



Diseases, Demise and Disappearance: A study of working age females of South Africa and India

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Abstract

Females of working age groups are suffering from many communicable and non-communicable diseases in South Africa and India. The extent and gravity of diseases depending on the age groups are changing over the periods. South Africa is badly in the grip of HIV/AIDS and India is in tuberculosis. Adult age as well as middle-ages females are severely affected with these diseases. Therefore, diseases are leading to demise and disappearance of many females in South Africa and India. The paper will try to find out the top ten types of diseases from which females of South Africa and India are suffering. It will examine the number of deaths of female in different age cohort falling under working age brackets of 15-64. The paper will try to analyse the similarities of diseases between South Africa and India and will look into the additional type of diseases which are falling in top ten and are affecting the working age females of these countries. The trend of two periods that is 2000 and 2010 are studied to look into the gravity of these diseases. The paper tries to propose policy prescriptions for checking the burden of diseases so that the demise led disappearance of working age female can be reduced.

Keywords: Diseases, working age, communicable and non-communicable diseases, disappearance.

Females of working age groups are suffering from many communicable and non-communicable diseases in South Africa and India. The extent and gravity of diseases depending on the age groups are changing over the periods. South Africa is badly in the grip of HIV/AIDS and India is in tuberculosis. Adult age as well as middleages females are severely affected with these diseases. In their late sixties they are affected with strokes, ischaemic diseases, diabetes and kidney related disease etc. It shows their poor health status. Health and education are the strong determinants of wellbeing of females. Due to poor health, they are not able to sustain in the current competitive globalised world where survival of the fittest is becoming a reality. Therefore, diseases are leading to demise and disappearance of many females in South Africa and India. The paper will try to find out the top ten types of diseases



from which females of South Africa and India are suffering. It will examine the number of deaths of female in different age cohort falling under working age brackets of 15-64. The paper will try to analyse the similarities of diseases between South Africa and India and will look into the additional type of diseases which are falling in top ten and are affecting the working age females of these countries. The trend of two periods that is 2000 and 2010 are studied to look into the gravity of these diseases. The paper tries to propose policy prescriptions for checking the burden of diseases so that the demise led disappearance of working age female can be reduced. The immediate action of the governments of both the countries will not only save the human capital but will also improve the growth and development. Females are the vital part of the labour force and their presence needs to be encouraged. For this first and foremost is to save their lives. Gandhi ji said, "if you educate a man, you educate an individual, but if you educate a woman, you educate an entire family." Looking at the role of female in family and nation building it is important to add health in it. Thus, if a female will be healthy, entire family, nation and world will be healthy.

Objective:

The study will analyse the similar and country specific diseases of South Africa and India which are the top ten causes of deaths of female in different age groups of their working age in these two countries.

The research paper will look into the types of diseases under communicable, non-communicable and injuries which are the top ten reasons of the death of females in their working age in South Africa and India.

The purpose of the paper is to analyse top ten causes of deaths amongst female in different age groups under 15-64 age in South Africa and India.

It will highlight mortality trends due to different types of diseases in different age groups falling in between the age of 15 to 64 of female in South Africa and India.

It will try to examine the type of disease which is the cause of highest number of deaths of females in their working age in South Africa and India.

Relevance of the work

The relevance of the work lies in highlighting the top ten causes of deaths, and the trend of mortality due to these diseases in different age groups of females in their working age in South Africa and India. The study is eye opening as many diseases which are falling in top ten are similar in South Africa and India. The diseases are severely affecting the female youth population of South Africa and India. They are the great source of human capital. The research work will draw attention of the governments, researcher, policy makers and academicians of South Africa and India towards the reasons of their demise and disappearance. It recommends ground level proposals for the removal of diseases so that the rate of disease-free survival of working age female can become a reality for both the



countries. Females are the vital part of any economy and their contribution in the growth and development needs to be encouraged by safeguarding their health.

Methods. The paper analyses top ten causes of mortality data for female in between 15 to 64 years across a 10-year period. The nature of this research is descriptive and analytical. Two Time periods are studied; 2000 and 2010. The Global Health Estimates, Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010, Geneva, World Health Organization database is used to obtain data of disease-based deaths of 2000 and 2010 by age-groups (15–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49, 50–54, 55–59 and 60–64 years) and stratified by deaths of female.

Literature Review

There are many studies where researchers have tried to correlate health of females with their availability in the labour market. Nwosu (2017) finds a positive relation between female's health and their participation in the labour market in South Africa. Mutasa (2012) believes that diseases are causing disability which is addressed by providing the disability grant. But despite the explosive growth in the number of people receiving disability benefits in South Africa, very little is known about the labour supply effects of the disability grant. Chicoine (2012) observes that HIV/AIDS has impacted the labor market, especially wages and employment in South Africa. He further adds that individual's productivity is also impacted by HIV/AIDS. McLaren (2010) examines the labor market effects of the government provision of free ARV Antiretroviral (ARV) drug treatment in public health clinics in South Africa. He uses geographic and temporal variation in the program rollout to identify the causal impact of ARV treatment on labor force participation and employment. When a clinic opens nearby, labor force participation and employment rise for Black men but there are no discernible effects for women. An increase in the fraction of the population of a neighborhood receiving treatment decreases participation and raises employment for both men and women. These results suggest that AIDS treatment is under-supplied in South Africa. Mutasa (2010) finds that the disability grant program has large and significant effects on lowering labour force participation rates of grant recipients. Mensah (2008) opines the major risk factors for ischaemic heart disease (IHD) in sub-Saharan Africa include hypertension, smoking, diabetes, abdominal obesity and dyslipidaemia. It has a significant health impact in Africa. Anderson and Ray (2010) find that the vast majority of missing women in India are of adult age. They further add that as a proportion of the total female population, the number of missing women is largest in sub-Saharan Africa, and the absolute numbers are comparable to those for India and China. They opine that almost all the missing women stem from disease-by-disease comparisons and not from the changing composition of disease, as described by the epidemiological transition. The increasing contribution of these diseases to the overall disease burden across India and the high rate of health loss from them, especially in the less developed low epidemiological transition level (ETL) states, highlights the need for focused policy interventions to address this significant cause



