EXTENDED ABSTRACT

Introduction:

The study of mortality is useful for analysing current demographic conditions as well as for determining the prospects of potential change in mortality conditions of the future (Bhende & Kanitkar 1978, Ramakumar, 1986). Patterns of human mortality are best expressed through life tables. A life table presents a comprehensive picture of a population that gets depleted systematically through deaths at each age and thus portrays the process of life itself. When a particular cause of death is completely eliminated from a population, the life expectancy of that population will increase. The difference between the new life expectancy of the people obtained by the complete elimination of a particular cause and the current life expectancy of the same population is termed as a potential gain in life expectancy. The study of reducing mortality due to specific causes has a significant role in determining future health programs and policies.

Objective:

For this purpose, studying potential gain in life expectancy by eliminating particular diseases from the population is essential. Thus, in this study, an attempt is made to quantify the gains in life expectancies by eliminating selected causes of death in India.

Data & Methods:

The life table constructed by the SRS for the period 2010-2013 (GOI, ORG, 2014) was used for the analysis. For the same period, the causes of death data were taken from Causes of Death Statistics published by SRS publications (GOI, ORG, 2015).

With the help of the SRS life table for the period 2010-13, multiple decrement life tables were constructed by the method proposed by Namboodiri &

Suchindran (1986) for both sexes. The causes of death selected for the study are communicable, maternal, perinatal, and nutritional conditions (CMPN), cardiovascular diseases (CVR), respiratory diseases (RD), malignant and other neoplasms (MN), injuries, and others.

Results:

The life expectancy at birth in India according to the age-specific mortality pattern experienced during 2010-2013 is 67.6 years, for males 65.5, and females 69.4. The life expectancy of an Indian, on average, at the age of 70 is 11.6 years. For males, the additional years expected to have after the age of 70 is 10.9 years, and for females, it is 12.3 years. The result of the cause elimination of diseases indicates that the cause that will give the highest potential gain in life expectancy at birth is cardiovascular diseases followed by CMPN diseases. The highest gain due to the elimination of CVR is in the age groups after 0-4. This indicates that the deaths due to CVR are lesser in the initial stage of life.

	Life Expectancy (LE)	**CMPN Eliminated**		**CVR Eliminated**		**RD Eliminated**		**MN eliminated**		**Injuries Eliminated**		**Others Eliminated**	
		LE	**Gain**	**LE**	**Gain**	**LE**	**Gain**	**LE**	**Gain**	**LE**	**Gain**	**LE**	**Gain**
e_0^0	67.6	72.5	4.9	72.7	5.1	70.5	2.9	68.5	0.9	68.7	1.1	76.3	8.7
e_5^0	66.5	68.8	2.3	72	5.5	68.9	2.4	67.5	1	67.6	1.1	75.4	8.9
e_{30}^0	43.2	45	1.8	48.7	5.5	45.6	2.4	44.1	0.9	43.9	0.7	52	8.8
e_{60}^0	17.9	19.2	1.3	22.2	4.3	20.2	2.3	18.4	0.5	18.1	0.2	27	9.1

The number of years gained by a new-born child, with elimination in CMPN diseases, would be 4.9 years, for cardiovascular diseases 5.1 years, for respiratory

diseases 2.9 years, for malignant neoplasms 0.9 years, for injuries 1.1 years, and for others 8.7 years. The additional years a person lives, on average, after the age of 70 due to the elimination of respective diseases are 1.2 years, 3.5 years, 2.2 years, 0.3 years, 0.2 years, and 10.3 years.

While analysing the potential gain in life expectancy due to the elimination of selected diseases for both sexes, we can see that the highest potential gain is possible by eliminating cardiovascular diseases among males, which is 6.2 years at the time of birth. This gain increase to 6.7 years in the age group 5 to 9. The potential gain in life expectancy due to all other diseases other than selected cases for both sexes are higher than these values. However, the highest potential gain due to an individual disease is contributed by CVR. The higher gain in life expectancy due to the elimination of injuries among males than females is also significant.

Conclusion:

From the above significant findings, it is clear that the causes of death are shifting from communicable diseases to non-communicable diseases in India. The highest potential gain in life expectancy is due to the elimination of CVR diseases. This indicates that the policies and programs implied in India succeeded up to a certain extends to control communicable diseases. However, the complete elimination of CMPN diseases is not still achieved. Although the longevity of the population increase, the quality of life does not increase along with this. The morbidity of the population is also increasing. Communicable diseases are making the life of people miserable. Hence, the Government of India must study the problems created due to the increasing life expectancy.

The government should adopt appropriate strategies to prevent and control these significant diseases. Monitoring health by providing health check-ups and behavioural changes, including diet and exercise, should be the prime strategy in preventing these diseases. In order to achieve one of the SDGs, “Health for all,” it will

be achieved through Universal Health Coverage, which is more assessable, affordable, and quality, health care system is most important. This will provide a healthy life, which is free from disabilities, for the people of India.

Reference:

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3. Ramakumar. R (1986); “Technical Demography”, New Delhi, New Age International (P) Limited.
4. Government of India; Cause of Death Statistics, SRS Publications (GOI, ORG, 2010-2013)