overview of the existing disparities in life expectancy at birth across India and to highlight their underlying causes.

2. Methodology

This study relies on secondary sources of data, including a range of reports, academic papers, government publications, and grey literature. The selection criteria for these sources emphasized factors such as reliability, and relevance to ensure the credibility of the information gathered. Data analysis involved synthesizing information from multiple sources to construct a comprehensive overview of life expectancy and the related disparities in India.

3. Results and discussions

The historical and current data on life expectancy in India reveal notable trends and variations. Beginning at 25.4 years in 1800, it remained in the mid to low twenties until 1920, with significant declines during the Great Famine of 1876-1878 and the Spanish Flu Pandemic of 1918-1919. These events, along with other

endemic diseases like smallpox, resulted in the deaths of millions in India. Since 1920, however, life expectancy has shown a steady upward trend, though it has consistently lagged behind the global average. In 1960, it was around 42 years, rising to approximately 48 in 1980, 58.5 in 1990, and about 62 in 2000 (Times of India, 2014). Notably, from 2001-2005 to 2011-2015, there has been a remarkable increase of five years, with male life expectancy rising from 62.3 years to 67.3 years and that of females from 63.9 years to 69.6 years (Times of India, 2014). The improvement in life expectancy in India can be attributed to advancements in healthcare infrastructure, medical technology, and access to healthcare services. Efforts to control and eradicate endemic diseases through vaccination programs and public health initiatives have also been instrumental in prolonging life expectancy. Additionally, improvements in sanitation, nutrition, and education have contributed to better health outcomes in India. Furthermore, economic development and rising living standards have enabled more people to afford healthcare and lead healthier lifestyles. Therefore, over the years, some key health indicators have shown significant improvement in India. For instance, the infant mortality rate (IMR) decreased from 58 per 1,000 live births in 2005 to 42 in 2012 (Times of India, 2014). Also, the maternal mortality ratio (MMR) has dropped from 556 per 100,000 live births in 1990 to 130 per 100,000 live births in 2016 (WHO, 2018), positioning the country to achieve the target of an MMR below 70 by 2030, as emphasized by the Sustainable Development Goals (SDGs). These health gains have added to the longevity of people in India. However, there are marked disparities in life expectancy within India which are evident across various dimensions, including wealth, residence, gender and caste. Moreover, the statistical evidence highlights the stark differences in life expectancy between privileged and marginalized communities in India.

3.1 Disparities based on wealth

The wealth-based disparities in life expectancy are evident among individuals and groups in India. The data from 2011 to 2015 reveals that the individuals belonging to the bottom 20 percent of households have a life expectancy of approximately 65.1 years, while their counterparts in the top 20 percent enjoy a life expectancy of around 72.7 years (Asaria et al., 2019). This means that there is a significant gap of 7.6 years between the rich and the poor in terms of life expectancy. The wealthier people in India on an average tend to live about seven and a half years longer than those with less wealth. The rich-poor gap in life expectancy is because rich people can afford healthier food and lifestyles, and have often better access to education, socioeconomic opportunities and healthcare (Amin, 2001, Heden, 2015; Hu et al., 2015). Moreover, they may experience less stress due to financial security. These factors collectively contribute to their higher life expectancy compared to poorer individuals who usually face challenges in accessing the requisite healthcare and maintaining a healthy lifestyle. Consequently, they have poorer health outcomes and higher mortality rates which negatively impact their life spans.

3.2 Rural-urban divide

According to the "Sample Registration System (SRS) Based Life Table 2013-17" report by the Registrar General of India (RGI), life expectancy at birth is 67.7 years for rural Indians and 72.4 years for urban Indians (RGI, 2019). The difference in life expectancy between urban and rural populations can be attributed to several interconnected factors. Firstly, urban areas typically have better access to healthcare facilities compared to rural areas, leading to earlier detection and treatment of illnesses. Secondly, urban populations tend to have higher levels of education and awareness about health, resulting in healthier lifestyle choices and preventive measures, unlike their rural counterparts.

Thirdly, better infrastructure and sanitation in urban areas except for those living in slums, reduce the risk of waterborne and sanitation-related diseases. Additionally, urban populations generally have better nutrition and food security, contributing to better health and well-being. Conversely, in rural areas, poverty is prevalent, and the marginalized people are unable to afford nutritious meals, and healthcare costs, exacerbating disparities in longevity. Within rural regions, Scheduled Tribes (STs) are particularly disadvantaged in terms of life expectancy, primarily due to their poverty, geographical isolation, reliance on magico-religious practices for disease treatment and inadequate access to healthcare.