of disease burden in India. Dandona et al., (2017) observes that per capita disease burden measured as DALY rate has dropped by about a third in India over the past 26 years. However, the magnitude and causes of disease burden and the risk factors vary greatly between the states. Pandey (2009) analyses the effect of health status on labour force participation for aged Indians. The potential endogeneity in health and labour force participation has been taken care of by using full information maximum likelihood (FIML) and estimation results are compared with alternative two-stage methods. Results show that health has a significant and positive effect on labour force participation of the aged. In order to keep enough supply of elderly in the labour market, sufficient health care is necessary and hence more investment in this sector is imperative. Mensah (2008) opines that ischaemic heart disease (IHD), previously considered rare in sub-Saharan Africa, now ranks 8th among the leading causes of death in men and women in the region. Furthermore, the prevalence of IHD and related morbidity may be increasing as a result of adverse behavioural and lifestyle changes associated with urbanisation and the epidemiological transition. Langer et al., (2015) opine that gender-transformative policies are needed to enable women to integrate their social, biological, and occupational roles and function to their full capacity, and that healthy, valued, enabled, and empowered women will make substantial contributions to sustainable development. Burger & Woolard (2005) opine that HIV/AIDS is having a large impact on many aspects of South Africans' lives, and the labour market is no exception. The obvious demographic impact is that the epidemic will reduce the size of the labour force and hence the productive capacity of the South African economy. The pandemic also presents costs to businesses in the form of: the requirement to increase employee benefits, increased absenteeism and higher worker turnover. Groves et al., (2015) quote from the articles of Norman et al., (2010), Jewkes et al., (2010) and Abrahams et al., (2009) and state that IPV has significant negative health and social consequences for South African women, including injury, poor mental health, sexually transmitted infections (including HIV), substance use and death. Mathers et al., (2017) opines that The Sustainable Development Goals (SDGs) expand the focus of health targets from the unfinished Millennium Development Goals (MDG) agenda for child and maternal mortality and priority infectious diseases to a broader agenda including noncommunicable diseases (NCDs), injuries, health emergencies, and health risk factors as well as a strong focus on universal health care. In 2016, cancer caused 213.2 million DALYs globally for both sexes combined. Nelson et al., (2005) write that exposure to occupational hazards accounts for a significant proportion of the global burden of disease and injury, which could be substantially reduced through application of proven risk prevention strategies.

African Region

Africa is the only region in which HIV/AIDS and malaria remain in the top 10. It is now the region's 4th leading cause of death. In 2000, the disease was responsible for the greatest number of lives lost in Africa. However, recent WHO reports indicate a slow-down or plateauing of progress against



infectious diseases.

SOUTH-EAST ASIA REGION

According to World Health Organization, Global Health Estimates 2010, In the South-East Asia Region, diarrhoea accounted for the largest number of deaths in 2000. Deaths from ischaemic heart disease have dramatically increased. Similar to the African Region, we also see a rise in road traffic injuries for the South-East Asia Region, which is now among the top 10 leading causes of death and disability.

Table 1: Top Causes of death in different age groups from age 15 to age 64(Working age group) in the Female Population of South Africa and India

SOUTH AFRICA	INDIA
HIV/AIDS	Tuberculosis
Tuberculosis	Self-Harm
Interpersonal Violence	Maternal Conditions
Road Injury	Diarrhoeal Diseases
Lower Respiratory Infections	Road Injury
Maternal Conditions	Lower Respiratory Infections
Diarrhoeal Diseases	Interpersonal Violence
Self harm	Cirrhosis of the liver
Drug use disorders	Rheumatic Heart Disease
Meningitis	Drowning
Asthma	Ischaemic Heart disease
Stroke	Fire, heat and hot substances
Cervix Uteri Cancer	HIV/AIDS
Breast Cancer	Stroke
Ischaemic Heart disease	Cervix Uteri Cancer
Diabetes Mellitus	Breast Cancer
Hypertensive heart Disease	Asthma
Kidney Disease	Chronic Obstructive, pulmonary disease
Chronic Obstructive, pulmonary disease	Kidney Disease
Cirrhosis of the Liver	Diabetes Mellitus
	Falls

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)



Table 1 indicates the top causes of death in different age groups from age 15 to age 64 in the Female Population of South Africa and India. It is evident from the table that majority of the causes of deaths are same in both the countries but the order of severity is different, where HIV/AIDS is on top in South Africa, Tuberculosis occupies that position in Indian case. The top cause of death in Indian working age female is the second cause of death in South Africa and the top cause of death in working age female of South Africa is the 13th cause of death for Indian working age female.

