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ILL EFFECTS OF FIRST AND SECOND HAND EXPOSURE OF SMOKE OF TOBACCO

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Abstract- If we talk about exposure of tobacco smoke there is no safe level of it for humans. It is equally harmful to consumers and to the people who are surrounded by them as well. The tobacco smoke is one of the key causes of different health problems related to respiratory system in infants, children, old age people and up to specific extent adults as well. Acute problems may result in premature deaths. Planning of different health policies and tobacco control programs can be properly made and applied if proper descriptive information of premature deaths and diseases is available along with the risk factors cause such. In the present study I have tried to project the future deaths and DALYS by using Regression analysis to get clearer virtual picture of future harm of exposure of tobacco smoke in male, female and combined population.

Key Words: Exposure, SHS (second hand smoke), combusting tobacco, Regression model.

1 INTRODUCTION

Every human life has an end. Age specific death, death attributable to incurable disease, sudden accidental death etc are considerable reasons of natural death. But humans are the only living objects who have knowingly or unknowingly tried to change the reasons of death. In present modern era people give more importance to ease, entertainment, luxury, status, said modern life style etc. But sometime this race for status may lead to extreme economical and life loss. The probable reason of this loss may be sharp raises in addiction of certain abusing drugs which are used as status symbol or proof of modern life style. Out of certain harmful addictions tobacco addiction is the most avoidable addiction which leads to death or loss of expected life years. Tobacco is an evil with not only one or ten but many heads. Tobacco addiction is a proven reason of millions of premature deaths daily. Lots of tobacco addicted people living with tobacco attributable morbidity in this world who are even not aware of their diseases or reasons of diseases. Tobacco attributable diseases may affect almost every organ of a human body. There are only few known consequences of tobacco consumption which include respiratory problems, dental problems and Cancer. But this can be considered as just a small visible tip of a huge floating iceberg. Tobacco consumption leads to cancer only or tobacco consumption is the only reason of cancer both are myths only. The effects of tobacco consumption can be visible nearly the age of 30 years.

Worst consequences of tobacco consumption can be categorised in to two categories: Consequences attributable to use of combusting tobacco products and consequences attributable to use of non combusting tobacco products. If we concentrate on the global aspect of consequences of tobacco addiction we have a limitation of having visible proofs of mortality and morbidity attributable to consumption of combusting tobacco products only. The reason is addiction of combusting tobacco products is a widely spread addiction in the world where as non combusting tobacco addiction is limited

to few areas. This is the reason why we limit our study to the availability.

Planning and decision making in health policies and epidemic control programs can be properly framed and organized if we have proper descriptive information of diseases and injuries which includes comparative and consistent informative statistics related to them along with the risk factors cause such. Mortality and Health information in populations may vary region to region and sometimes found to be inconsistent. Therefore a need occurred to framing this information by proper integration, validation and analyzation. This framework may help to assess and compare different diseases and injuries, causing premature deaths, disability and health loss. To fulfil the need the World Bank took an initiative step by commissioning the first Global Burden of Disease (GBD) study in the year 1993. The study report is known as World Development Report 1993. It was carried out by the Harvard School of Public Health and the World Health Organization combinely. More than 100 diseases and injuries and their health effects for eight regions of the world in 1990 were quantified in this first Global Burden of Diseases study. It was followed by consequent study reports for gap of 10 years each including the latest 2010 GBD study. During this time frame new methods for assessing causes of deaths and producing estimates of incidence and prevalence of conditions were developed for about 21 regions of the World.

In the present study we have included the deaths and DALYs of World and India estimated in GBD studies due to risk factor smoking in two categories with SHS (Second Hand Smoke) and without SHS to generate future estimates.

2 BASIC TERMS

DALYS (DISABILITY ADJUSTED LIFE YEARS)

The 'DALY' or 'Disability' can be considered as a summary measure of combination of time lost through premature death and time lived in states of ill health. (DALYs are calculated for specific YLLs and YLDs).

YLLS (YEARS OF LIFE LOST)

YLL is a multiplicative combination of cause-specific number of deaths and a loss function specifying the years lost for deaths.

YLDS (YEARS LIVED WITH DISABILITY)

YLD for a specific cause and a specific time can be estimated by multiplying number of incident cases for cause and average duration of case until death.

The description of calculations and methods of calculating deaths and DALYs can be reffered from WHO methods and data sources for Global Burden of Diseases estimated 2000-2011.

3 STATISTICAL ANALYSIS

Linear trend line or regression analysis is a statistical tool of developing mathematical equation to show how the dependent and independent variables are related. The method applies least square analysis to find the line of best fit by minimizing the MSE (Mean Square Error) between the estimated sample and projected forecast. It is an elementary forecasting method and can be understand by a layman even. The analysis will generate a fitted line using the equation $y_t = \alpha + \beta (t)$, where t stands for time period during which the data point was collected, α stands for intercept of the line on y axis and β stands for slope of the fitted line which equals the change in dependent value divided by the change in independent value. The reliability of a trend line depends upon R^2 value associated with it. More reliable trend lines can be observed with R^2 value at or near 1. Trend lines with lesser value of R^2 are comparatively less reliable to project future values. Following are the statistical representation of estimated data, fitted lines and projected data of Deaths and DALYs.

Table 1 Age and year wise Global average death burden of all death causes attributable to risk factor "tobacco smoking" (excluding Second Hand Smoke)

