CHAPTER-4

HEALTH CARE, HEALTH AND DISEASES IN INDIA

4.1 Introduction

An attempt has been made in this chapter to develop understanding on the Indian health care system, its utilization and health status in the country. Information on basic health amenities such as housing condition, electricity, toilet facility, types of cooking fuel etcetera have been presented. Information on some of the health parameters such as fertility rate, family planning, marital status, infant mortality rate, maternal health, information on nutrition status of children and women, and prevalence of diseases have also been discussed. Besides, a section dealing with women empowerment and domestic violence on women has been incorporated in the chapter to develop better understanding on overall health status in the country. The exercise is primarily based on secondary sources of data, particularly derived from the National Family Health Survey (NFHS) - 4, India - 2015-16. However, depending on the requirement other secondary sources have also been used.

4.2 Health Care Services

Health care services are the crux of the human health and development of the country. A health care service is also the indicator of health status of the people. Health care services are unevenly distributed in all parts of the World. According to the Rural Health Statistics in India Report (2012), the health care system is a three tier system or operates at three levels following a specific population norm.

Figure – 4.1 : Three Tier Health Care System - India

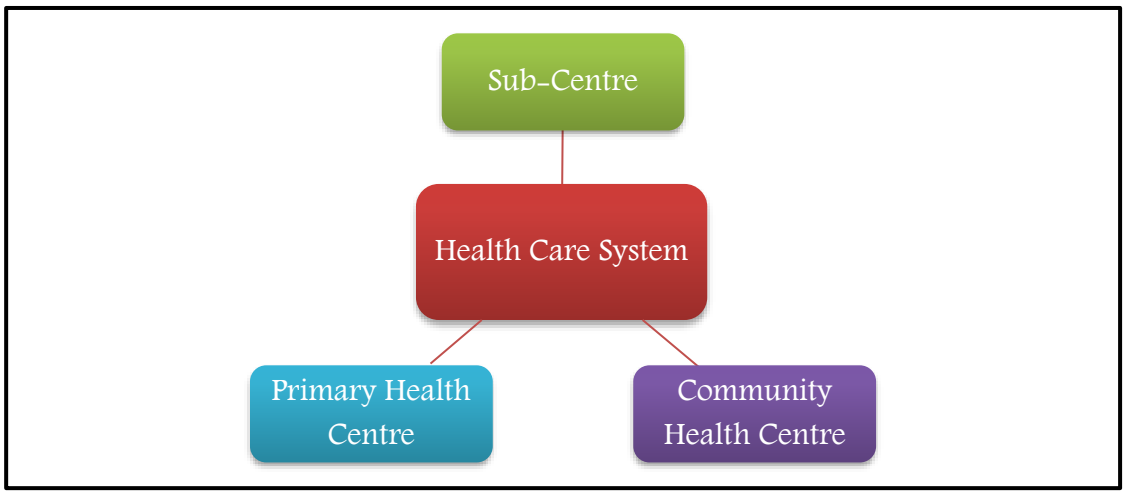


Table – 4.1 : Types of Health Centres in India

Type of Health Centre	Population	
	Plain Area	Hilly/Tribal/Difficult Area
Sub-centre	5000	3000
Primary Health Centre	30,000	20,000
Community Health Centre	1,20,000	80,000

Source: Rural Health Statistics in India Report,2012.

The Sub-Centre is the first contact point between the primary health care system and the community. According to the Rural Health Infrastructure -National Norms, a Sub-Centre is supposed to cater to 3,000 persons in the hilly/tribal areas and 5,000 persons in the plain areas. But in practice, an average of 5,615 persons is covered by each Sub-Centre in the country. Although the exact average radial distance is not defined in the norm, in practice an average of 2.59 kms. of radial distance is covered by a Sub-Centre in the rural areas. On an average, four villages are covered by each Sub-Centre. Each Sub-Centre has one Auxiliary Nurse Midwife (ANM)/Female Health Worker and one Male Health Worker. The main work of a Sub-Centre is related to maternal and child health, family welfare, nutrition, immunization, diarrhoea and communicable diseases programmes. The Sub-Centre is supposed to be equipped with the basic drugs for minor ailment and for taking care of essential health needs. There are 1,48,366 Sub-Centres in India of which 7,274 (4.90%) are in Gujarat (2011).

Primary Health Centre (PHC) is the first contact point between the community and the Medical Officer. It is an integrated curative and preventive health care centre for the rural population. The PHCs are established and maintained by the State Government under the Minimum Needs Programme (MNP)/Basic Minimum Services (BMS) Programme. A PHC is supposed to cater to the needs of 20,000 population in hilly/tribal areas, 30,000 population in the plain areas, but the average coverage is generally more (34,641) than the prescribed population. There are six Sub-Centres under one PHC in the hilly/tribal areas. On an average six Sub-Centres also work under a PHC in the plain areas although no such number have been specifically mentioned in the norm. Similarly, nothing has been specified with respect to the average radial distance to be covered by a PHC, but on an average one PHC covers a radial distance of 6.42 kms. in rural areas of the country. An average number

of 27 villages are covered by each PHC. There has to be one Medical Officer supported by 14 paramedical and other staff. There is a provision for two additional Staff Nurses at the PHC on contract basis. It is the referral unit for 6 Sub-Centres and has four to six beds for patients. The activities of PHC involve curative, preventive, promotive and Family Welfare Services. There are 24,049 PHCs in India and Gujarat has 1,158 (4.81%) of them (2011).

Table – 4.2 : Rural Health Infrastructure –National Norms

Health Infrastructure	Hill/Tribal Area	Plain Area	Average Coverage
Population Covered (2011)			
Sub centre	5000	3000	5615
PHCs	30000	20000	34641
CHCs	120000	80000	172375
Number of Centres			
Number of Sub–Centre per PHCs	6	-	6
Number of PHCs per CHCs	4	-	5
Rural Population (2011)			
HW (F) (at sub –centre and PHCs)	5000	3000	4500
HW (M) (at Sub-centres and PHCs)	5000	3000	16112
Ratio of HA (M) at PHCs to HW (M) at Sub-centres	1:6	-	1:3
Ratio of HA (F) at PHCs to HW (F) at Sub-centres and PHCs	1:6	-	1:11
Average Rural Area (Sq. Kms.)			
Sub Centre	-	-	21.02
PHC	-	-	129.66
CHC	-	-	645.21
Average Radial Distance (Kms.)			
Sub Centre	-	-	2.59
PHC	-	-	6.42
CHC	-	-	14.33
Average Number of Villages Covered			
Sub Centre	-	-	4
PHC	-	-	27
CHC	-	-	133

Source: Rural Health Statistics in India 2012 Report.