Top Causes of death in different age groups from age 15 to age 64 (Working age group) in the Female Population of South Africa and India:Based on Three classifications:

- (A) Non-Communicable
- (B) Communicable
- (C) Injuries

Table 2: Top Causes of death in different age groups from age 15 to age 64 (Working age group) in the Female Population of South Africa and India:Based on Three classifications

SOUTH AFRICA	INDIA
HIV/AIDS	Tuberculosis
Tuberculosis	Self-Harm
Interpersonal Violence	Maternal Conditions
Road Injury	Diarrhoeal Diseases
Lower Respiratory Infections	Road Injury
Maternal Conditions	Lower Respiratory Infections
Diarrhoeal Diseases	Interpersonal Violence
Self harm	Cirrhosis of the liver
Drug use disorders	Rheumatic Heart Disease
Meningitis	Drowning
Asthma	Ischaemic Heart disease
Stroke	Fire, heat and hot substances
Cervix Uteri Cancer	HIV/AIDS
Breast Cancer	Stroke
Ischaemic Heart disease	Cervix Uteri Cancer
Diabetes Mellitus	Breast Cancer
Hypertensive heart Disease	Asthma
Kidney Disease	Chronic Obstructive, pulmonary disease
Chronic Obstructive, pulmonary disease	Kidney Disease
Cirrhosis of the Liver	Diabetes Mellitus
	Falls

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)



Note: Green colour is used to denote Communicable diseases

Purple colour is used to denote Injuries

Blue colour is used to denote Non-communicable diseases

Table 2 reveals the type of diseases which are the cause of death for the working age female in South Africa and India. Where in the case of South Africa communicable and non- communicable diseases are more in number for the cause of death of Working age female, in Indian case Injuries as cause of deaths are greater in number for the working age female.

Table 3: Similarities in the types of diseases in different age groups from age 15 to age 64 (Working age group) in the Female Population of South Africa and India:

HIV/AIDS	Tuberculosis
Tuberculosis	Self-Harm
Interpersonal Violence	Maternal Conditions
Road Injury	Diarrhoeal Diseases
Lower Respiratory Infections	Road Injury
Maternal Conditions	Lower Respiratory Infections
Diarrhoeal Diseases	Interpersonal Violence
Self harm	Cirrhosis of the liver
Drug use disorders	Rheumatic Heart Disease
Meningitis	Drowning
Asthma	Ischaemic Heart disease
Stroke	Fire, heat and hot substances
Cervix Uteri Cancer	HIV/AIDS
Breast Cancer	Stroke
Ischaemic Heart disease	Cervix Uteri Cancer
Diabetes Mellitus	Breast Cancer
Hypertensive heart Disease	Asthma
Kidney Disease	Chronic Obstructive, pulmonary disease
Chronic Obstructive, pulmonary disease	Kidney Disease
Cirrhosis of the Liver	Diabetes Mellitus
	Falls

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)

Note: The disease in yellow is showing similarity and the disease in black and white is country specific.



Table 3 shows the similarities of the diseases in South Africa and India amongst the working age female. The table reveals the fact that seventeen diseases are same in both the countries which are the major reasons of the death for the female in their working age groups. These diseases are highlighted with yellow colour in the table. There are few diseases which are country specific. These diseases are Drug use disorders, Meningitis and hypertensive heart disease in the case of South Africa and Rheumatic Heart disease, Drowning and death due to fire, heat and hot substances are specific in India.

Table 4: Top ten Causes of Death for Female Per 100,000 Population in South Africa in 2000(in the Working age group)

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
1 HIV/AIDS	103.2	435.7	761.4	701.6	742.7	615.1	409.6	256.9	114.2	ntt
2 Tuberculosis	17.6	27.6	56	57.9	73.9	59.9	68.2	97.1	79.7	97.9
3 Interpersonal Violence	14.6	23.3	25.3	27.2	29.3	33.6	38.8	40.7	ntt	ntt
4 Road Injury	11.2	25.5	40.4	39.9	38.1	30.3	ntt	ntt	ntt	ntt
5 Lower Respiratory Infections	6.1	15	30.6	59.4	32.8	39.7	63.2	82.3	97.2	150.4
6 Maternal Conditions	6.1	17.5	36	34.4	23.4	ntt	ntt	ntt	ntt	ntt
7 Diarrhoeal Diseases	4.3	8.2	12	23.3	13.2	19	36.3	47	61.9	70.1
8 Self harm	3.9	7.8	14	27.4	12.9	ntt	ntt	ntt	ntt	ntt
9 Drug use disorders	1.5	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
10 Meningitis	1.4	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
11 Asthma	ntt	3	6.5	ntt	ntt	ntt	ntt	ntt	ntt	ntt
12 Stroke	ntt	2.5	ntt	15.8	ntt	23.6	62.8	113.1	163.1	318.8
13 Cervix Uteri Cancer	ntt	ntt	12.2	24.8	41.7	44.2	44.6	55.3	65.4	74.7
14 Breast Cancer	ntt	ntt	ntt	ntt	20.7	22.9	ntt	ntt	ntt	ntt
15 Ischaemic Heart disease	ntt	ntt	ntt	ntt	ntt	18.3	51.9	94.6	143.4	223.1
16 Diabetes Mellitus	ntt	ntt	ntt	ntt	ntt	ntt	38.6	95.1	160.8	318.1
17 Hypertensive heart Disease	ntt	ntt	ntt	ntt	ntt	ntt	34	62.5	94	115.7
18 Kidney Disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	53.3	64.3
19 Chronic Obstructive, pulmonary disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	68.7
20 Cirrhosis of the Liver	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)

Table 4 indicates the top causes of death in different age groups of females of South Africa. From the table it is clear that HIV/AIDS remained the top cause of death in the age groups of 15-19,20-24,25-29,30-34,35-39,40-44,45-49 and 50-54 in South Africa in the year 2000. In the group of 55-59 and 60-64 Stroke was the main reason of death for the female of South Africa in the year 2000.