Sex	Age in years	Estimated deaths (in '0000)					Projected Deaths (in '0000)			Linear trend line equation	R^2
		1990	1995	2000	2005	2010	2015	2020	2025		
Both	30-34	4.3	4.7	4.6	4.4	4.2	4.29	4.24	4.19	-0.01x + 24.44	0.145
	35-39	7.8	8.6	8.4	8.3	7.8	8.09	8.06	8.03	-0.06x+ 20.18	0.017
	40-44	14.1	17.23	16.93	16.9	15.9	16.5	16.8	17.13	0.065x-114.5	0.162
	45-49	19.3	23.4	26	26.24	25.3	26.94	28.42	29.9	0.296x-569.5	0.664
	50-54	33.7	32.4	35.5	40.7	40	42.77	44.86	46.95	0.418x-799.5	0.786
	55-59	47.9	52.3	45.6	50.9	57.8	56.42	58.26	60.1	0.368x-685.1	0.391
	60-64	66.3	67.6	67.4	59.9	68.02	64.925	64.5	64.075	-0.085x +236.2	0.039
	65-69	70.7	80.4	77.4	77.9	73.3	76.75	77.02	77.29	0.054x-32.06	0.012
	70-74	64.99	75.2	81.9	80.8	83.6	89.84	94.12	98.4	0.856x-1635	0.800
	75-79	59.3	58.3	67.5	75.4	76.2	83.27	88.36	93.45	1.018x-1968	0.893
	80+	69.3	99	85.7	99.6	117.5	124.1	133.8	143.5	1.94x-3785	0.730
	all ages	457.6	499.1	516.9	541.1	569.5	596.74	623.32	649.9	5.316x-10115	0.983
Male	30-34	3.5	3.8	3.9	3.75	3.6	3.755	3.77	3.785	0.003x-2.29	0.022
	35-39	6.1	6.9	6.8	6.85	6.6	6.935	7.03	7.125	0.019x-31.35	0.209
	40-44	10.85	13.72	13.69	13.85	13.33	13.015	13.52	14.025	0.101x-190.5	0.404
	45-49	15.65	19.13	21.5	21.73	21.18	23.595	24.96	26.325	0.273x-526.5	0.712
	50-54	26.96	26.01	28.75	33.46	33.05	34.38	36.34	38.3	0.392x-755.5	0.813
	55-59	37.69	41.78	36.11	40.69	46.94	45.52	47.26	49	0.348x-655.7	0.431
	60-64	51.99	53.5	53.64	47.27	54.17	52.345	52.16	51.975	-0.037x +126.9	0.010
	65-69	52.85	61.88	59.79	60.68	56.92	58.97	59.66	60.35	0.138x-219.1	0.092
	70-74	45.55	53.74	60.43	59.9	63	69.315	73.42	77.525	0.821x-1585	0.856
	75-79	40.69	39.89	46.68	53.58	55.89	59.215	63.62	68.025	0.881x-1716	0.916
	80+	41.44	46.8	49.74	58.04	70.42	74.76	81.68	88.6	1.384x-2714	0.936
	all ages	333.22	367.1	381.03	399.79	425.14	445.95	467.6	489.25	4.330x-8279	0.981
Female	30-34	0.85	0.84	0.74	0.66	0.55	0.49	0.41	0.33	-0.015x+31.92	0.952
	35-39	1.73	1.72	1.59	1.44	1.14	1.082	0.936	0.79	0.0292x-59.92	0.889
	40-44	3.19	3.51	3.24	3.03	2.57	2.584	2.412	2.24	-0.0344x+71.9	0.614
	45-49	3.66	4.23	4.53	4.51	4.11	4.564	4.682	4.8	0.0236x-42.99	0.275
	50-54	6.71	6.42	6.74	7.28	6.96	6.835	6.97	7.105	0.027x-47.57	0.451
	55-59	10.27	10.48	9.5	10.25	10.85	9.34	9.43	9.52	0.018x-26.93	0.088
	60-64	14.26	14.09	13.72	12.68	13.85	14.24	14.02	13.8	-0.044x+102.9	0.325
	65-69	17.86	18.56	17.61	17.23	16.4	16.225	15.8	15.375	-0.085x+187.5	0.710
	70-	19.44	21.44	21.44	20.93	20.59	19.695	19.87	20.045	0.035x-50.83	0.117

	74										
	75-79	18.58	18.45	20.78	21.78	20.31	20.425	21.1	21.775	0.135x-251.6	0.556
	80+	27.87	32.24	35.92	41.53	47.07	50.295	55.06	59.825	0.953x-1870	0.992
	all ages	124.41	131.97	135.82	141.32	144.39	150.79	155.72	160.65	0.986x-1836	0.978

Table 2 Age and year wise Global average death burden of all death causes attributable to risk factor "tobacco smoking" (including Second Hand Smoke)

Gender	Age in years	Estimated deaths(in '0000)					Projected Deaths(in '0000)			Linear trend line equation	R^2
		1990	1995	2000	2005	2010	2015	2020	2025		
Both	0-5	35.33	29.74	22.06	16.14	12.47	5.12	0	0	-1.186x+2395	0.988
	25-29	0.29	0.33	0.33	0.3	0.28	0.291	0.286	0.281	-0.001x+2.306	0.117
	30-34	4.71	5.1	5.11	4.86	4.56	4.295	4.24	4.185	-0.011x+26.46	0.125
	35-39	8.31	9.11	8.95	8.85	8.28	8.604	8.572	8.54	-0.0064x+21.5	0.017
	40-44	14.68	18.05	17.76	17.74	16.76	18.155	18.54	18.925	0.077x-137	0.193
	45-49	20.3	24.61	27.5	27.65	26.67	28.925	30.5	32.075	0.315x-605.8	0.660
	50-54	35.41	34.22	37.54	43.1	42.21	44.035	46.28	48.525	0.449x+860.7	0.793
	55-59	50.41	55.04	48.17	53.87	61.02	59.715	61.72	63.725	0.401x+748.3	0.415
	60-64	69.95	71.59	71.6	63.6	72.1	70.205	69.84	69.475	-0.073x+217.3	0.027
	65-69	75.44	85.98	82.96	83.68	78.27	81.875	82.21	82.545	0.067x-53.13	0.015
	70-74	70.48	81.58	89.07	87.68	90.61	97.905	102.54	107.175	0.927x-1770	0.791
	75-79	66.11	64.5	74.52	83.1	83.66	91.11	96.48	101.85	1.074x-2073	0.878
	80+	81.57	92.12	98.55	113.06	132.86	140.05	152.4	164.75	2.470x-4837	0.960
	all ages	532.98	571.96	584.11	603.71	629.73	652.575	675.1	697.625	4.505x-8425	0.970
Male	0-5	19.5	16.4	12.2	8.9	6.92	3.205	0	0	-0.653x+1319	0.987
	25-29	0.13	0.14	0.15	0.141	0.143	0.0685	0.071	0.0735	0.001x-0.939	0.352
	30-34	3.6	4	4.1	3.96	3.82	4.02	4.06	4.1	0.008x-12.10	0.106
	35-39	6.27	7.06	7.02	7.06	6.83	6.38	6.49	6.6	0.022x-37.95	0.276
	40-44	11.12	14.06	14.04	14.22	13.71	13.49	14.02	14.55	0.106x-200.1	0.418
	45-49	16.04	19.63	22.1	22.32	21.77	24.645	26.06	27.475	0.283x-545.6	0.713
	50-54	27.71	26.79	29.63	34.49	34.06	36.72	38.76	40.8	0.408x-785.4	0.817
	55-59	38.82	43.05	37.28	42.03	48.43	47.46	49.28	51.1	0.364x-686	0.442
	60-64	53.7	55.34	55.57	49	56.1	55.05	54.9	54.75	-0.03x+115.5	0.007
	65-69	54.92	64.35	62.26	63.24	59.18	62.62	63.36	64.1	0.148x-235.6	0.094
	70-74	47.83	56.36	63.44	62.81	65.99	71.82	76.1	80.37	0.855x-	0.853