Community Health Centres (CHCs) are established and maintained by the State Government under MNP/BMS programme. A CHC is at the apex of the three tier health care system with the prescribed number of PHCs and Sub-Centres under it. It is designed to cater to a population of 80,000 in hilly/plain areas and 1,20,000 in the

plain areas, but average coverage is much more (172,375 persons). There are four PHCs under one CHC in the hilly/tribal areas. However, for the plain areas no specific number of PHCs has been specified, although in practice there are four to five PHCs under one CHC. The average radial distance to be covered by a CHC is not specified. But the CHCs in rural India cater to around 133 villages within an average radial distance of 14.22 kms. The CHCs have positions of four medical specialists, such as, a surgeon, a physician, a gynaecologist and a paediatrician. These specialists are supported by 21 paramedical and other staff. It has 30 indoor beds with an operation theatre, X-ray facility, a labour room and laboratory facilities. It serves as a referral centre for four PHCs. There are 4,833 CHCs in India and Gujarat has 318 (6.58%) of them (2011).

Integrated Child Development Services (ICDS) (1975) is executed by *Anganwadi* Centres (AWCs) and gives information on health, nutrition and education services for children up to six years of age and health services to pregnant and lactating mothers. Around fifty (53.6%) per cent of the children below 71 months, received services like, food supplements (48.1%), immunization (39.8%), health check-ups (39.7%), early childhood/pre-school care (38.2%) and were weighed (43.3%). Two-third (64.1%) of the mothers received counselling from an AWC after child was weighed (NFHS-4,285).

4.3 Utilization of Health Care Services

Dependence of households on the public sector health facilities in the country is relatively less (44.9%), without much of variation between rural (46.4%) and urban (42.0%) areas. The Government sector health facilities are rendered by Government/Municipal hospitals (20.4%), *Vaidhya/Hakim*/Homeopathy (AYUSH) (0.2%) specialists, Government dispensaries (1.7%), CHC/rural hospitals (11.0%), PHCs (8.9%), Sub-Centres (0.2%) etcetera. More than half (51.4%) the households (56.1 % in Urban and 42.0 % in rural) in the country use private health sector such as, private hospital (18.7%), private doctor/clinic (29.2%), *Vaidhya/Hakim/Homeopathy* (AYUSH) (0.3%), traditional healer (0.4%), pharmacy/drug store (0.9%) and other private sector (1.0 %). Lesser use of Government health facilities has been ascribed to distance (44.6%), timing (26.4%), absence of health staff (14.8%), waiting time (40.9%), and quality of service (48.1%). Non use of the Government health care

services happens to be extremely high in the states of Uttar Pradesh (80%), Bihar (77.6%), Punjab (72.9%) and Jharkhand (71.6%) (NFHS-4, 374).

4.4 Basic Amenities

Without availability of the basic amenities, whether it is in rural or in urban area, it is difficult to expect optimum utilisation of the existing health care facility in an area. These basic amenities include roads, educational institution, hospitals, electricity, water supply etcetera which will enhance not only the health of the population but also its quality of life. This section is devoted to discuss the availability and utilisation of some of the basic amenities in the country.