Table 5: Top ten Causes of Death for Working age group Female Per 100,000 Population in South Africa in 2000 (based on the three classification of disease)

		15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
1	HIV/AIDS	103.2	435.7	761.4	701.6	742.7	615.1	489.6	256.9	114.2	ntt
2	Tuberculosis	17.6	27.6	56	57.9	73.9	59.9	68.2	97.1	79.7	97.9
3	Interpersonal Violence	14.6	23.3	25.3	27.2	29.3	33.6	38.8	40.7	ntt	ntt
4	Road Injury	11.2	25.5	48.4	39.9	38.1	30.3	ntt	ntt	ntt	ntt
5	Lower Respiratory Infections	6.1	15	30.6	59.4	32.8	39.7	63.2	82.3	97.2	150.4
6	Maternal Conditions	6.1	17.5	36	34.4	23.4	ntt	ntt	ntt	ntt	ntt
7	Diarrhoeal Diseases	4.3	8.2	12	23.3	13.2	19	36.3	47	61.9	70.1
8	Self harm	3.9	7.8	14	27.4	12.9	ntt	ntt	ntt	ntt	ntt
9	Drug use disorders	1.5	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
10	Meningitis	1.4	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
11	Asthma	ntt	3	6.5	ntt	ntt	ntt	ntt	ntt	ntt	ntt
12	Stroke	ntt	2.5	ntt	15.8	ntt	23.6	62.8	113.1	163.1	318.8
13	Cervix Uteri Cancer	ntt	ntt	12.2	24.8	41.7	44.2	44.6	55.3	65.4	74.7
14	Breast Cancer	ntt	ntt	ntt	ntt	20.7	22.9	ntt	ntt	ntt	ntt
15	Ischaemic Heart disease	ntt	ntt	ntt	ntt	ntt	18.3	51.9	94.6	143.4	223.1
16	Diabetes Mellitus	ntt	ntt	ntt	ntt	ntt	ntt	38.6	95.1	160.8	318.1
17	Hypertensive heart Disease	ntt	ntt	ntt	ntt	ntt	ntt	34	62.5	94	115.7
18	Kidney Disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	53.3	64.3
19	Chronic Obstructive, pulmonary disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	68.7
20	Cirrhosis of the Liver	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)

Note: ntt: It signifies, those diseases which are not falling under top ten

Green colour is used to denote Communicable diseases

Purple colour is used to denote Injuries

Blue colour is used to denote Non-communicable diseases

Table 5 indicates the top causes of death based on the three classification of causes of death in different age groups of females in South Africa. From the table it is clear that HIV/AIDS remained the top cause of death amongst all the types of communicable diseases in the age groups of 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49 and 50-54 in South Africa in the year 2000. In the categories of Injuries; Interpersonal violence was on top in the age group of 15-19 after then Road injuries was the major reason for 20-24, 25-29, 30-34, and 35-39 age group. In the age group of 40-44, 45-49 and 50-54



Interpersonal violence again took the lead in the category of death for working age female in South Africa in the year 2000. In the age group of 55-59 and 60-64 there was no cause of death due to injuries. It is clear from the table that very few cases of female deaths till the age group of 35-39 due to non-communicable diseases. In the age group of 40-44, cervix uteri cancer, and in rest of the working age group that is, 45-49, 50-54, 55-59 and 60-64 Stroke remained the top most reason of deaths due to non-communicable diseases for females of South Africa.

Table 6: Top ten Causes of Death for Female Per 100,000 Population in India in 2000 (in the Working age group)

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
1 Tuberculosis	46.1	74.3	56.8	69.4	44.6	54.1	46.4	67.4	66.5	70.8
2 Self-Harm	30.2	36	34.4	21.4	19.1	14.7	15.2	ntt	ntt	ntt
3 Maternal Conditions	30	52.6	60.9	51.8	40.9	21.9	ntt	ntt	ntt	ntt
4 Diarrhoeal Diseases	22.2	17.6	17.2	17.8	21.4	25.3	43.2	76	136.8	259.6
5 Road Injury	5.1	6.2	7.7	7.7	7.9	ntt	ntt	ntt	ntt	ntt
6 Lower Respiratory Infections	3.7	ntt	4.1	ntt	ntt	ntt	ntt	ntt	37.7	70
7 Interpersonal Violence	3.6	4		ntt	ntt	ntt	ntt	ntt	ntt	ntt
8 Cirrhosis of the liver	3.6	4.4	5.3	5.4	9.2	ntt	17.6	24.3	37.2	45.7
9 Rheumatic Heart Disease	3.4	4.4	5.8	6.8	10	14	19.2	26.9	39.6	ntt
10 Drowning	3.4	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
11 Ischaemic Heart disease	ntt	5	7.7	11.1	16.8	28.9	59.3	92.8	193.1	268.2
12 Fire, heat and hot substances	ntt	4.2	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
13 HIV/AIDS	ntt	ntt	10.5	14.8	18.7	16.5	ntt	ntt	ntt	ntt
14 Stroke	ntt	ntt	ntt	4.3	7.8	13.7	32.9	56.9	123.7	205.5
15 Cervix Uteri Cancer	ntt	ntt	ntt	ntt	ntt	12.4	18.3	23	ntt	ntt
16 Breast Cancer	ntt	ntt	ntt	ntt	ntt	12.2	19.5	26.9	ntt	ntt
17 Asthma	ntt	ntt	ntt	ntt	ntt	ntt	18.8	30.5	57.4	84.1
18 Chronic Obstructive, pulmonary disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	33.2	82.6	171.6
19 Kidney Disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	37.2	47.2
20 Diabetes Mellitus	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	62.7
21 Falls	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)

Table 6 indicates the top causes of death in different age groups of females of India. From the table it is clear that tuberculosis was the main cause of death in the age group of 15-19 and 20-24 amongst



female in India in the year 2000. In the age group of 25-29, it was diarrhoeal diseases, 30-34,35-39, and 40-44 again tuberculosis remained the top cause of death. In the age groups of 45-49, 50-54, 55-59 and 60-64 Ischaemic heart disease was the main reason of death for the female of India in the year 2000.