							5		5	1651	
	75-79	43.27	42.2	49.27	56.49	58.78	63.59	68.12	72.65	0.906x-1762	0.908
	80+	45.15	50.68	53.49	62	75	78.3	85.4	92.5	1.420x-2783	0.931
	all ages	368.06	400.04	410.54	426.67	450.71	467.57	486.76	505.95	3.838x-7266	0.972
Female	0-5	15.85	13.33	9.86	7.23	5.55	1.99	0	0	-0.534x+1078	0.988
	25-29	0.17	0.19	0.18	0.16	0.14	0.141	0.132	0.123	-0.0018x+37.68	0.547
	30-34	1.08	1.1	1.01	0.9	0.74	0.696	0.608	0.52	-0.0176x+36.16	0.876
	35-39	2.03	2.05	1.94	1.8	1.45	1.83	1.69	1.55	-0.028x+58.25	0.818
	40-44	3.57	3.99	3.72	3.51	3.05	3.104	2.952	2.8	-0.0304x+64.36	0.488
	45-49	4.25	4.98	5.39	5.33	4.9	5.465	5.63	5.795	0.033x-61.03	0.328
	50-54	7.7	7.44	7.91	8.61	8.15	7.785	7.99	8.195	0.041x-74.83	0.536
	55-59	11.59	12	10.9	11.84	12.59	10.73	10.91	11.09	0.036x-61.81	0.223
	60-64	16.26	16.25	16.03	14.7	16.04	16.865	16.67	16.475	-0.039x+95.45	0.230
	65-69	20.22	21.64	20.7	20.44	19.1	20.98	20.64	20.3	-0.068x+158	0.353
	70-74	22.65	25.22	25.63	24.87	24.62	24.065	24.42	24.775	0.071x-119	0.242
	75-79	22.83	22.3	25.25	26.6	24.88	26.92	27.76	28.6	0.168x-311.6	0.557
	80+	36.42	41.44	45.06	51.05	57.84	62.735	67.98	73.225	1.049x-2051	0.987
	all ages	164.92	171.92	173.57	177.03	179.02	182.99	186.32	189.65	0.666x-1159	0.933

Table 3 Age and year wise Global DALYS of all death causes attributable to risk factor "tobacco smoking" (excluding shs)

Gender	Age in years	Estimated deaths(in '0000)					Projected Deaths(in '0000)			Linear trend line equation	R^2
		1990	1995	2000	2005	2010	2015	2020	2025		
Both	30-34	295.35	314.86	316.84	309.47	300	307.79	308.12	308.45	0.066x+174.8	0.003
	35-39	485.22	524.31	520.86	523.62	498.55	517.585	520.18	522.775	0.519x-528.2	0.053
	40-44	760.79	911.64	913.03	931.63	897.91	970.26	999.68	1029.1	5.884x-10886	0.449
	45-49	888.85	1063.44	1189.24	1225.19	1203.19	1334	1413	1492	15.8x-30503	0.788
	50-54	1313.49	1284.59	1409.24	1617.13	1613.11	1715.45	1808.6	1901.75	18.63x-35824	0.849
	55-59	1596.91	1736.62	1550.96	1729.99	1979.86	1935.7	2011.6	2087.5	15.18x-28652	0.516
	60-64	1842.85	1880.15	1881.51	1704.42	1945.47	1859.25	1862.2	1865.15	0.590x+670.4	0.002
	65-69	1622.59	1835.39	1782.77	1809.94	1719.46	1803.475	1820.3	1837.125	3.365x-4977	0.097
	70-74	1189.14	1370.18	1496.23	1497.16	1557.08	1666.75	1753	1839.25	17.25x-33092	0.862
	75-79	835.71	830.79	957.63	1072.67	1089.28	1180.7	1255.6	1330.5	14.98x-29004	0.912
	80+	543.14	609.88	649.14	755.26	887.11	925.9	1009.2	1092.5	16.66x-32644	0.954

	all ages	11374	12361.8	12667.4	13176.5	13690.7	14338	14884	15430	109.2x-205700	0.966
Male	30-34	232.04	252.73	260.1	256.85	252.77	263.665	268.22	272.775	0.911x-1572	0.430
	35-39	366.92	406.82	409.47	418.19	410.17	431.355	441.14	450.925	1.957x-3512	0.584
	40-44	570.48	705.43	715.74	739.16	724.57	680.5	714	747.5	6.7x-12820	0.591
	45-49	706.75	854.44	962.63	991.27	982.3	1088.25	1157	1225.75	13.75x-26618	0.809
	50-54	1033.5	1010.04	1117.41	1298.18	1298.58	1385.4	1467.2	1549	16.36x-31580	0.855
	55-59	1236.61	1365.99	1204.02	1353.25	1572.62	1532.7	1598.6	1664.5	13.18x-25025	0.517
	60-64	1428.33	1468.99	1476.85	1321.11	1520.79	1452.72	1456.42	1460.12	0.740x-38.38	0.006
	65-69	1198.64	1395.12	1359.1	1389.47	1313.39	1399.155	1421.54	1443.925	4.477x-7622	0.191
	70-74	825.4	970.3	1091.9	1094.6	1156	1263.65	1342.2	1420.75	15.71x-30392	0.890
	75-79	567.3	561.7	655.4	752.8	787.7	838.45	901.6	964.75	12.63x-24611	0.927
	80+	329.7	368.1	385	450	544.61	560.45	611.6	662.75	10.23x-20053	0.922
	all ages	8495.6	9359.6	9637.7	10064.9	10563.5	11072.3	11556.4	12040.5	96.82x-184020	0.968
Female	30-34	63.3	62.1	56.8	52.6	46.9	43.31	39.08	34.85	-0.846x+1748	0.967
	35-39	118.3	117.5	111.4	105.4	88.4	86.43	79.24	72.05	-1.438x+2984	0.863
	40-44	190.3	206.2	197.3	192.5	173.3	176.69	171.92	167.15	-0.954x+2099	0.390
	45-49	182.1	209	226.6	233.9	220.9	245.75	256	266.25	2.05x-3885	0.639
	50-54	280	274.6	291.8	319	314.5	330.02	341.36	352.7	2.268x-4240	0.802
	55-59	360.3	370.6	346.9	376.8	407.2	403	413	423	2x-3627	0.492
	60-64	414.5	411.2	404.7	383.3	424.7	405.35	404.6	403.85	-0.15x+707.6	0.005
	65-69	424	440.3	423.7	420.5	406.1	405.32	399.76	394.2	-1.112x+2646	0.521
	70-74	363.8	399.9	404.3	402.6	401.1	418.19	425.92	433.65	1.546x-2697	0.507
	75-79	268.5	269.1	302.2	319.8	301.6	328.07	339.76	351.45	2.338x-4383	0.668
	80+	213.4	241.8	264.1	305.3	342.5	369.51	401.68	433.85	6.434x-12595	0.987
	all ages	2878.5	3002.3	3029.8	3111.6	3127.2	3203.95	3264.6	3325.25	12.13x-21238	0.924