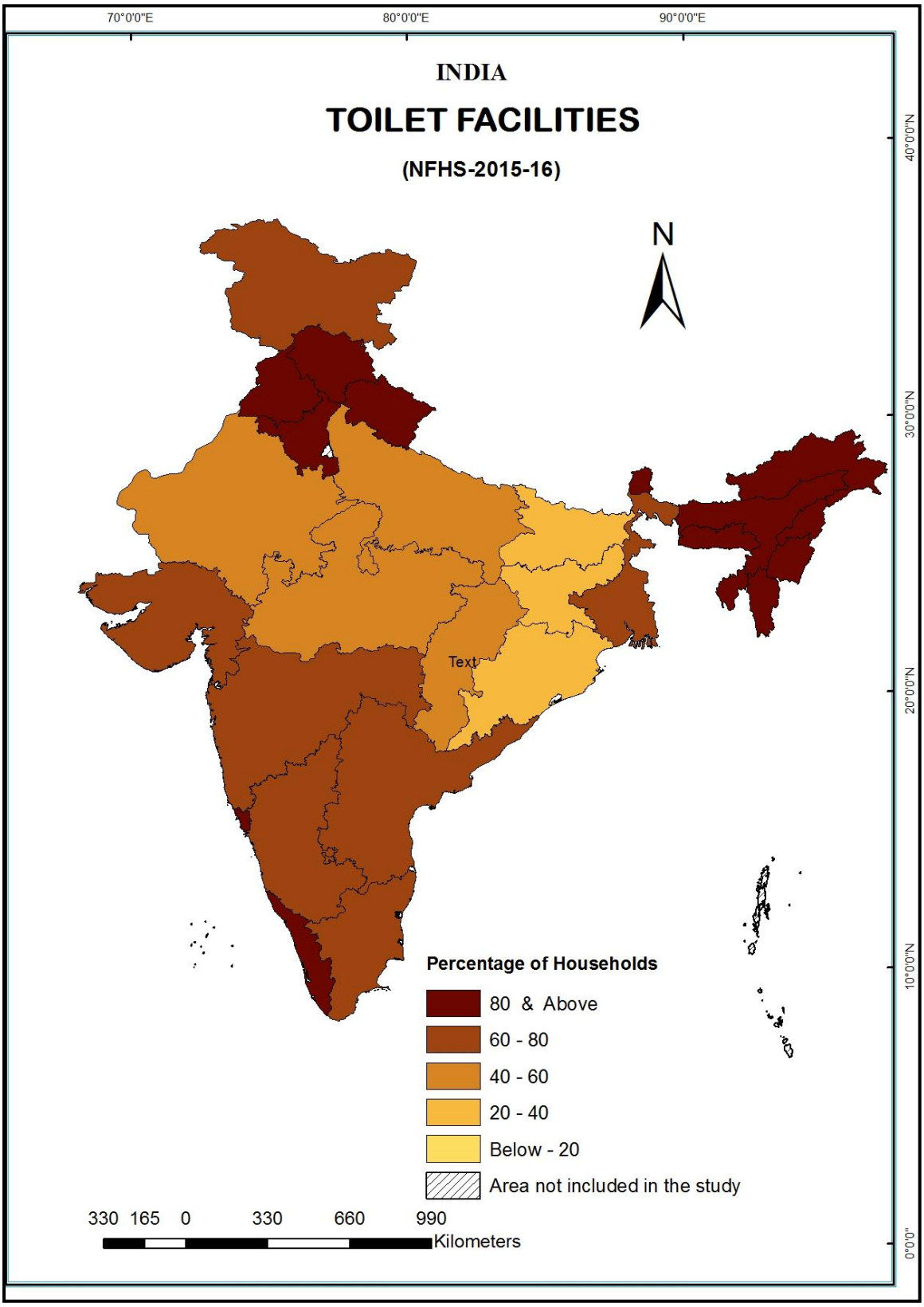
4.4.1 Drinking Water Facility

Based on the socio-economic parameters, the NFHS-4 (2015-16) has arrived at an estimate that around 90 (89.90%) per cent of households in the country has access to improved sources of drinking water with minor variation between urban (91.1%) and rural (89.3%) areas. Among the states and union territories, Chandigarh (99.5%), Sikkim (97.6%), Goa (96.0%) and Maharashtra (91.5%) have the highest percentage of households with access to safe drinking water, while the households of Manipur (41.6%) and Meghalaya (67.9%) are very poorly served with the facility. The main source of improved drinking water is supply through pipes into dwelling/yard/plot. The country has only 30.20 per cent of households with this facility, wherein the rural (18.40 %) and urban (52.10%) variation is very high. Drinking water is available through other sources including public taps/stand pipes, tube/bore well and unimproved sources in different parts of the country. These sources cater to 15.9, 39.2, and 9.9 per cent of households respectively. While there is not much of difference between the rural and urban areas with respect to the provision of public taps/stand pipes (16.9 % in urban and 15.3 % in rural areas) and unimproved sources (8.7 % in urban and 10.6 % rural areas), the variation with respect to tube/bore well (17.4 % in urban and 50% in rural) is highly prominent. The main unimproved water sources includes unprotected dug well (4.2%), unprotected spring (0.4%), tanker/truck/cart with small tank (1.5%), surface water (0.5%) etcetera (NFHS-4, 14 & 28).

4.4.2 Toilet Facility

Availability of proper defecation facility is one of the most important aspects of sanitation and human health. Defecation facility in any form within the house is not only poor but also spatially highly uneven in India even after seven decades of Independence. Less than one-third of the country's population has access to toilet facility. Of which, around half (48.4%) of the households have improved unshared toilets, around ten (9.1%) per cent use improved shared toilets and a small proportion (3.3%) has unimproved toilet facility. The remaining population amounting to around 40 (38.9%) do not have any such facility and go for open defecation. Deficiency in the improved and unshared toilet facility is much more acute in the rural areas (36.7%) in comparison to the urban areas (70.3%) of the country. Of the two types of improved and unshared toilet facility within the house premises, less than ten (7.8%) per cent have flush/pour flush to piped sewer system (19.8% in urban and 1.4% in rural), and around 30 (28.7%) per cent have flush/pour flush to piped pit latrine (41.1% in urban and 22.1 % in rural). While improved shared toilet facility displays wide variation between urban and rural areas (14.9% in urban and 6.1 % in rural), unimproved shared toilet facility (3.3%) does not show any variation across the two (3.7% in urban and 3.1% in rural). Majority of the rural households (54.1%) are deprived of any kind of toilet facility within the house premises and thus use open defection. Such households account for about ten (10.5%) per cent of the urban households of the country. However, regional variation in the access to toilet facility within the house premises is quite pronounced. While almost all the households of Lakshadweep (100%), Sikkim (99.7%), Kerala (99.2%) and Mizoram (99.1) have the facility within their premises, the share of such households in Jharkhand (30.0%), Bihar (33.5%), Odisha (35%), Chhattisgarh (41.3%), Madhya Pradesh (42.8%) and Uttar Pradesh (45.8%) is miserably low (NFHS-4, 28 – 29 and Map-4.1).

Map-4.1


70°0'0"E
80°0'0"E
90°0'0"E
40°0'0"N
30°0'0"N
20°0'0"N
10°0'0"N
0°0'0"
INDIA
TOILET FACILITIES
(NFHS-2015-16)
N
Text
Percentage of Households
80 & Above
60 - 80
40 - 60
20 - 40
Below - 20
Area not included in the study
330 165 0 330 660 990
Kilometers

4.4.3 Housing Condition:

Condition of the house affects human health in many ways. Under Indian conditions, particularly in the tropical and sub-tropical areas of the country, houses with concretized or *pucca* structures provide the most favoured conditions for living. According to the NFHS-4 (28-29) study, slightly more than half of the houses (56.4%) in India are made up of solid materials. Although the share of such houses in the urban areas (84.5%) is relatively satisfactory, rural India is much behind (41.3%) in the matter. Rather, higher proportion of houses in the rural areas (46.9%) is semi-*pucca* or is made up of mixed materials. Such houses in the urban areas of the country being low (12.5%), the all-India average touches a proportion equal to around two-third (34.9%) of all houses. Nevertheless, a substantial segment of the country's population is still living in *kuchha* accommodations or dwellings made up materials available in the immediate surroundings like mud, straw, wood and cane etcetera. Such dwellings account for 5.6 per cent of all houses in the country and are mostly common to the rural (8.1%) rather than the urban (0.9%) areas. A perusal of the regional picture in the matter places Lakshadweep (97.5%), Chandigarh (94.2%), Daman & Diu (92.9%) and Delhi (90.4%) at the top most position with a very large proportion *pucca* houses. On the other hand, the states of Manipur (17.7%), Arunachal Pradesh (23.9%), Assam (25.2%), Bihar (25.9%) and Tripura (26.6%) are lagging much behind with small proportions of *pucca* houses (NFHS-4, 28-29).

4.4.4 Electricity Connection

India has made rapid progress in giving electricity connection to individual houses. Latest data pertaining to it puts the figure at about 90 (88.2%) at the National level. Connection of electricity to urban houses (97.5%) is almost complete, as compared to houses in the villages (83.2%) of the country. States and union territories with fully complete or proportion of houses higher than the National average are Daman & Diu (100%), Chandigarh (99.6%) and the National Capital of Delhi (99.8). The state of Gujarat is positioned very close to the National average with 96 per cent electrified houses. At the bottom of the ladder one finds the states of Bihar (58.6%) and Assam (78.2%) (NFHS-4, 28-29).

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4.4.5 Kitchen and Cooking Fuel

Separate space within the premises of the house and type of fuel used for cooking purposes affect the health of particularly the women members of the family. Around two-third (64.3%) of urban houses and two-fifth (40.9%) of the rural houses have a separate space in the house devoted for cooking purposes, placing the National average of such houses at about 50 (49.0%) per cent.