3.3 Gender gap in life expectancy

Worldwide, women outlive men, and this life expectancy gap would be even wider if women in low-income countries had better access to healthcare (Thornton, 2019). Similarly, in India, the trend persists, with females having a higher life expectancy compared to males. In 2019, women had an average life expectancy of 75.9 years at birth, while men were expected to live 70.8 years (RGI, 2019). This trend also persists in both rural and urban areas, with women surpassing men in longevity. In urban centres, female life expectancy is 73.70 years, compared to 69 years in rural areas and for men these figures are 71.20 years in urban centres and 66.40 years in rural areas. Over the past decade, India has experienced a remarkable rise in life expectancy, with males gaining 3.2 years and females 3.5 years. However, the gap between male and female life expectancy has also widened from 2.8 to 3.1 years. Studies have confirmed the growing health advantages of Indian females over males since the 1980s (Canudas-Romo & Saikia, 2013). This trend is attributed to factors such as external and non-communicable disease-related mortality among adult and elderly males.

The key factors contributing to the difference in life expectancy between males and females include genetics, lifestyle choices, and social factors. Generally, females tend to have lower rates of risky behaviours such as smoking and alcohol consumption, leading to better health outcomes and longevity. In contrast, males usually engage in more hazardous occupations or behaviours, leading to a higher mortality rate, with injuries being more prevalent among them. Moreover, the suicide rate is higher in men than in women globally as well as in India, adding to the mortality disparity. The National Crimes Records Bureau (2015) reported the total number of suicides in India during 2015 as 133,623, the rate being 10.6 per 100,000 with a male-to-female ratio of 2.25. In India, cultural and societal norms also affect access to healthcare and nutrition, further impacting life expectancy based on gender.

3.4 Caste-based disparities

In India, there are significant disparities in life expectancy across different caste groups. Estimates based on the data from the National Family Health Survey (NFHS-4), 2015-2016 and the SRS, 2011-2015 highlight that Scheduled Castes (SCs) or Dalits have the lowest life expectancy at 63.1 years, followed by Other Backward Castes (OBCs) at 65.1 years, and others at 68.0 years. According to the United Nations (UN), an upper-caste woman lives approximately 14.6 years longer than a woman among Dalits (The Indian Express, 2018). Also, both the child and adult mortality are relatively high among the lower castes (Subramanian et al., 2006). Nearly, 50% of all maternal deaths in India occur in lower castes, and their children often suffer from higher rates of undernourishment compared to the general population (Wax, 2010). Therefore, the lower castes have usually poorer health outcomes, which negatively impact their life expectancies. Caste-based disparities in life expectancy usually stem from the hierarchical structure of Indian

society, which places SCs at the bottom, followed by OBCs, with advantaged castes at the top. Historically, the lower castes have faced social and economic marginalization, leading to poorer living conditions and limited access to opportunities and resources such as food, housing, sanitation and healthcare (Allendorf & Pandian 2016; Borooah et al. 2015; Thorat et al., 2017). Moreover, they face social stigma and discrimination in care settings, which act as significant barriers to their access to healthcare. The impact of caste-based discrimination extends beyond physical health, affecting mental well-being as well. Additionally, caste-based employment, education, and health schemes often favour the better-off within caste groups, perpetuating significant inequalities. In essence, the interplay of socioeconomic circumstances, discrimination, and limited access to resources contributes to the significant disparities in life expectancy observed among different caste groups in India.

4. Conclusion

In conclusion, this study highlights the significant disparities in life expectancy throughout India, shaped by a multitude of factors such as wealth, geography, gender, and caste. Notably, individuals from higher income backgrounds, urban areas, and upper castes tend to enjoy longer life expectancies compared to their counterparts from economically disadvantaged backgrounds, rural areas, and lower caste communities. Furthermore, females exhibit a significant advantage over males in terms of life expectancy. Therefore, addressing these disparities is imperative for achieving inclusive and sustainable health outcomes nationwide. This requires enhancing healthcare accessibility, improving socioeconomic conditions, and implementing targeted interventions for marginalized populations. Such measures are essential for countries like India, where significant diversities and inequalities

persist, to attain equitable life expectancy for all individuals and communities.

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