Extended Abstract

Gaps in life expectancy between Indigenous and Non-Indigenous Population – Have they Shrunk or Widened: over the last two Censuses in India

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In India, 461 ethnic groups are considered as indigenous people (Schedule Tribes-the local name) and with the 104.2 million populations they comprise 8.6% of India's total population. Most of the schedule population resides in rural and remote areas thus often difficult to reach. The indigenous population is very different in terms of their distribution and their culture, in a nutshell, indigenous people are less educated, living in difficult condition, strictly bounded with their own culture and norms which make them more vulnerable to a lower health condition. The health of these subgroups of the population is also a matter of concern since the health inequality between indigenous and non-indigenous populations exists all over the world. In India, the indigenous population is having higher mortality rate than the national average, the higher burden of underweight, and Goitre in compare to non-indigenous population (Haddad et al, 2012). The vicious cycle of poverty is a reality among this group due to the lack of employment opportunity in their region. As the recently adopted Sustainable Development Goals (SDGs) reinforce again to achieve Good health and Well-being of all (SDG 3) and to reduce the inequality (SDG 10), the present study intends to shed light on the existing gap in life expectancy between indigenous and non-indigenous.

Objective: The broad objective of this paper is to study the gaps in life expectancy at birth between indigenous and non-indigenous population in India and in selected major states of India.

Data and Methodology: Information collected in two rounds of census i.e.in 2001 and 2011 used to fulfill the objectives of this study. Specifically, children ever born and children survival as fertility-related information collected from women for the total population and for Scheduled Castes (SCs), Scheduled Tribes (STs) population has been used. Further to examine the extent of vulnerability of indigenous population we find the differential in life expectancy at birth between indigenous and most vulnerable group (people who are poor and resident of rural area irrespective of caste). For this, we used the latest round of national family health survey the DHS survey (NFHS-4).

Brass method for indirect estimation of child mortality from children ever born and children surviving to each cohort of women aged between 15-19 years and 45-49 irrespective of marital status is used for estimating child mortality.

$q(x) = k(i)\ D(i)$

$q(x)$ is the probability of dying at age x. $D(i)$ is the proportion of deaths of children in age group i. $k(i)$ is the multiplier for non-mortality factor.

$D(i) = 1- (CS(i)/CEB(i))$

$k(i) = a(i) + b(i)P(1)/P(2) + c(i)P(2)/P(3)$.

Results:

Table 1 describes the life expectancy at birth among indigenous (ST), Schedule Caste (SC) and Non-STs/SCs (non-indigenous) population for the year 2001 and 2011. For the year 2011 life expectancy at birth for the tribal population is 64 years while for non-indigenous it is 67.3 years i.e. indigenous population is expected to live 3.3 years at the time of birth more compare to the non-indigenous population. Schedule caste population which is another deprive subgroup of the population in India is having le_0 62.6 and 65.8 years in 2001 and 2011 respectively which is higher than the indigenous population. The differential in le_0 is observed more in the case of male and rural population compare to their counter group. Over the period of 10 years, le_0 has increased but the gap between tribal and non-tribal does not narrow significantly.

Table 2 shows the life expectancy at birth (le_0) among indigenous (ST), and schedule caste (SC) and non-indigenous in major states of India for the year 2001 and 2011. In 2011, the life expectancy at birth among indigenous population varies from 61.3 years in Madhya Pradesh to 71.5 years in Kerala. While for the non-indigenous it varies from 65.1 years in Madhya Pradesh to 75.6 years in Kerala. In all the major states the lowest life expectancy at birth is observed among indigenous population followed by Schedule caste except Assam. In Assam, the scenario is different from other states since the proportion of the indigenous population is high compared to other non-indigenous population.

Figure 2.a portrays the gap in life expectancy at birth between the indigenous and non-indigenous population in all major states of India. In 2001, the gap between these two subgroups of the population was found highest in Rajasthan where advantageous subgroups were expected to live 7 years more at the time birth compare to tribal population. Interestingly the inequality was also found higher in the state Kerala by 6 years. While Kerala is having the highest life expectancy among indigenous population as well as other population groups. The minimum gap was found in the Uttar Pradesh. In 2011 the gap between indigenous and non-indigenous has decreased in all the major states and the higher gap 5.1 years is found in Orissa followed by Madhya Pradesh (4.7 years) and Jharkhand (4.6 years). With a different scenario, Assam also managed to minimize the differential between two communities. In 2001 the tribal population of Assam was expected to live 3.3 more years compared to non-tribal while in 2011, with remarkable improvement this gap remains less than one.

Table 3 tries to capture the extent of vulnerability of the indigenous population by comparing their life expectancy at birth with the more vulnerable group who are resident of the rural area and also belongs to poor wealth quintile. The life expectancy at birth of indigenous population is lower than the population of the more vulnerable group. The indigenous population is expected to live 2.3 years less than the comparable group and the differences between these two groups are similar in all the regions except the East. In only East region indigenous population are having higher life expectancy by 1.1 years.