The types of fuel used for cooking is LPG/natural gas (42.3%), which is higher in the urban (78.3%) than the rural households (23%). Around two-fifth (40.5%)of the households use Wood (12% is in urban and 55.7 % in rural households). Less than 10 per cent (7.2%) of the households in the country use dung cakes, charcoal, kerosene, agriculture crop waste etcetera. On the whole, the proportion of households (43.8%) using clean fuel which includes electricity, LPG/natural gas and biogas, is yet to cross the 50 per cent mark in the country, and varies enormously between urban (80.6%) and rural (24.0%) households. Rather, use of all solid fuels (coal/lignite, charcoal, wood, straw/shrubs/grass, agricultural crop waste and dung cakes) taken together account for a higher (54.7%) proportion of households in the country. Proportion of solid fuel using households is much higher in the rural (75.2%) areas in comparison to the urban (16.4%) areas. Solid fuel use is very high in the states of Bihar (81.9%) and Jharkhand (80.6%) and very low in Delhi (1.6%) and Chandigarh (4.1%) (NFHS – 4, 28-29).

4.5 Health Parameters

There are many indicators of the status of health of a population. The most widely used health parameters include Total Fertility Rate (TFR), life expectancy, Infant Mortality Rate (IMR), Maternal Mortality Rate (MMR), prevalence rate of diabetes, asthma and anaemia, smoking habit, alcohol consumption, health care delivery and health policy etcetera. An attempt is made in the following paragraphs to analyze the statistics relating to some of these parameters and try to understand the status of health in the country.

4.5.1 Total Fertility Rate (TFR)

According to the NFHS -4, TFR of women in the age group of 15 to 49 years is 2.2 children per women, with minor variation between rural (2.4) and urban (1.8)

areas. TFR has been declining in the country. It was 2.7 during 2005-06, and has come down to 2.2 by 2015-16. TFR is found to be closely associated with level of education, religion, caste/tribe and wealth index etcetera. Amongst the states and union territories the highest TFR is recorded in Bihar (3.4), Meghalaya (3.0), Nagaland (2.7), Uttar Pradesh (2.7) and lowest in Sikkim (1.2), Andaman & Nicobar Island (1.4) (NFHS- 4, 91).

4.5.2 Menstrual Protection

Menstrual protection is another important aspect of women health. Slightly less than 60 (57.6%) per cent of women use hygienic methods of menstrual protection (77.5% in urban and 48.2% in rural areas). The use of hygienic methods varies according to the level of education, religion and caste/tribe back ground, and wealth index (NFHS-4, 98).

4.5.3 Family Planning

India was the first developing country to adopt National Programme for Family Planning in 1952. Aims of the programme were to lower fertility rate and reduce population growth in the country. During the early 1970s, Government of India launched forced male sterilization programme but could not achieve success. Over the years, National Family Planning Programme has undergone many changes and new and modified policies have been introduced like, the National Health Policy (1983), the National Population Policy (2000) and the National Rural Health Mission (2005) etcetera.(https://mohfw.gov.in/sites/default/files/563244556321563232l4.pdf).

Since then the country has achieved significantly in this direction. On an average the median birth interval in the country has reached 32.0 months. Among women of all ages excluding girls below the age of 15, a very significant proportion (97.8%) and almost all (99.6%) currently married women of 15 to 49 years have the knowledge of any type of contraception method. Similar is the situation among their male counterparts (97.9% and 98.9% respectively). Despite the knowledge of contraception, its use is however not so universal. Only around half (53.5%) of the currently married women in the 15 to 49 years age group use any kind of contraception and still a smaller proportion (47.5%) use of any modern method. From among the modern methods, tubectomy or female sterilization (36%) is the most commonly used method of contraception followed by the use of condoms (5.6%),

pills (4.1%), Intra uterine Device (IUD) or Postpartum Intrauterine Device (PPIUD) (1.5%) and vasectomy or male sterilization (0.3%).

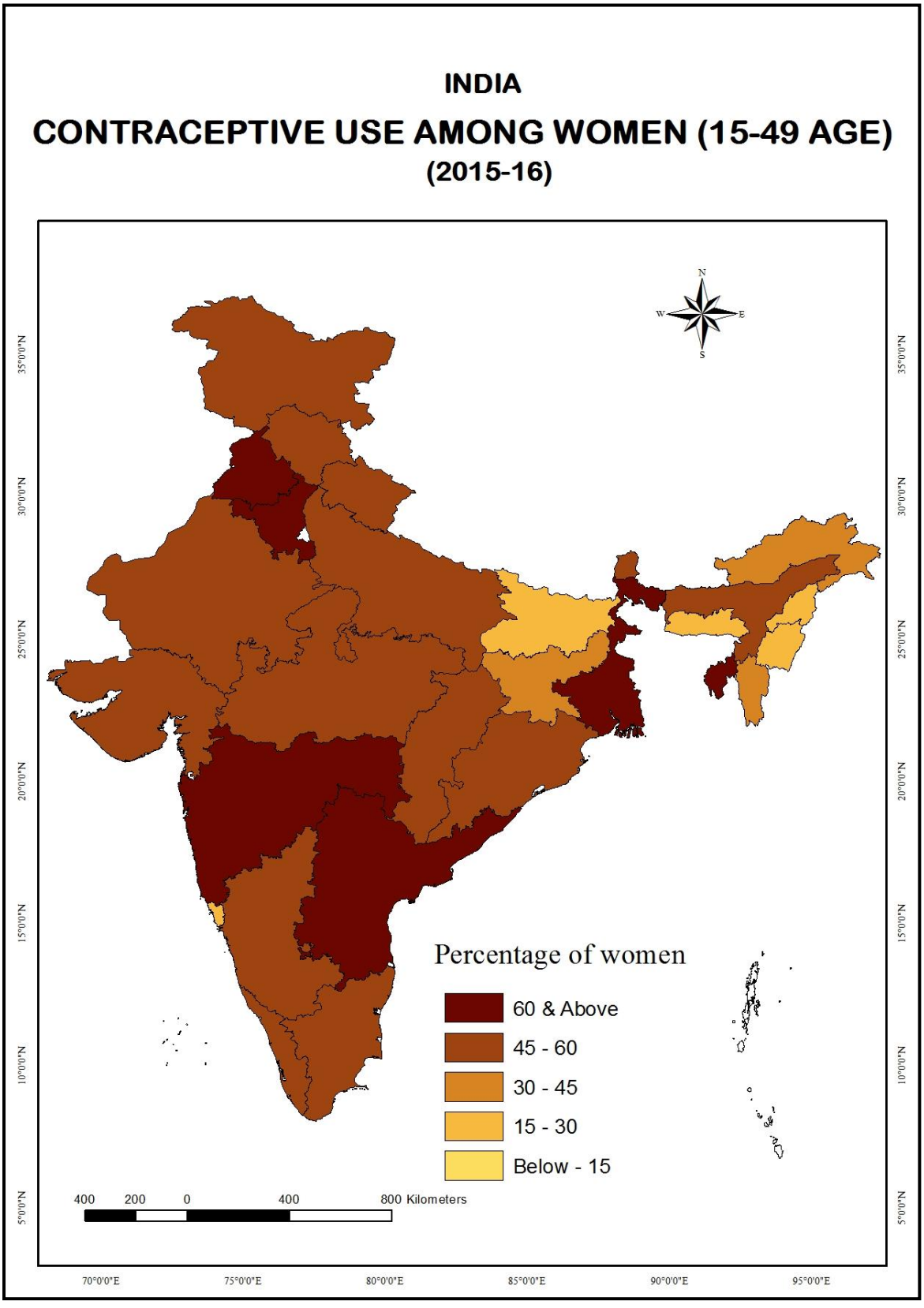
Among the states and union territories, use of contraception (any method) in currently married women of (15 to 49 years) is the highest in Punjab (75.8%), West Bengal (70.9%), Andhra Pradesh (69.5%), moderate use of contraception seen in the states of Gujarat (46.5%), Chhattisgarh (57.7%), Karnataka (51.3%) etcetera and the lowest in Manipur (23.6%), Bihar (24%), Meghalaya (24.3%) etcetera (NFHS-4, 125-126 Map - 4.2).