Table 4 Age and year wise Global DALYS of all death causes attributable to risk factor "tobacco smoking" (including shs)

Gender	Age in years	Estimated deaths(in '000000)					Projected Deaths(in '000000)			Linear trend line equation	R^2
		1990	1995	2000	2005	2010	2015	2020	2025		
Both	0-5	30.4	25.6	19.1	14	10.8	4.76	0	0	-1.016x+2052	0.988
	25-29	0.19	0.21	0.21	0.19	0.18	0.184	0.18	0.176	-0.0008x+1.796	0.222
	30-34	3.19	3.42	3.45	3.36	3.23	2.53	2.53	2.53	0x+2.53	0.000
	35-39	5.1	5.52	5.5	5.54	5.27	5.091	5.126	5.161	0.007x-9.014	0.086
	40-44	7.9	9.5	9.52	9.72	9.4	9.46	9.78	10.1	0.064x-119.5	0.472

	45-49	9.3	11.15	12.5	12.9	12.6	14.205	15.04	15.875	0.167x-322.3	0.778
	50-54	13.8	13.5	14.85	17.04	16.95	16.64	17.62	18.6	0.196x+378.3	0.848
	55-59	16.75	18.25	16.33	18.24	20.84	19.745	20.56	21.375	0.163x+308.7	0.533
	60-64	19.42	19.87	19.95	18.06	20.56	18.907	18.952	18.997	0.009x-0.772	0.006
	65-69	17.27	19.57	19.05	19.37	18.3	18.875	19.06	19.245	0.037x-55.68	0.097
	70-74	12.86	14.82	16.22	16.18	16.81	17.775	18.7	19.625	0.185x-355	0.852
	75-79	9.28	9.14	10.53	11.77	11.9	12.155	12.94	13.725	0.157x-304.2	0.896
	80+	6.32	7.03	7.4	8.5	9.96	10.525	11.4	12.275	0.175x-342.1	0.946
	all ages	151.77	157.6	154.53	154.8	156.84	155.79	156.52	157.25	0.146x-138.4	0.259
Male	0-5	16.76	14.12	10.53	7.72	6	2.63	0	0	-0.558x+1127	0.988
	25-29	0.08	0.09	0.092	0.089	0.09	0.1342	0.137	0.139	0.0004x-0.6718	0.406
	30-34	2.43	2.65	2.73	2.69	2.64	2.365	2.41	2.455	0.009x-15.77	0.391
	35-39	3.76	4.17	4.2	4.29	4.21	3.93	4.03	4.13	0.020x-36.67	0.593
	40-44	5.83	7.21	7.32	7.56	7.43	8.165	8.52	8.875	0.071x-134.9	0.633
	45-49	7.23	8.75	9.87	10.16	10.1	11.445	12.16	12.875	0.143x-276.7	0.816
	50-54	10.61	10.38	11.5	13.36	13.35	14.035	14.88	15.725	0.169x-326.5	0.857
	55-59	12.72	14.1	12.41	13.96	16.2	15.14	15.82	16.5	0.136x-258.9	0.520
	60-64	14.74	15.18	15.28	13.67	15.71	13.836	13.876	13.916	0.008x-2.284	0.007
	65-69	12.44	14.49	14.13	14.46	13.64	13.745	13.98	14.215	0.047x-80.96	0.194
	70-74	8.7	10.16	11.45	11.46	12.1	13.23	14.04	14.85	0.162x-313.2	0.890
	75-79	6.02	5.93	6.91	7.92	8.27	7.435	8.08	8.725	0.129x-252.5	0.921
	80+	3.58	3.97	4.13	4.8	5.8	5.275	5.8	6.325	0.105x-206.3	0.915
	all ages	104.8	11.16	110.53	112.14	115.5	112.6	124.8	137	2.447x-4804	0.187
Female	0-5	13.56	11.49	8.52	6.27	4.84	2.505	0.24	0	-0.453x+915.3	0.988
	25-29	0.11	0.118	0.115	0.1	0.089	0.088	0.082	0.076	-0.0012x+2.506	0.636
	30-34	0.77	0.773	0.725	0.67	0.59	0.682	0.636	0.59	-0.0092x+19.22	0.904
	35-39	1.35	1.353	1.3	1.25	1.05	1.17	1.1	1.03	-0.014x+29.38	0.790
	40-44	2.08	2.29	2.2	2.16	1.97	2.035	2	1.965	-0.007x+16.14	0.207
	45-49	2.07	2.4	2.63	2.69	2.55	2.845	2.97	3.095	0.025x-47.53	0.637
	50-54	3.17	3.12	3.35	3.68	3.59	3.81	3.95	4.09	0.028x-52.61	0.794
	55-59	4.03	4.19	3.92	4.28	4.64	4.21	4.34	4.47	0.026x-	0.559

										48.18	
	60-64	4.68	4.69	4.67	4.38	4.85	4.663	4.666	4.669	0.0006x+3.454	0.000
	65-69	4.83	5.08	4.92	4.92	4.66	4.73	4.68	4.63	-0.01x+24.88	0.265
	70-74	4.2	4.7	4.8	4.72	4.73	3.745	3.85	3.955	0.021x-38.57	0.492
	75-79	3.26	3.21	3.62	3.85	3.63	2.725	2.86	2.995	0.027x-51.68	0.646
	80+	2.74	3.06	3.26	3.71	4.17	4.05	4.4	4.75	0.07x-137	0.978
	all ages	46.93	46.44	44	42.66	41.34	40.115	38.62	37.125	-0.299x+642.6	0.971

Table 5 Age and year wise average death burden of all death causes attributable to risk factor "tobacco smoking" in INDIA (excluding SHS)