Conclusion: Health for all is the basic fundamental right of human and differential in health and mortality is a major barrier to achieving the sustainable development goals. The indigenous group is seems most vulnerable group and exposed to the lower health condition. Wealth, urbanization, education are the factors which are associated with the lower mortality and better health condition. But indigenous population are even in a more dangerous situation by having lower mortality than a population group who is both poor and resident of the rural area. Various programs and policies have been implemented to reduce the mortality and to improve the health status of the population but these do not show improvement uniformly in all parts of society. Disadvantageous groups are still very far away from the developments taking place all over the world. Without taking them together it is very difficult to achieve the goal of health for all.

Important References:
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Table 1: Differential in life expectancy at birth by gender and place of residence, 2001-11

Variables	Indigenous		SCs		Non-Indigenous		The difference in Indigenous and Non-Indigenous	
	2001(1)	2011(2)	2001(3)	2011(4)	2001(5)	2011(6)	2001(5-1)	2011(6-2)
MALE	59.9	62.6	62.1	64.6	64.8	66.0	4.9	3.4
FEMALE	61.8	65.4	63.1	67.1	66.1	68.6	4.2	3.2
RURAL	60.5	63.6	61.7	65.2	64.4	66.6	4.0	2.9
URBAN	66.3	67.4	66.6	68.1	68.5	68.9	2.2	1.6
TOTAL	**60.9**	**64.0**	**62.6**	**65.8**	**65.5**	**67.3**	4.6	3.3

Table 2: Infant mortality in major states of India, 2001-11.

States	Life expectancy at birth					
	Indigenous		SC		NON Indigenous	
	2001	2011	2001	2011	2001	2011
Jammu & Kashmir	59.7	64.9	64.0	69.4	64.1	68.8
Rajasthan	57.2	62.3	61.4	64.5	64.3	66.9
UP	60.5	62.2	58.1	61.6	61.4	63.6
Bihar	62.5	64.7	61.6	64.2	64.5	66.1
Assam	66.3	66.5	63.0	66.4	63.1	65.6
West Bengal	63.0	69.1	64.8	71.0	64.8	70.1
Jharkhand	62.6	62.6	63.6	64.3	67.2	67.1
Orissa	58.5	61.3	59.5	64.4	62.5	66.5
Chhattisgarh	58.0	61.4	61.3	65.7	62.2	65.9
MP	55.2	61.0	56.7	63.2	61.0	65.7
Gujarat	65.8	65.9	66.7	66.9	68.1	67.5
Maharashtra	65.1	67.8	68.8	69.6	70.4	69.9
Andhra Pradesh	64.8	65.4	67.3	67.5	69.7	69.1
Karnataka	65.2	65.4	66.6	66.6	68.8	67.1
Kerala	66.4	71.5	71.0	74.4	72.5	75.6
Tamil Nadu	66.1	67.9	66.2	69.5	67.4	70.5

Figure 2.a Gap in Life expectancy at birth between the indigenous and non-indigenous population in 2001 and 2011

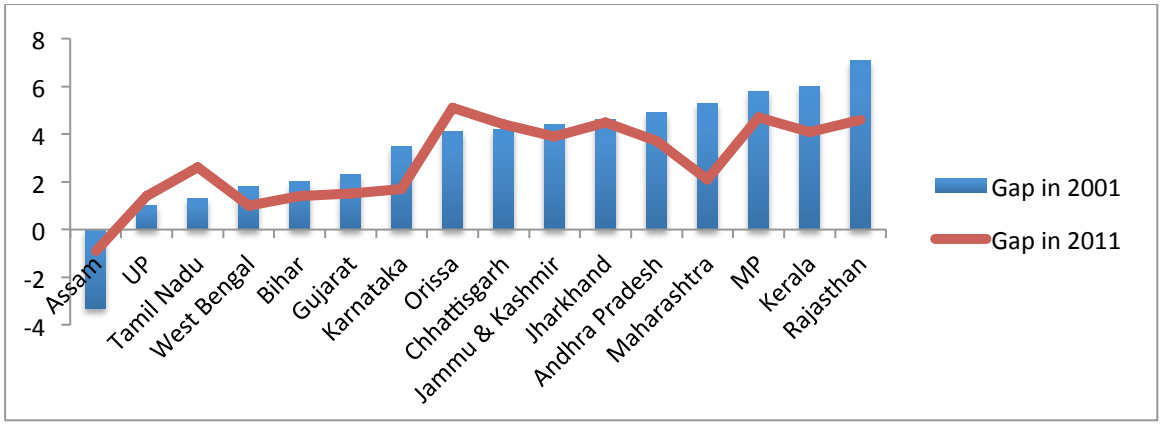

Table 3 Life expectancy at birth for Indigenous population and more vulnerable group (poor&Rural), in 2014-15 (NFHS-4)

Region	Life expectancy at birth					
	Indigenous			More Vulnerable		
	Total	Male	Female	Total	Male	Female
Total	68.3	66.4	69.2	70.6	69.2	71.8
North	69.5	68.1	69.8	70.7	68.6	71.4
East	68.9	67.3	69.7	67.8	66.9	68.6
West	71.3	69.5	72.6	73.6	71.8	74.5
North East	71.8	69.7	72.9	75.1	74.3	76.1
South	72.7	70.3	74.1	73.4	72	74.3
Central	65	63.4	65.6	65.4	64.6	66.7