In urban areas, use of modern contraception in currently married women of 15 to 49 years is the highest in Andhra Pradesh (68.1%), Punjab (65.3%) and Maharashtra (60.7%) states and lowest in Manipur (12.9%), Arunachal Pradesh (23.5%) and Nagaland (25.5%) States (NFHS-4, 122-124)

Male sterilization is the highest in Sikkim (3.4 %) and Himachal Pradesh (2.4%) and the lowest in Wes Bengal (0.1%), Assam (0.1%) and Meghalaya (0.1%). Pill use is the highest in Tripura (26.3%), Assam (22.1%), West Bengal (20.0%) and Jammu & Kashmir (6.45). Use of condoms is the highest in Chandigarh (27.3%), Delhi (20.0%), Punjab (18.9%) and the lowest in Bihar (1.0%), Manipur (1.3%), Meghalaya (1.3%), Assam (1.3%) and Mizoram (1.3%). A small proportion of currently married women in Chhattisgarh (0.4%) and Assam (0.3%) use Lactational Amenorrhoea Method (LAM) (NFHS-4, 119 & 122).

Majority (69.4%) of the currently married women in the age group of 15 to 49 years of age obtain the modern contraceptives from public health sector agencies like, Government hospitals including PHCs/Additional PHCs, dispensaries, CHCs, rural hospitals, Sub-Centres/ANMs, mobile clinics, camps, *Aganwadis*/ICDS Centres, ASHA and other community based workers and other public health sector units, and *Vaidhyas/Hakims*/Homeopaths (AYUSH). A significant proportion (23.9%) of such women, avail the facility from the private sector units such as, hospitals, doctors/clinics, mobile clinics, *Vaidhyas/Hakims/*Homeopaths (AYUSH), traditional healers, pharmacists/drug stores, *Dais* (TBA) and others. Other sources include shops, husband and friends/relatives (6.2%) and NGOs or trust hospitals/clinics (4.4%) (NFHS-4, 138).

Map-4.2


INDIA
CONTRACEPTIVE USE AMONG WOMEN (15-49 AGE)
(2015-16)
N
W
E
S
Percentage of women
60 & Above
45 - 60
30 - 45
15 - 30
Below - 15
400 200 0 400 800 Kilometers
35°0'0"N
30°0'0"N
25°0'0"N
20°0'0"N
15°0'0"N
10°0'0"N
5°0'0"N
70°0'0"E
75°0'0"E
80°0'0"E
85°0'0"E
90°0'0"E
95°0'0"E

4.5.4 Marital Status

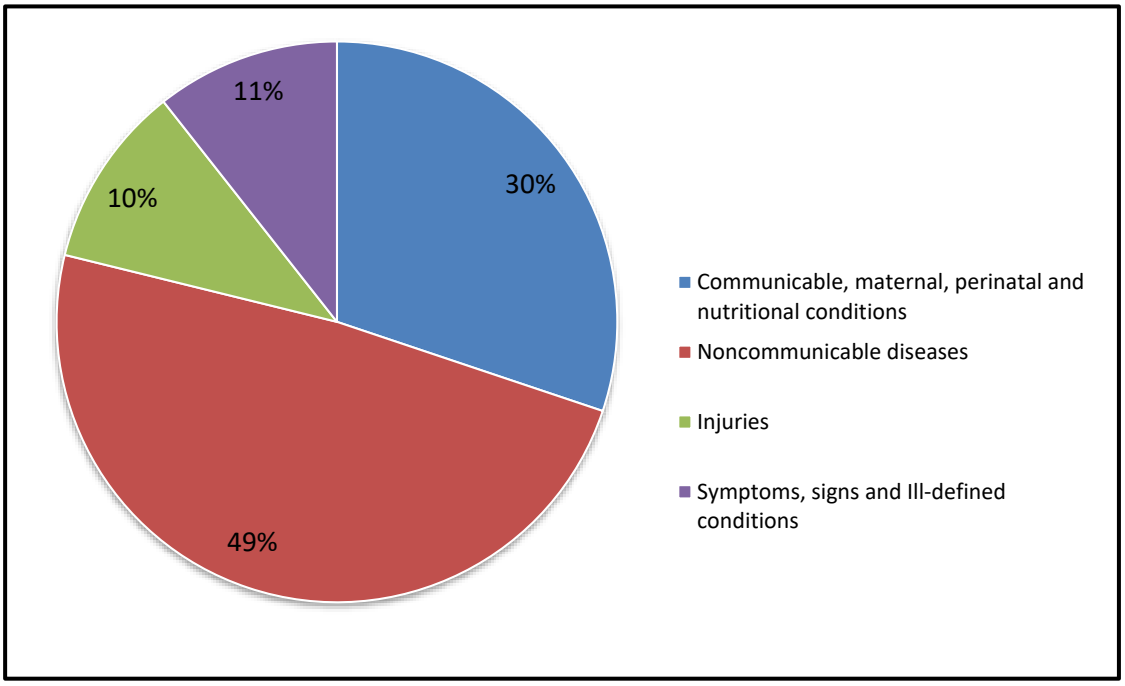
The median age at marriage in India is 19 years for women and 24.5 years for men. Generally, women are married off at a much younger age in comparison to men. Age at marriage is very closely related to some of the social parameters like, gender, years of schooling and social background including religion. There is wide gender gap between the male and female literacy (Brahmapurkar, 2017) and the age at marriage displays wide spatial variations on the basis of these.