Gender	Age in years	Estimated deaths(in '0000)					Projected Deaths(in '0000)			Linear trend line equation	R^2
		1990	1995	2000	2005	2010	2015	2020	2025		
Both	30-34	0.75	0.7	0.69	0.68	0.78	0.732	0.736	0.74	0.0008x-0.88	0.021
	35-39	1.32	1.29	1.37	1.48	1.53	1.18	1.24	1.3	0.012x-23	0.871
	40-44	2.7	2.9	2.93	3.1	3.4	3.49	3.65	3.81	0.032x-60.99	0.931
	45-49	3.9	3.99	4.68	4.7	5.2	5.09	5.42	5.75	0.066x-127.9	0.926
	50-54	6.35	6.29	6.45	7.7	8.8	8.69	9.32	9.95	0.126x-245.2	0.814
	55-59	8.47	9.27	9.38	9.98	13.1	12.285	13.28	14.275	0.199x-388.7	0.772
	60-64	10.72	11.64	11.7	11.68	14.89	13.505	14.34	15.175	0.167x-323	0.686
	65-69	10.85	12.09	12.63	13	15.3	15.34	16.32	17.3	0.196x-379.6	0.906
	70-74	8.28	9.3	10.05	11.11	14.3	14.855	16.24	17.625	0.277x-543.3	0.899
	75-79	4.85	5.71	6.58	7.58	9.78	9.21	10.38	11.55	0.234x-462.3	0.950
	80+	3.06	3.62	4.28	5.16	7.53	6.735	7.78	8.825	0.209x-414.4	0.896
	all ages	61.19	66.77	70.7	76.17	94.62	96.875	104.5	112.125	1.525x-2976	0.885
Male	30-34	0.65	0.61	0.61	0.62	0.73	0.695	0.712	0.729	0.0034x-6.165	0.280
	35-39	1.16	1.13	1.21	1.33	1.42	1.466	1.538	1.61	0.0144x-27.55	0.872
	40-44	2.25	2.46	2.6	2.83	3.1	2.465	2.67	2.875	0.041x-80.15	0.941
	45-49	3.41	3.5	4.1	4.17	4.66	4.145	4.46	4.775	0.063x-122.8	0.941
	50-54	5.19	5.15	5.35	6.57	7.55	6.23	6.84	7.45	0.122x-239.6	0.833
	55-59	6.83	7.38	7.47	8.03	10.72	9.42	10.26	11.1	0.168x-329.1	0.756
	60-64	8.96	9.5	9.4	9.2	11.71	11.36	11.88	12.4	0.104x-198.2	0.545
	65-69	8.89	9.76	10.1	10.35	11.9	11.78	12.44	13.1	0.132x-254.2	0.904
	70-74	6.85	7.62	8.07	8.54	10.9	10.3	11.2	12.1	0.180x-352.4	0.866
	75-79	4.02	4.81	5.54	6.31	8.17	8.74	9.72	10.7	0.196x-386.2	0.952

	80+	2.25	2.77	3.41	4.26	6.22	5.42	6.36	7.3	0.188x-373.4	0.918
	all ages	5.05	5.47	5.78	6.22	7.7	7.915	8.52	9.125	0.121x-235.9	0.879
Female	30-34	0.098	0.088	0.075	0.061	0.05	0.0371	0.0248	0.0125	-0.00246x+4.994	0.997
	35-39	0.159	0.158	0.155	0.145	0.11	0.1117	0.1006	0.0895	0.00222x+4.585	0.729
	40-44	0.45	0.42	0.34	0.27	0.32	0.237	0.196	0.155	-0.0082x+16.76	0.771
	45-49	0.45	0.5	0.59	0.54	0.56	0.606	0.632	0.658	0.0052x-9.872	0.569
	50-54	1.16	1.14	1.1	1.14	1.25	1.212	1.23	1.248	0.036x-60.42	0.259
	55-59	1.64	1.89	1.91	1.94	2.41	2.437	2.596	2.755	0.0318x-61.64	0.808
	60-64	1.76	2.14	2.35	2.48	3.18	3.354	3.672	3.99	0.0636x-124.8	0.925
	65-69	1.96	2.34	2.56	2.65	3.4	3.557	3.876	4.195	0.0638x-125	0.908
	70-74	1.43	1.68	1.98	2.57	3.43	3.767	4.256	4.745	0.0978x-193.3	0.934
	75-79	0.82	0.9	1.03	1.27	1.61	1.715	1.91	2.105	0.039x-76.87	0.929
	80+	0.81	0.85	0.87	0.89	1.31	1.262	1.366	1.47	0.0208x-40.65	0.639
	all ages	10.73	12.1	12.95	13.95	17.6	16.565	18.12	19.675	0.311x-610.1	0.902

Table 6 Age and year wise average death burden of all death causes attributable to risk factor "tobacco smoking" in INDIA (including SHS)

Gender	Age in years	Estimated deaths(in '0000)					Projected Deaths(in '0000)			Linear trend line equation	R^2
		1990	1995	2000	2005	2010	2015	2020	2025		
Both	0-5	7.42	7.09	5.61	4.31	3.02	3.135	1.98	0.825	-0.231x+468.6	0.972
	25-29	0.05	0.051	0.054	0.059	0.048	0.0542	0.0546	0.055	8E-05x-0.107	0.021
	30-34	0.81	0.77	0.76	0.757	0.85	0.7295	0.736	0.7425	0.0013x1.89	0.070
	35-39	1.37	1.35	1.45	1.57	1.6	1.674	1.742	1.81	0.0136x-25.73	0.894
	40-44	2.77	2.97	3.05	3.25	3.54	3.666	3.848	4.03	0.0364x-69.68	0.965
	45-49	3.96	4.11	4.84	4.88	5.36	4.965	5.32	5.675	0.071x-138.1	0.938
	50-54	6.52	6.49	6.67	7.97	9.04	8.55	9.2	9.85	0.130x-253.4	0.828
	55-59	8.66	9.53	9.69	10.34	13.45	11.905	12.94	13.975	0.207x-405.2	0.795
	60-64	11.02	12.04	12.15	12.15	15.27	14.78	15.64	16.5	0.172x-331.8	0.718
	65-69	11.18	12.53	13.15	13.58	15.74	15.545	16.56	17.575	0.203x-393.5	0.930
	70-74	8.58	9.69	10.54	11.67	14.75	14.59	16.02	17.45	0.286x-561.7	0.920
	75-79	5.09	6.02	6.98	8.04	10.17	9.745	16.02	17.45	0.243x-479.9	0.963
	80+	3.28	3.92	4.67	5.65	8	7.645	8.76	9.875	0.223x-441.7	0.917