Table 7: Top ten Causes of Death for Working age group Female Per 100,000 Population in India in 2000 (based on the three classification of disease)

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
1 Tuberculosis	46.1	74.3	50.8	69.4	44.6	53.1	46.4	67.4	66.3	70.8
2 Self-Harm	30.2	36	34.4	21.4	19.1	14.7	15.2	ntt	ntt	ntt
3 Maternal Conditions	30	52.6	60.9	51.8	40.9	21.9	ntt	ntt	ntt	ntt
4 Diarrhoeal Diseases	22.2	17.6	17.2	17.8	21.4	25.3	43.2	76	136.8	259.6
5 Road Injury	5.1	6.2	7.7	7.7	7.9	ntt	ntt	ntt	ntt	ntt
6 Lower Respiratory Infections	3.7	ntt	4.1	ntt	ntt	ntt	ntt	ntt	37.7	70
7 Interpersonal Violence	3.6	4	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
8 Cirrhosis of the liver	3.6	4.4	5.3	5.4	9.2	ntt	17.6	24.3	37.2	45.7
9 Rheumatic Heart Disease	3.4	4.4	5.8	6.8	10	14	19.2	26.9	39.6	ntt
10 Drowning	3.4	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
11 Ischaemic Heart disease	ntt	5	7.7	11.1	16.8	28.9	59.3	92.8	193.1	268.2
12 Fire, heat and hot substances	ntt	4.2	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
13 HIV/AIDS	ntt	ntt	18.5	24.8	28.7	26.5	ntt	ntt	ntt	ntt
14 Stroke	ntt	ntt	ntt	4.3	7.8	13.7	32.9	56.9	123.7	205.5
15 Cervix Uteri Cancer	ntt	ntt	ntt	ntt	ntt	12.4	18.3	23	ntt	ntt
16 Breast Cancer	ntt	ntt	ntt	ntt	ntt	12.2	19.5	26.9	ntt	ntt
17 Asthma	ntt	ntt	ntt	ntt	ntt	ntt	18.8	30.5	57.4	84.1
18 Chronic Obstructive, pulmonary disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	33.2	82.6	171.6
19 Kidney Disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	37.2	47.2
20 Diabetes Mellitus	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	62.7
21 Falls	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)

Note: ntt: It signifies, those diseases which are not falling under top ten

Green colour is used to denote Communicable diseases

Purple colour is used to denote Injuries

Blue colour is used to denote Non-communicable diseases



Table 7 indicates the top causes of death based on the three classification of causes of death in different age groups of females in India. From the table it is clear that Tuberculosis remained the top cause of death amongst all the types of communicable diseases in the age groups of 15-19 and 20-24. In the age group of 25-29 it was maternal conditions and in the age groups of 30-34,35-39,40-44, and 45-49 again tuberculosis became the top reason of death of female in India. In the age group of 50-54,55-59, and 60-64 Diarrhoeal diseases were the main reason amongst the communicable diseases of deaths of female in India in 2000. In the categories of Injuries; self-harm remained the top reason in the age groups of 15-19,20-24,25-29,30-34, 40-44, and 45-49 after then this type of reason is missing as the top reason of death for the females of India in 2000. It is clear from the table that very few cases of female deaths till the age group of 35-39 due to non-communicable diseases. In the age groups of 40-44,45-49,50-54,55-59 and 60-64 Ischaemic heart disease remained the top most reason of deaths due to non-communicable diseases for females of India.

Table 8: Top ten Causes of Death for Female Per 100,000 Population in South Africa in 2010 (in the Working age group)

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
1 HIV/AIDS	84.3	367.5	684.1	746.3	895.9	731.4	579.3	379	218.9	118.4
2 Tuberculosis	17	25.7	44.2	47	56.1	56.2	54.9	70.2	65.9	73.4
3 Interpersonal Violence	8.6	13.8	14.2	ntt	ntt	ntt	ntt	ntt	ntt	ntt
4 Road Injury	8.7	13.9	19.2	ntt	ntt	ntt	ntt	ntt	ntt	ntt
5 Lower Respiratory Infections	9.2	9.8	42.9	104.2	85.7	92.7	93.5	102.4	117.1	161.9
6 Maternal Conditions	6.9	16.7	27.4	28.2	21.1	ntt	ntt	ntt	ntt	ntt
7 Diarrhoeal Diseases	5.8	6.2	21.8	47.8	37.7	36.9	37.9	42.3	53.3	ntt
8 Self harm	6.6	5.6	18.2	38.6	23.5	ntt	ntt	ntt	ntt	ntt
9 Drug use disorders	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
10 Meningitis	2.9	2.4	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
11 Asthma	ntt	ntt	ntt	20	ntt	ntt	ntt	ntt	ntt	ntt
12 Stroke	ntt	ntt	ntt	ntt	21.9	36.3	58.4	95.9	138.5	260.4
13 Cervix Uteri Cancer	ntt	ntt	9.2	20.8	33.7	41.9	48.3	53.4	61.8	64.5
14 Breast Cancer	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
15 Ischaemic Heart disease	ntt	ntt	ntt	ntt	ntt	32.8	57	92.7	139.6	208.9
16 Diabetes Mellitus	ntt	ntt	ntt	ntt	ntt	25.9	54.2	110.3	185	348.3
17 Hypertensive heart Disease	ntt	ntt	ntt	ntt	ntt	ntt	32.3	55.2	86.1	100.8
18 Kidney Disease	1.5	1.7	ntt	25.9	22	28.8	33.3	45.2	59.4	72.3
19 Chronic Obstructive, pulmonary disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	60.9
20 Cirrhosis of the Liver	ntt	ntt	9.5	28.1	22.3	27.4	ntt	ntt	ntt	ntt

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)



Table 8 indicates the top causes of death in different age groups of females of South Africa in the year 2010. From the table it is clear that HIV/AIDS remained the top cause of death in the age groups of 15-19,20-24,25-29,30-34,35-39,40-44,45-49,50-54, and 55-59 in South Africa in the year 2010. In the age group 60-64 Diabetes mellitus was the main reason of death for the female of South Africa in the year 2010.