The NFHS-4, 2015-16 has recorded around three-fourth (73.1%) of women as currently married, one-fifth (22.5%) as never married,0.3 per cent as married but *gauna* (*gauna* is performed in northern Indian custom and ceremony is related with the consummation of marriage. The ceremony takes place after several years of marriage.) ispending,3.1 per cent of women are widowed, 0.3 per cent are divorced, 0.6 per cent are separated and 0.2 per cent are deserted. Among men, percentage of currently married (63.1%) is less than among women, 35.2 per cent are never married,0.2 per cent married but *gauna* not yet performed, 0.7 per cent are widowed,0.3 per cent are divorced, 0.3 per cent are separated and 00.1 per cent are deserted (NFHS-4, 163).

4.5.5 Mortality

As per the study conducted by Sample Registration System on the causes of death for the period of 2007-2013, while non-communicable type of diseases have caused almost half (49%) of the deaths in the country, and communicable diseases account for about a third (30%) of them. The remaining deaths are caused due to maternal, perinatal and nutrition conditions and other ill defined causes (11%) and injuries (10%) (Fig. 4.2).

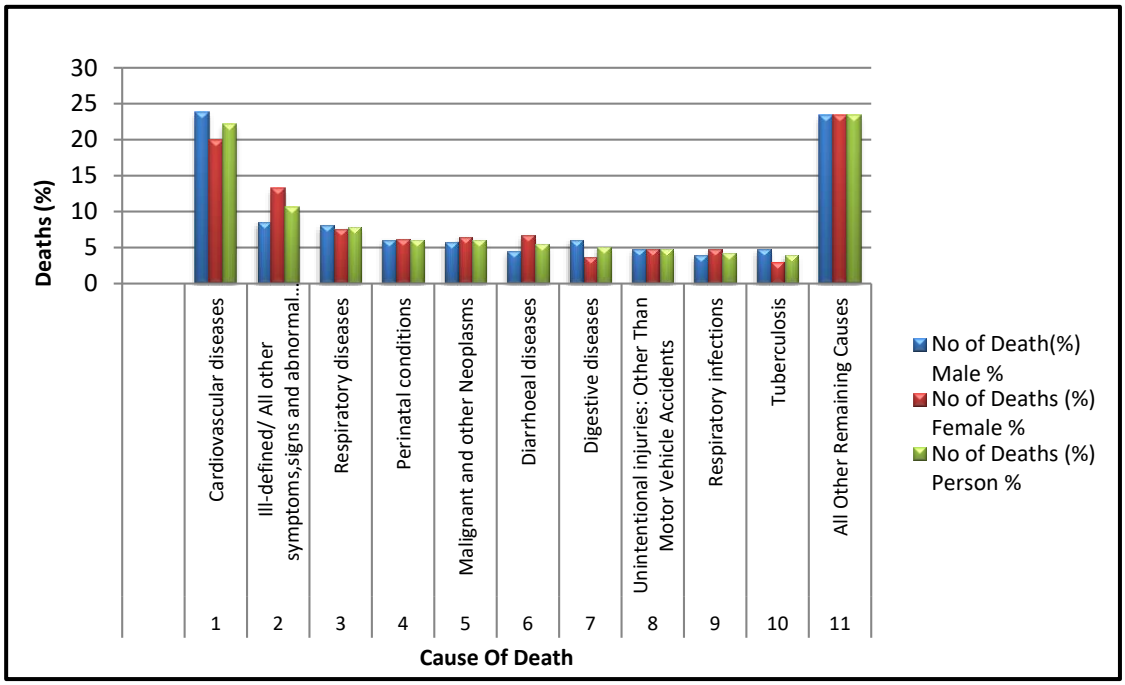
Figure- 4.2 : Deaths by Major Group of Causes (2007-2013)



Source: Causes of Death 2007-2013, Sample Registration System.

A perusal of Figure 4.3 indicates that the maximum proportion of deaths (22.2%) occur in the country due to cardiovascular diseases, which is relatively more (23.9%) among men in comparison to women (20%). It is worth noting that a significant proportion (10.6%) of the deaths is caused by diseases which are not properly defined. Similarly, causes which are generally not common and grouped under 'all other remaining causes', also accounts for a very high (23.4%) proportion of the deaths in the country. All other diseases causing deaths account for by and large similar percentages of deaths with minor variations. However, it is clearly evident that taken together, cardiovascular (22.2%) and respiratory (7.9%) diseases claim a large (30.1%) share of the deaths in the country. It is also clear that relatively higher proportions of the males become the victims of these two diseases.

Figure -4.3 : Specific Causes of Death (2007-2013)



Source: Causes of Death 2007-2013, Sample Registration System.

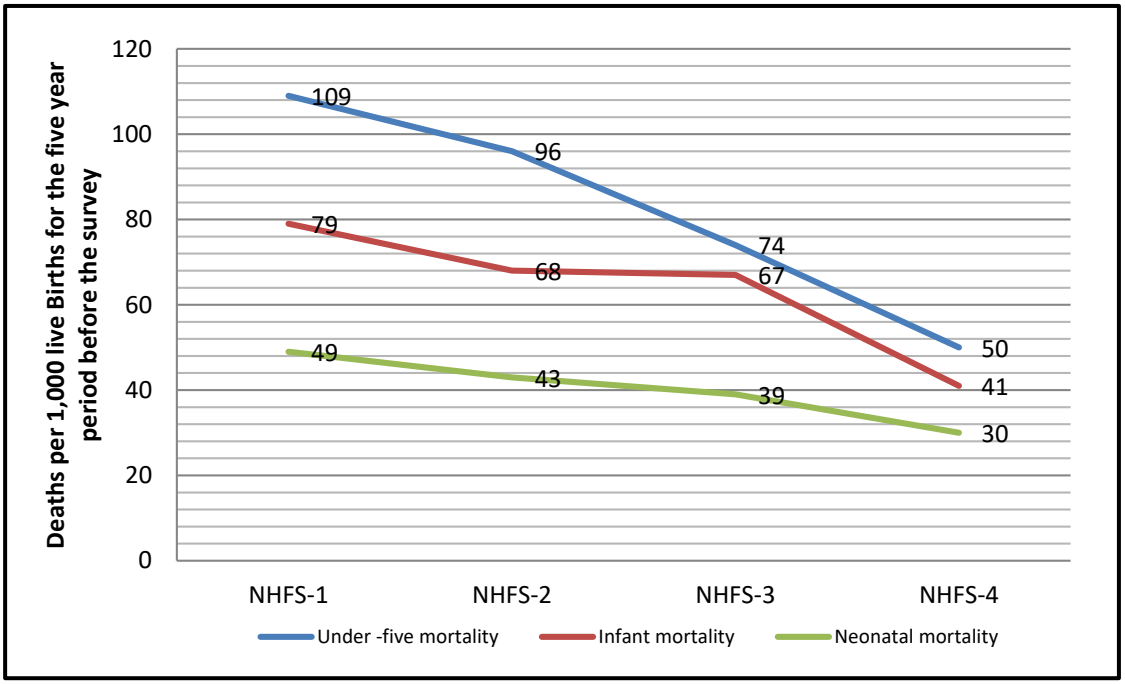
4.5.6 Infant Mortality

Infant mortality is one of the most important indicators of socio-economic development, status of health, public health conditions (Sharma,2018).