	all ages	70.69	76.56	79.6	84.21	100.82	102.37	109.16	115.95	1.358x-2634	0.884
Male	0-5	3.85	3.67	2.89	2.22	1.54	0.979	0.372	0	-0.1214x+245.6	0.973
	25-29	0.03	0.029	0.032	0.036	0.033	0.2374	0.2392	0.241	0.00036x-0.488	0.563
	30-34	0.69	0.65	0.654	0.67	0.78	0.749	0.769	0.789	0.004x-7.311	0.351
	35-39	1.19	1.17	1.25	1.4	1.47	1.537	1.616	1.695	0.0158x-30.3	0.887
	40-44	2.29	2.5	2.67	2.92	3.18	3.38	3.6	3.82	0.044x-85.28	0.993
	45-49	3.47	3.56	4.18	4.27	4.75	4.275	4.6	4.925	0.065x-126.7	0.944
	50-54	5.28	5.26	5.47	6.73	7.72	8.005	8.64	9.275	0.127x-247.9	0.840
	55-59	6.94	7.54	7.65	8.25	10.9	9.68	10.54	11.4	0.172x-336.9	0.775
	60-64	9.15	9.74	9.62	9.5	11.95	11.205	11.74	12.275	0.107x-204.4	0.576
	65-69	9.08	10.02	10.38	10.7	12.19	12.57	13.26	13.95	0.148x-235.6	0.923
	70-74	7.02	7.84	8.34	8.85	11.12	11.06	11.98	12.9	0.184x-359.7	0.888
	75-79	4.16	4.98	5.77	6.57	8.39	9.015	10.02	11.025	0.201x-396	0.960
	80+	2.37	2.93	3.62	4.53	6.48	6.14	7.12	8.1	0.196x-388.8	0.929
	all ages	55.5	59.88	62.52	66.6	80.52	82.025	87.7	93.375	1.135x-2205	0.880
Female	0-5	3.57	3.42	2.72	2.09	1.48	1.35	0.8	0.25	-0.110x+223	0.971
	25-29	0.018	0.022	0.0221	0.0223	0.0151	0.01735	0.0168	0.01625	-0.00011x+0.239	0.072
	30-34	0.13	0.12	0.11	0.09	0.07	0.059	0.044	0.029	-0.003x+6.104	0.969
	35-39	0.18	0.19	0.19	0.184	0.13	0.1422	0.1316	0.121	-0.00212x+4.414	0.435
	40-44	0.49	0.46	0.39	0.33	0.37	0.289	0.252	0.215	-0.0074x+15.2	0.792
	45-49	0.5	0.56	0.67	0.61	0.61	0.671	0.698	0.725	0.0054x-10.21	0.450
	50-54	1.23	1.23	1.2	1.24	1.32	1.301	1.32	1.339	0.0038x-6.356	0.444
	55-59	1.72	2	2.04	2.09	2.52	2.587	2.756	2.925	0.0338x-65.52	0.862
	60-64	1.87	2.29	2.53	2.65	3.31	3.572	3.896	4.22	0.0648x-127	0.940
	65-69	2.09	2.52	2.78	2.88	3.56	3.79	4.12	4.45	0.066x-129.2	0.937
	70-74	1.56	1.85	2.2	2.82	3.63	3.63	4.14	4.65	0.102x-201.9	0.954
	75-79	0.93	1.04	1.21	1.47	1.78	1.929	2.142	2.355	0.0426x-83.91	0.963

	80+	0.91	0.99	1.05	1.12	1.52	1.525	1.66	1.795	0.027x-52.88	0.806
	all ages	15.19	16.68	17.1	17.6	20.3	19.13	20.24	21.35	0.222x-428.2	0.890

Table 7 Age and year wise DALYS of all causes attributable to risk factor "tobacco smoking" in INDIA (excluding SHS)

Gender	Age in years	Estimated deaths(in '0000)					Projected Deaths (in '0000)			Linear trend line equation	R^2
		1990	1995	2000	2005	2010	2015	2020	2025		
Both	30-34	49.77	47.53	47.23	47.3	55.14	52.15	53.2	54.25	0.210x-371	0.241
	35-39	81.45	80.6	85.08	91.48	96.23	98.12	102.16	106.2	0.808x-1530	0.905
	40-44	150.02	159.35	164.21	174.61	196.12	201.235	211.98	222.725	2.149x-4129	0.928
	45-49	178.7	186.99	218.43	224.98	253.14	268.055	286.74	305.425	3.737x-7262	0.960
	50-54	247.48	249.53	259.6	309.6	358.2	368.45	396.6	424.75	5.63x-10976	0.854
	55-59	281.4	308.6	315.7	338.7	449.8	449.07	485.76	522.45	7.338x-14337	0.789
	60-64	293.8	319.96	325	329.73	421.07	417.29	443.72	470.15	5.286x-10234	0.741
	65-69	244.68	272.82	286.67	297.93	352.18	363.03	387.04	411.05	4.802x-9313	0.917
	70-74	148.66	167.23	182.08	203.51	261.44	269.54	295.72	321.9	5.236x-10281	0.908
	75-79	66.88	78.91	91.34	106.25	137.13	145.34	162.12	178.9	3.356x-6617	0.952
	80+	23.88	28.08	33.08	39.72	57.68	58.76	66.68	74.6	1.584x-3133	0.896
	all ages	1766.7	1899.44	2008.4	2163.84	2638.15	2685.1	2885.8	3086.5	40.14x-78197	0.888
Male	30-34	43.06	41.33	41.7	42.46	50.79	47.265	48.92	50.575	0.331x-619.7	0.446
	35-39	71.23	70.35	74.86	81.61	88.02	89.44	93.92	98.4	0.896x-1716	0.895
	40-44	121.22	132.51	141.18	154.81	170.73	180.39	192.52	204.65	2.426x-4708	0.987
	45-49	156.68	162.31	189.01	196.16	221.13	234.825	251.1	267.375	3.255x-6324	0.958
	50-54	200.22	201.54	211.54	258.01	298.64	309.99	335.32	360.65	5.066x-9898	0.860
	55-59	225.81	244.15	248.78	268.26	360.74	357.185	386.58	415.975	5.879x-11489	0.764
	60-64	245.88	261.07	258.79	257.15	327.13	316.565	332.42	348.275	3.171x-6073	0.596
	65-69	200.66	220.12	228.26	236.02	272	278.565	294.42	310.275	3.171x-6111	0.913
	70-74	123.46	137.46	146.28	155.79	197.65	202.01	218.68	235.35	3.334x-6516	0.880
	75-79	55.76	66.72	77.27	88.43	114.47	121.73	135.64	149.55	2.782x-5484	0.953
	80+	17.78	21.67	26.55	33.02	47.82	50.42	57.56	64.7	1.428x-28.27	0.918
	all ages	1461.76	1559.22	1644.21	1771.69	2149.11	2186.1	2344.8	2503.5	31.74x-61770	0.883