Table 9: Top ten Causes of Death for Working age group Female Per 100,000 Population in South Africa in 2010 (based on the three classification of disease)

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
1 HIV/AIDS	84.3	367.5	684.1	746.3	895.9	731.4	579.3	379	218.9	118.4
2 Tuberculosis	17	25.7	44.2	47	56.1	56.2	54.9	70.2	65.9	73.4
3 Interpersonal Violence	8.6	13.8	14.2	ntt	ntt	ntt	ntt	ntt	ntt	ntt
4 Road Injury	8.7	13.9	19.2	ntt	ntt	ntt	ntt	ntt	ntt	ntt
5 Lower Respiratory Infections	9.2	9.8	42.9	184.2	85.7	92.7	93.5	182.4	117.1	161.9
6 Maternal Conditions	6.9	16.7	27.4	28.2	21.1	ntt	ntt	ntt	ntt	ntt
7 Diarrhoeal Diseases	5.8	6.2	21.8	47.8	37.7	36.9	37.9	42.3	53.3	ntt
8 Self harm	6.6	5.6	18.2	38.6	23.5	ntt	ntt	ntt	ntt	ntt
9 Drug use disorders	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
10 Meningitis	2.9	2.4	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
11 Asthma	ntt	ntt	ntt	20	ntt	ntt	ntt	ntt	ntt	ntt
12 Stroke	ntt	ntt	ntt	ntt	21.9	36.3	58.4	95.9	138.5	260.4
13 Cervix Uteri Cancer	ntt	ntt	9.2	20.8	33.7	41.9	48.3	53.4	61.8	64.5
14 Breast Cancer	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
15 Ischaemic Heart disease	ntt	ntt	ntt	ntt	ntt	32.8	57	92.7	139.6	208.9
16 Diabetes Mellitus	ntt	ntt	ntt	ntt	ntt	25.9	54.2	110.3	185	348.3
17 Hypertensive heart Disease	ntt	ntt	ntt	ntt	ntt	ntt	32.3	55.2	86.1	100.8
18 Kidney Disease	1.5	1.7	ntt	25.9	22	28.8	33.3	45.2	59.4	72.3
19 Chronic Obstructive, pulmonary disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	60.9
20 Cirrhosis of the Liver	ntt	ntt	9.5	28.1	22.3	27.4	ntt	ntt	ntt	ntt

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)



Note: ntt: It signifies, those diseases which are not falling under top ten

Green colour is used to denote Communicable diseases

Purple colour is used to denote Injuries

Blue colour is used to denote Non-communicable diseases

Table 9 indicates the top causes of death based on the three classification of causes of death in different age groups of females in South Africa. From the table it is clear that HIV/AIDS remained the top cause of death amongst all the types of communicable diseases in the age groups of 15-19,20-24,25-29,30-34,35-39,40-44,45-49, 50-54 and 55-59 in South Africa in the year 2010. In the age group of 60-64, Lower respiratory infections became the top reason of deaths of female in South Africa in 2010. In the categories of Injuries; road injury was on top in the age groups of 15-19,20-24 and 25-29 after then self-harm was the major reason for 30-34, and 35-39 age groups. After that in the age groups of 40-44,45-49 50-54, 55-59 and 60-64 there was no deaths due to injuries in the top ten causes. It is clear from the table that very few cases of female deaths till the age group of 35-39 due to non-communicable diseases. In the age group of 40-44, cervix uteri cancer, and in rest of the working age group that is, 45-49,50-54,55-59 and 60-64 Stroke remained the top most reason of deaths due to non-communicable diseases for females of South Africa.

Table 10: Top ten Causes of Death for Female Per 100,000 Population in India in 2010 (in the Working age group)

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
1 Tuberculosis	33.8	52.4	35.4	46.7	29.4	34.5	28.4	38.7	36.1	45.4
2 Self-Harm	20.9	25.6	27.2	16.8	15.8	11.8	ntt	ntt	ntt	ntt
3 Maternal Conditions	10.7	24.4	25.4	21.2	16.5	ntt	ntt	ntt	ntt	ntt
4 Diarrhoeal Diseases	14.6	12.1	13.3	13.7	15.7	17	26.9	46.1	77	161.8
5 Road Injury	3.5	4.9	5.3	5.9	ntt	ntt	ntt	ntt	ntt	ntt
6 Lower Respiratory Infections	2.4		ntt	ntt	ntt	ntt	ntt	ntt	ntt	56
7 Interpersonal Violence	2.5	3.4	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
8 Cirrhosis of the liver	3	4	5.3	5.6	9.5	10.4	16.9	20.2	28.5	ntt
9 Rheumatic Heart Disease	ntt	3	4.6	5.7	8.8	12	16.5	21.7	ntt	ntt
10 Drowning	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
11 Ischaemic Heart disease	2.2	4.1	7	10.8	17.4	29.9	63	91.2	150.8	254.5
12 Fire, heat and hot substances	2.4	3.3	3.7	ntt	ntt	ntt	ntt	ntt	ntt	ntt
13 HIV/AIDS	ntt	ntt	4.2	9.6	16.4	15	ntt	ntt	ntt	ntt
14 Stroke	ntt	ntt	ntt	ntt	7.5	12.8	31.8	50	87	171.5
15 Cervix Uteri Cancer	ntt	ntt	ntt	ntt	ntt	9.7	15.1	ntt	32.4	ntt
16 Breast Cancer	ntt	ntt	ntt	ntt	7.7	12.3	20.8	27.9	ntt	ntt
17 Asthma	ntt	ntt	ntt	ntt	ntt	ntt	13.7	21.7	35.2	62.7
18 Chronic Obstructive, pulmonary disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	26.1	54.4	141.2
19 Kidney Disease	ntt	ntt	ntt	3.8	ntt	ntt	14.7	21.7	28.2	42.9
20 Diabetes Mellitus	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	30.1	62.6
21 Falls	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	37.4