Mortality of children below the age of one year is expressed in different ways. Deaths within the first month, the first month of life and the first birthday, between birth and the first birthday, and the first birth day and fifth birthday of life and are expressed as neonatal mortality, post neonatal mortality, infant mortality and under-five child mortality respectively (NFHS-4,184). Death comprising still births and early neonatal deaths per 1,000 pregnancies are expressed as perinatal mortality. Perinatal mortality rate of India is 36.0 deaths 1,000 pregnancies. The NFHS records from 1992-93 demonstrate a steady decline in all types of child mortality in the country (Fig.-4.4). For example, infant mortality declined from 79 deaths to 41 deaths per 1,000 live births between 1992-93 and 2015-16. Similarly, decline in neonatal mortality and under-five mortality has been from 49 deaths to 30 deaths and 109 deaths to 50 deaths per 1,000 live births respectively. Perinatal mortality in the country was the highest in Uttar Pradesh (56.4), Chandigarh (48.7), Chhattisgarh (48.2) and the lowest in Kerala (8.4) and Dadra & Nagar Haveli (8.8). Under-five mortality rate was the highest in Uttar Pradesh (78), Madhya Pradesh (64.6)

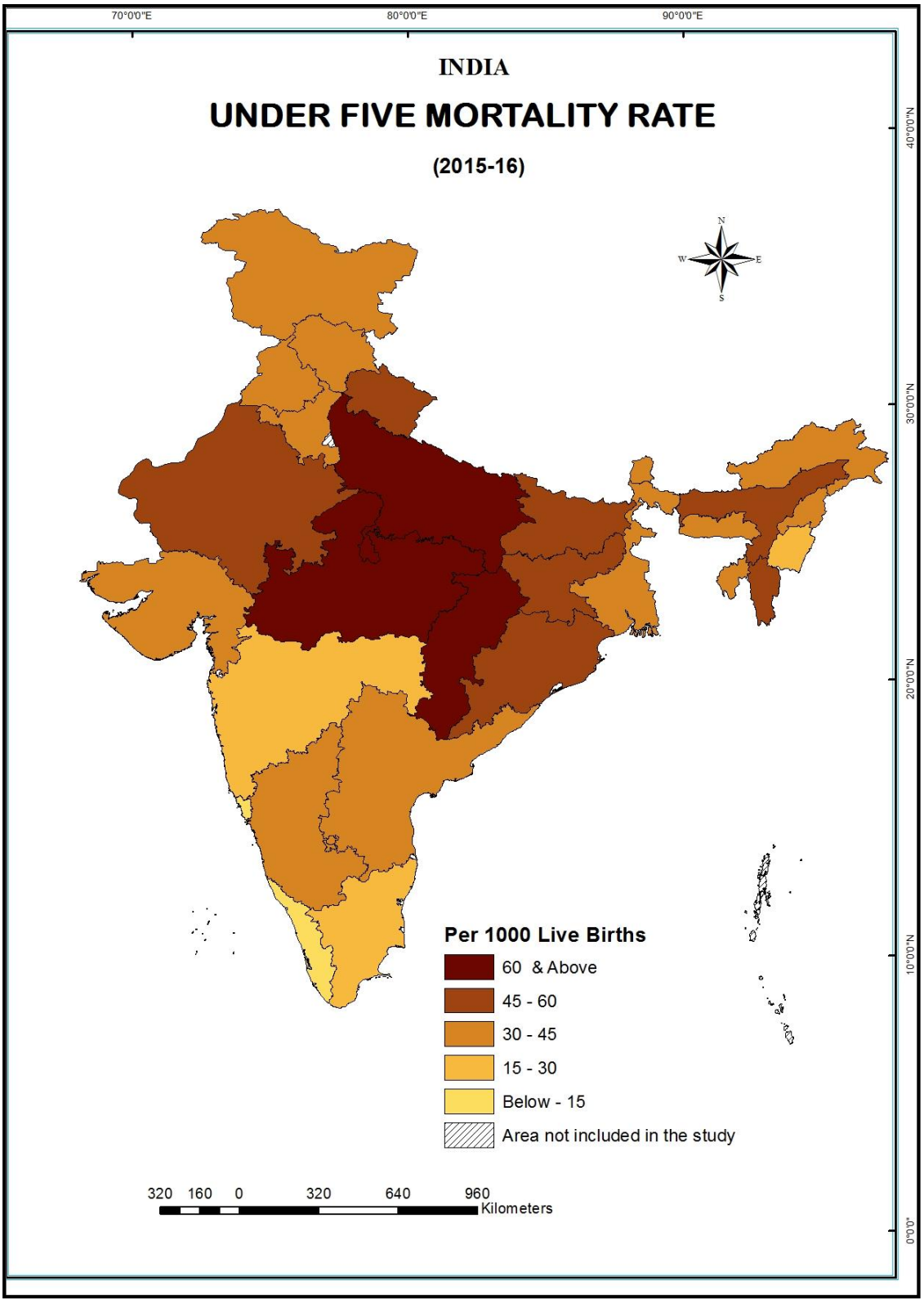
Chhattisgarh (64.3) and the lowest in Kerala (7.1), Goa (12.9) and Andaman & Nicobar Islands (13.0) (NFHS-4, 195-196 and Map-4.3).

Figure- 4.4 : Childhood Mortality Rates



Source: NHFS-4, India-2015-16.