Female	30-34	6.72	6.2	5.54	4.84	4.35	3.67	3.06	2.45	-0.122x+ 249.5	0.99 6
	35-39	10.22	10.25	10.22	9.87	8.22	9.595	9.16	8.725	-0.087x+ 184.9	0.62 9
	40-44	28.8	26.84	23.03	19.8	25.4	22.16	20.8	19.4	- 0.276x+57 8.3	0.39 3
	45-49	22.02	24.68	29.42	28.83	32.01	33.43	35.84	38.25	0.482x- 937.8	0.91 3
	50-54	47.25	47.81	48.05	51.6	59.55	58.505	61.34	64.175	0.567x- 1084	0.75 8
	55-59	55.55	64.47	66.89	70.5	89.1	90.93	98.24	105.55	1.462x- 2855	0.87 4
	60-64	47.93	58.89	66.21	72.6	93.93	99.71	110.2 8	120.85	2.114x- 4160	0.94 5
	65-69	44.02	52.7	58.41	61.91	80.18	83.45	91.6	99.75	1.63x-3201	0.92 2
	70-74	25.2	29.78	35.8	47.7	63.79	69.53	79.04	88.55	1.902x- 3763	0.93 6
	75-79	11.12	12.19	14.07	17.8	22.66	22.595	25.46	28.325	0.573x- 1132	0.92 7
	80+	6.11	6.42	6.53	6.71	9.86	7.925	8.7	9.475	0.155x- 304.4	0.63 6
	all ages	304.94	340.22	364.17	392.15	489.05	504.04 5	546.0 6	588.07 5	8.403x- 16428	0.90 5

Table 8 Age and year wise DALYS of all causes attributable to risk factor "tobacco smoking" in INDIA (including SHS)

Gender	Age in years	Estimated deaths(in '000000)					Projected Deaths(in '000000)			Linear trend line equation	R^2
		1990	1995	2000	2005	2010	2015	2020	2025		
Both	0-5	638.24	610.03	438.34	372.68	261.85	172	73	0	-19.8x+ 40069	0.965
	25-29	2.77	3.1	3.31	3.61	2.99	3.445	3.54	3.635	0.019x- 34.84	0.220
	30-34	53.46	51.42	51.33	51.75	58.93	55.975	57.1	58.225	0.225x- 397.4	0.306
	35-39	84.2	83.87	89.12	96.34	100.22	104.35	108.8	113.25	0.890x- 1689	0.926
	40-44	153.5	163.93	169.84	181.51	201.94	208.335	219.78	231.225	2.289x- 4404	0.952
	45-49	182.5	191.89	225.1	232.02	259.17	276.035	295.38	314.725	3.869x- 7520	0.963
	50-54	253.14	256.17	267.4	319.22	366.78	378.09	407.12	436.15	5.806x- 11321	0.866
	55-59	287.35	316.7	325.34	349.87	459.86	459.445	497.26	535.075	7.563x- 14780	0.808
	60-64	301.7	330.24	336.77	341.84	431.03	429.075	456.1	483.125	5.405x- 10462	0.767
	65-69	251.8	282.31	298	310.44	361.8	374.43	399.24	424.05	4.962x- 9624	0.937
	70-74	153.9	174.1	190.6	213.24	269.75	280.24	307.32	334.4	5.416x- 10633	0.925
	75-79	70.1	83.08	96.66	112.35	142.35	153.125	170.5	187.875	3.475x- 6849	0.963
	80+	25.58	30.31	35.97	43.32	61.09	64.2	72.6	81	1.68x- 3321	0.915
	all ages	2458.18	2577.1	2572.85	2628.19	2977.75	2961	3070	3179	21.8x- 40966	0.763

Male	0-5	331.3	315.94	249.61	192.01	133.63	99.3	47.4	0	-10.38x +21015	0.973
	25-29	1.66	1.76	1.96	2.23	2.04	1.09	1.21	1.33	0.024x-47.27	0.738
	30-34	45.3	43.6	44.16	45.23	53.4	50.54	52.32	54.1	0.356x-666.8	0.493
	35-39	72.78	72.12	77.1	84.43	90.62	92.385	97.18	101.975	0.959x-1840	0.909
	40-44	123.1	134.9	144.18	158.61	174.41	183.89	196.52	209.15	2.526x-4906	0.990
	45-49	158.8	164.9	192.57	200.13	224.96	239.265	256.02	272.775	3.351x-6513	0.961
	50-54	203.3	205.22	215.88	263.77	304.56	316.315	342.42	368.525	5.221x-10204	0.867
	55-59	229.4	248.86	254.41	275.03	367.3	364.585	394.78	424.975	6.039x-11804	0.779
	60-64	250.7	267.31	265.86	264.62	333.5	324.87	341.16	357.45	3.258x-6240	0.624
	65-69	204.9	225.74	234.94	243.53	278.1	285.245	301.66	318.075	3.283x-6330	0.932
	70-74	126.5	141.27	151.02	161.18	202.43	207.525	224.7	241.875	3.435x-6714	0.895
	75-79	57.54	69.1	80.25	91.9	117.45	125.78	140.04	154.3	2.852x-5621	0.961
	80+	18.7	22.85	28.11	34.98	49.68	52.215	59.62	67.025	1.481x-2932	0.929
	all ages	1823.8	1913.52	1940.04	2017.59	2332.05	2339.15	2451.2	2563.25	22.41x-42817	0.823
Female	0-5	306.94	294.1	233.81	180.68	128.22	87.745	40.66	0	-9.417x +19063	0.971
	25-29	1.12	1.33	1.4	1.38	0.94	1.54	1.51	1.48	-0.006x +13.63	0.061
	30-34	8.17	7.83	7.2	6.52	5.5	5.005	4.34	3.675	-0.133x+273	0.968
	35-39	11.42	11.75	12.03	11.9	9.6	11.865	11.52	11.175	-0.069x+150.9	0.305
	40-44	30.37	29.03	25.66	22.91	27.53	23.56	22.38	21.2	-0.236x+499.1	0.406
	45-49	23.74	27	32.51	31.9	34.22	37.755	40.34	42.925	0.517x-1004	0.881
	50-54	49.85	50.95	51.5	55.5	62.22	61.775	64.7	67.625	0.585x-1117	0.836
	55-59	57.98	67.8	70.9	74.8	92.6	94.86	102.48	110.1	1.524x-2976	0.902
	60-64	51	62.9	70.9	77.2	97.52	103.19	113.92	124.65	2.146x+4221	0.957
	65-69	46.9	56.57	63.1	66.9	83.74	88.2	96.6	105	1.68x-3297	0.947
	70-74	27.5	32.83	39.6	52.06	67.3	72.64	82.52	92.4	1.976x-3909	0.953
	75-79	12.5	14.02	16.42	20.5	24.9	26.375	29.5	32.625	0.625x-1233	0.960
	80+	6.9	7.46	7.9	8.35	11.4	9.755	10.74	11.725	0.197x-387.2	0.789
	all ages	634.4	663.6	632.81	610.6	645.7	627.88	624.84	621.8	-0.608x +1853	0.061