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)



Table 10 indicates the top causes of death in different age groups of females of India. From the table it is clear that tuberculosis was the main cause of death in the age group of 15-19 20-24,25-29,30-34,35-39 and 40-44 amongst female in India in the year 2010. In the age group of 45-49, it was HIV/AIDS, 50-54, 55-59 and 60-64 Ischaemic heart disease was the main reason of death for the female of India in the year 2010.

Table 11:Top ten Causes of Death for Working age group Female Per 100,000 Population in India in 2010 (based on the three classification of disease)

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
1 Tuberculosis	33.8	52.4	35.4	46.7	29.4	34.5	28.4	38.7	36.1	45.4
2 Self-Harm	20.9	23.6	27.2	16.8	15.8	11.8	ntt	ntt	ntt	ntt
3 Maternal Conditions	10.7	24.4	25.4	21.2	16.5	ntt	ntt	ntt	ntt	ntt
4 Diarrhoeal Diseases	14.6	12.1	13.3	13.7	15.7	17	26.9	46.1	77	161.8
5 Road Injury	3.5	4.9	5.3	5.9	ntt	ntt	ntt	ntt	ntt	ntt
6 Lower Respiratory Infections	2.4		ntt	ntt	ntt	ntt	ntt	ntt	ntt	56
7 Interpersonal Violence	2.5	3.4	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
8 Cirrhosis of the liver	3	4	5.3	5.6	9.5	10.4	16.9	20.2	28.5	ntt
9 Rheumatic Heart Disease	ntt	3	4.6	5.7	8.8	12	16.5	21.7	ntt	ntt
10 Drowning	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt
11 Ischaemic Heart disease	2.2	4.1	7	10.8	17.4	29.9	63	91.2	150.8	254.5
12 Fire, heat and hot substances	2.4	3.3	3.7	ntt	ntt	ntt	ntt	ntt	ntt	ntt
13 HIV/AIDS	ntt	ntt	4.2	9.6	16.4	15	ntt	ntt	ntt	ntt
14 Stroke	ntt	ntt	ntt	ntt	7.5	12.8	31.8	50	87	171.5
15 Cervix Uteri Cancer	ntt	ntt	ntt	ntt	ntt	9.7	15.1	ntt	32.4	ntt
16 Breast Cancer	ntt	ntt	ntt	ntt	7.7	12.3	20.8	27.9	ntt	ntt
17 Asthma	ntt	ntt	ntt	ntt	ntt	ntt	13.7	21.7	35.2	62.7
18 Chronic Obstructive, pulmonary disease	ntt	ntt	ntt	ntt	ntt	ntt	ntt	26.1	54.4	141.2
19 Kidney Disease	ntt	ntt	ntt	3.8	ntt	ntt	14.7	21.7	28.2	42.9
20 Diabetes Mellitus	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	30.1	62.6
21 Falls	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	ntt	37.4

Source: Global Health Estimates 2010: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2010. Geneva, World Health Organization; 2010. (Author's study based on data on top ten causes of death for female)



Note: ntt: It signifies, those diseases which are not falling under top ten

Green colour is used to denote Communicable diseases

Purple colour is used to denote Injuries

Blue colour is used to denote Non-communicable diseases

Table 11 indicates the top causes of death based on the three classification of causes of death in different age groups of females in India. From the table it is clear that Tuberculosis remained the top cause of death amongst all the types of communicable diseases in the age groups of 15-19,20-24, 25-29,30-34,35-39,40-44, and 45-49 in the year 2010. In the age group of 50-54,55-59, and 60-64 Diarrhoeal diseases were the main reason amongst the communicable diseases of deaths of female in India in 2010. In the categories of Injuries; self-harm remained the top reason in the age groups of 15-19,20-24,25-29,30-34 and 40-44, after then this type of reason is missing as the top reason of death for the females of India in the age group of 45-49,50-54,55-59 in the year 2010. In the age group of 60-64, death due to falls in the categories of injuries was noticed as the top ten reason of death for females in India in 2010. It is clear from the table that very few cases of female deaths till the age group of 25-29 due to non-communicable diseases. In the age groups of 30-34,35-39,40-44,45-49,50-54,55-59 and 60-64 Ischaemic heart disease remained the top most reason of deaths due to non-communicable diseases for females of India in 2010.