4 DESCRIPTION

Table 1 and 2 summarizes the data of risk factor smoking attributable death burden of all diseases and injuries in the World according to

age, sex and year along with projected values of deaths for the years 2015,2020 and 2025 by using linear trend lines with respective R-squared value of the fitted trend line. The only difference between two tables is effect of Second Hand Smoke. We haven't included the effect of Second Hand Smoke in data of Table 1 because of which ages below 30 are excluded from the same whereas in Table 2 we have included effects of Second Hand Smoke and ages below 30 affected by it. Table 3 and 4 summarizes the data of risk factor smoking attributable DALYs of all diseases and injuries in the World according to age, sex and year along with projected values of DALYs for the years 2015, 2020 and 2025 by using linear trend lines with respective R-squared value of the fitted trend line. The only difference between two tables is effect of Second Hand Smoke. We haven't included the effect of Second Hand Smoke in data of Table 3 because of which ages below 30 are excluded from the same whereas in Table 4 we have included effects of Second Hand Smoke and ages below 30 affected by it.

Table 5 and 6 summarizes the age, sex and years specific data of deaths attributable to smoking (of all diseases and injuries) in India along with projected values of deaths for the years 2015, 2020 and 2025 by using linear trend lines with respective R-squared value of the fitted trend line. The only difference between two tables is effect of Second Hand Smoke. We haven't included the effect of Second Hand Smoke in data of Table 5 because of which ages below 30 are excluded from the same whereas in Table 6 we have included effects of Second Hand Smoke and ages below 30 affected by it.

Table 7 and 8 summarizes the age, sex and years specific data of DALYs attributable to smoking (of all diseases and injuries) in India along with projected values of DALYs for the years 2015, 2020 and 2025 by using linear trend lines with respective R-squared value of the fitted trend line. The only difference between two tables is effect of Second Hand Smoke. We haven't included the effect of Second Hand Smoke in data of Table 7 because of which ages below 30 are excluded from the same whereas in Table 8 we have included effects of Second Hand Smoke and ages below 30 affected by it.

We have considered the past data of deaths and DALYs for the years 1990, 1995, 2000, 2005 and 2010. We have recreated the linear trend by selecting the past data in MS excel and created linear trend lines with respective R-squared values. The term trend implies a quantitative change over time which is used to project future values in a time series data. It is a useful tool which allows us to interpolate and extrapolate the data.

5 RESULTS

Results of Table 1 show that most reliable linear trend is of all ages with $R^2 = 0.983$ (value nearer to 1) and it can reliably predict future values of smoking attributable deaths in the world for years 2015, 2020 and 2025 excluding effects of SHS(second hand smoke). It shows an increasing pattern of deaths in both sexes followed by male and female respectively. In female between 30 to 34 years and more than 80 years reliable increases are found.

According to results of Table 2 we can observe decreasing trends in deaths of children of below 5 years of age. Reliable increase in deaths of people above 80 years of age is found along with combine age deaths. Similar patterns are found in deaths of male and female including effects of SHS.

According to results of Table 3 reliable increases are found in DALYs among people aged above 75 and in DALYs of people of combined ages (all ages). Similar patterns are found in DALYs of male. In case of DALYs in female reliable decrease is found in ages between 30 to 34 years along with reliable increase in all ages and age above 80 years. Effects of SHS are not included in results.

According to results from Table 4 reliable decrease is found in DALYs of children below 5 years and reliable increase in DALYs of people above 75 years. Similar patterns are found in DALYs of male and female. Combined DALYs of all ages have shown a reliable decrease under the effect of second hand smoke.

If we talk about results of Table 5 reliable increase is found in deaths of people between the ages 75 to 79 in India. According to male deaths in India reliable increases are found in male between the age of 40 to 49 years and 70 to 79 years. Reliable decrease is found in deaths of female of age between 30 to 34 years excluding effects of second hand smoke. Increasing patterns are found in deaths of

female of age above 80 years and combined deaths in all ages of female.

Table 6 have shown reliable decrease in deaths of children below 5 years of age and deaths in people of 40 to 44 years and 75 to 79 years of age. Similar patterns are found in male children and female children below 5 years of age. Male between 40 to 44 and 75 to 79 years of age have shown reliable increasing patterns of deaths. A reliable decreasing pattern of female deaths are found in 30 to 34 years of age. Increasing trends are found in deaths of female between ages 70 to 70 years.

According to results of Table 7 people between the age 45 to 49 years and 75 to 79 years of India have shown increasing patterns of DALYs. Reliable increasing patterns of DALYs are found in male between 40 to 49 and 75 to 79 years of age. Reliable decreasing pattern is found in DALYs of female between 30 to 34 years of age. Reliable increasing patterns are found in DALYs of female between 60 to 64 years of age.

According to results of Table 8 reliable decrease is found in DALYs of children below 5 years of age. Reliable increasing patterns are found in DALYs of Indian people between 40 to 49 and 75 to 79 years of age. Similar patterns are found in DALYs of male. Reliable decreases are found in DALYs of female between ages 30 to 34 and of female children below 5 years of age. Reliable increases are found in DALYs of female between 60 to 79 years of age.

6 LIMITATIONS

Detailed information is lacking on the mechanism of estimated deaths and DALYs of the Word and India including correlating factors. Due to which advanced predicting analysis techniques are not feasible to apply in the given data sets of mortality. Linear trend analysis therefore used for future mortality projection in the present study. Linear trends are not always reliable to predict future therefore only those are considered reliable which have higher R squared values.

7 CONCLUSION

Risk factor smoking is associated with variety of death causes. It ignites the causal effect and results in death. Medicinal science says if a person leaves the tobacco consumption today he/she will be out of the risk of tobacco attributable morbidity and mortality only after 20 years of today (Quitting day). Due to only recent successes of tobacco control programs we definitely find decreasing patterns of consumption of tobacco but still we don't get decreased trend in mortality (deaths) and morbidity (DALYs). Due to significant decrease in smoking we found decreased patterns of deaths and DALYs in children and female as they get less affected by Second Hand Smoke (Environmental Tobacco Smoke attributable to smoking).

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