Interpretation and Policy intervention

South Africa needs to bring stricter health and safety related policy measures to fight with communicable diseases such as HIV/AIDS to safeguard the working age female population. It can adopt indirect measures as well for example spreading awareness by using social media, campaign at school levels and increasing the supply of safety measures. To address the issue of Interpersonal violence, self-harm in adolescent age and in later middle age it is important to educate and engage this age group, which is possible by strengthening the education system and bringing more opportunities to the people. The issue of road injuries can be handled by the stricter enforcement of law in terms of monetary and rigorous imprisonment for the rule breakers. Non-communicable diseases such as cervix cancer, strokes, breast cancer, kidney diseases, are on rise. Most of these diseases are related to females' life style and stress level. Thus, to get rid from such diseases health and wellness centres should be more in number and it should provide services in the local community where female of each section and class can join and benefit from the activities organized by such centres. South African female in the age group of 60-64 is fighting with Diabetes mellitus, Lower respiratory infections in the 1st decade of 21st century. To fight with the diabetic issue, agro-products needs to be researched so that more availability of sweet, sugar and starch free products can be made available in the market. Females can be encouraged to participate in health-related exercises, yoga, meditation, walk to control



such diseases. Government's focus should be towards provision of pure air and sanitation by bringing regulation on polluting agents. Lawana et.al., advocate for strengthening of current health strategies by aiming to reduce lifestyle risk factors. They opine that this will promote sustained labour force participation rates in South Africa. Mayosi et.al., (2012) believe that HIV prevention has received increased attention in South Africa. Child mortality has benefited from progress in addressing HIV. However, more attention to postnatal feeding support is needed. Many risk factors for non-communicable diseases have increased substantially during the past two decades, but an ambitious government policy to address lifestyle risks such as consumption of salt and alcohol provide real potential for change. Although mortality due to injuries seems to be decreasing, high levels of interpersonal violence and accidents persist. An integrated strategic framework for prevention of injury and violence is in progress but its successful implementation will need high-level commitment, support for evidence-led prevention interventions, investment in surveillance systems and research, and improved human-resources and management capacities. However, large racial differentials exist in social determinants of health, especially housing and sanitation for the poor and inequity between the sexes, although progress has been made in access to basic education, electricity, piped water, and social protection. Integration of the private and public sectors and of services for HIV, tuberculosis, and non-communicable diseases needs to improve, as do surveillance and information systems. Additionally, successful interventions need to be delivered widely. Transformation of the health system into a national institution that is based on equity and merit and is built on an effective human-resources system could still place South Africa on track. Nwosu and Woolard (2017) estimate the effect of self- assessed health (SAH) on labour force participation (LFP) in South Africa. This is motivated by a high disease burden and declining LFP in South Africa during the study period. The results indicate a positive and significant effect of self- reporting excellent, very good or good health on LFP (relative to fair or poor health). The effect is more pronounced for men relative to women. The result indicates that health policy can be a tool for significantly improving LFP in South Africa.

Indian females in their working age are fighting with variety of diseases. tuberculosis was the main cause of death in the age group of 15-19 and 20-24 amongst female in India in the year 2000. In the age group of 25-29, it was diarrhoeal diseases, 30-34, 35-39, and 40-44 again tuberculosis remained the top cause of death. In the age groups of 45-49, 50-54, 55-59 and 60-64 Ischaemic heart disease was the main reason of death for the female of India in the year 2000. Such diseases speak about life-style, sanitation, hygiene habits, unavailability of pure water, stress and irregular daily routine, and neglect of female health in India. The top most priority of the government should be the provision of free door to door medical services for females especially lactating females as they are the vulnerable section especially in the weaker section of society. Indian females suffer from many communicable diseases such as tuberculosis Diarrhoeal, diseases, maternal conditions, this needs to be treated on urgent basis.



Ischaemic heart disease remained the top most reason of deaths due to non-communicable diseases for females of India in the early forties till late seventies. It is increasing very fast in India every year. More heart centres to treat such female patients are necessary. Number of specialized doctors needs to be well paid, felicitated and placed in rural as well as in urban India on rotation basis so that females of rural India should also be not deprived off. In the categories of Injuries; self-harm remained the top reason in the age groups of 15-19,20-24,25-29,30-34 and 40-44.

The progress monitoring indicators reveal that, on many fronts, either the commitments are partially achieved, or not yet achieved. This needs increased support to the public sector healthcare system, with a parallel policy and legislation driven approach. India needs more specific health planning for each state to remove the burden of diseases amongst the females. This is much more required in backward states of the country. This can be envisioned by the Government of India's premier think tank, the National Institution for Transforming India, and effective implementation of the National Health Policy.

Conclusion:It is an urge to the governments of both the countries to launch an effective health drive in urban and rural areas which can be accessible, affordable and equitable for the people of South Africa and India. The chronic infectious and non-communicable diseases must be addressed with integrated care interventions at national and state level in both the countries. The issues related to self-harm, interpersonal violence and road injuries should also be taken sensitively and at war foot level to minimise the number of female deaths in both the countries. Future health targets of both the countries should include a focus on the health problems of working age female falling in the category of 15–64 years. Although differences are apparent between South Africa and India, a range of similarities exist that allow a common approach to improve working age female's health. A multifaceted approach considering physiological, social, economic, and political determinants is critical to improve the health outcomes of both the countries. Many cost-effective interventions exist at the individual and population levels, and they are likely to have a significant health impact in South Africa. An aggressive approach that combines environmental policy and legislative interventions for health promotion and primary prevention, coupled with improved access to evaluation, treatment and control of hypertension and other major risk factors, are needed to have best strategy for averting diseases amongst the working age female in both the countries. Along with enhancing measures aimed at achieving universal access to quality-assured diagnosis, treatment and prevention services, massive efforts are needed to mitigate the prevalence of health-related risk factors, to have less demise and more presence of working age females in South Africa and India.



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