Map-4.3


70°0'0"E
80°0'0"E
90°0'0"E
INDIA
UNDER FIVE MORTALITY RATE
(2015-16)
40°0'0"N
30°0'0"N
20°0'0"N
10°0'0"N
0°0'0"
N
W
E
S
Per 1000 Live Births
60 & Above
45 - 60
30 - 45
15 - 30
Below - 15
Area not included in the study
320 160 0 320 640 960
Kilometers

4.5.7 Maternal Health

Maternal health refers to the health of women during pregnancy, childbirth and postpartum (time begins immediately after the birth of a child) time. During these periods proper access to health care is required, and it is provided by Antenatal Care (ANC) which monitors pregnancies and screen complications. A large segment (79.3%) of the women belonging to the age group of 15 to 49 in the country is receiving ANC (89.1% in the urban and 75.1% in the rural areas). The task is performed mostly by the doctors (58.8%) and ANM (Auxiliary nurse midwife) /nurse/midwife/LHV (Lady Health visitor) (20.4%). Areas where the access to these two specialists do not become possible, *Dai*/TBA (Traditional Birth Attendant) (0.3%), *Anganwadi*/ICDS (Integrated Child Development Service) workers (2.5%), community/village health workers (0.1%), ASHA (Accredited Social Health Activist) workers (1.2%) and others (0.1%) are assigned the job. Despite, this coverage, around one-sixth (16.4%) of these women remain deprived of the ANC (NFHS-4, 213). States and Union territories of the country where ANC is provided to almost all women in the category include Lakshadweep (99.6%) and Kerala (99.2%). However, the situation in Nagaland (44.0%) and Bihar (49%) is much below the expected level (NFHS-4,214). ANC involves measurement of weight, testing of blood pressure, blood and urine, examination of the abdomen of the expecting mothers and providing them with relevant information pertaining to pregnancy condition and associated complications by visiting them periodically. During the ten year period of 2005 to 2006 and 2015 to 2016, a record increase from 37 to 51 per cent has been observed in the ANC visits (NFHS-4, 201). During the visits, protection against neonatal tetanus and tetanus toxoid injections are also given to expecting mothers. Around 61 per cent (78.4% in the urban and 54.5% in the rural areas) are provided with these two vaccinations. Besides, the provision of conducting ultrasound tests is also available at certain centres (NFHS - 4,202-203). During the same period, institutional deliveries (deliveries that are conducted at a health centre) have increased from 39 to 79 per cent. Among the states and union territories, Puducherry and Kerala have achieved cent per cent institutional delivery, followed by Lakshadweep and Tamil Nadu (99%). The states of Nagaland (33%), Meghalaya (51%) and Arunachal Pradesh (52%) lag much behind in this area (NFHS-4, 214). Postnatal check-ups (postnatal checks are checks of the woman's health within 42 days of birth) are also essential requirements of woman and child health after delivery (NFHS - 4,234). Around two-thirds (65.1%)

of the women in the age group of 15 to 49, have undergone postnatal check-ups in the first two days after birth, which has increased from 37 per cent in 2005-06 to 65 per cent in 2015-16 (NFHS-4, 236).

Delivery by caesarean section reduces the child and mother mortality as it is done by skilled providers and planned before the onset of labour pains. Around one-sixth (17.2%) of the deliveries in the country are done through caesarean section. Caesarean section deliveries are more common in the urban areas as compared to rural areas and have a strong correlation with educational and wealth index. The average cost of delivery in public health units (Rs. 3,198/-) and private health units (Rs. 16,522/-) vary greatly (NFHS - 4, 233).

4.5.8 Child Health

According to NFHS-4, around a fifth (18.2%) of the infants in the country were under weight (less than 2.5 kg). Vaccination is administered to children against some of the major diseases such as tuberculosis, diphtheria, peruses, tetanus, polio and measles. Those covered under the vaccination programme are provided a vaccination card, on which the details of the vaccination are recorded. Vaccination of the children in the country has been getting momentum over time and the coverage in the proportion of children under it has increased from 44 to 62 per cent between the NHFS-3 and the NHFS - 4. However, wide variations in terms of the coverage exist across the states and union territories of the country. While almost all the children in Puducherry (91.2%), Punjab (89%) and Lakshadweep (89%) have been covered under the programme, majority of their counterparts in Rajasthan (54%), Madhya Pradesh (53.6%), Uttar Pradesh (51.1%), Assam (47.1%), Nagaland (35.4%) and Arunachal Pradesh (38.2%) still remain deprived (NFHS-4, 262& 265 - 267).

4.5.9 Nutritional Status in Children:

Anaemia is considered to be a very severe health problem, which is marked by low levels of haemoglobin in blood caused by deficiency of iron. A substantial proportion (58.4%) of children in the country in the age group of six to fifty nine months, have been reported as anaemic with less than 11.0 g/dl. From among these, 27.8 per cent have mild anaemia (10.0-10.9 g/dl), 29.1 per cent have moderate anaemia (7.0-9.9 g/dl) and1.5 per cent has severe anaemia (<7.0 g/dl). Among the states and union territories, the proportion of anaemic children is the highest in Dadar

& Nagar Haveli (84%), Daman and Diu (73.8%), Chandigarh (73.1%) and Haryana (71.7%). Surprisingly, the National Capital Region of Delhi (4.1%) and Chandigarh (4%), have some children suffering from severe anaemia with less than 7.0g/dl. The situation in the north-eastern states of Nagaland (26.4%), Manipur (23.9%) and Mizoram (19.3%) seem to be rather much better than in other parts of the country. Severe anaemic children are also almost absent in the north-eastern part of the country as evident from their proportion in Manipur (0.2%) and Tripura (0.2%) (NFHS-4,318 - 320).

4.5.10 Nutritional Status in Women

Like the children, a large (53.0%) segment of the women of India in the age group of 15 to 49 are anaemic. As compared to the women, a much less proportion (22.7%) of their male counterparts suffers from the problem with less than 13.0g/dl. This is indicative of the fact that nutritional status of women and children is a matter of serious concern in the country. Out of the total anaemic women 39.6 per cent has mild anaemia (10.0-11.9 g/dl), 12.4 per cent has moderate anaemia (7.0-9.9 g/dl) and 1.0 per cent has severe anaemia (<7.0 g/dl). From among the anaemic men, 12.0 per cent has mild anaemia (12.0-12.9 g/dl), 9.6 per cent has moderate anaemia (9.0-11.9 g/dl) and 1.1 per cent has severe anaemia (<9.0 g/dl). Anaemic problem is rather acute among the women in Dadra and Nagar Haveli (79.5%) and Chandigarh (75.9%). As compared to them women in Manipur (26.4%) and Mizoram (24.5%) are much better. The men are more anaemic in Meghalaya (32.4%) and Bihar (32.2%) and less in Manipur (9.5%) and Nagaland (11.6%) (NFHS - 4, 333-335).

4.5.11 Body Mass Index(BMI)

BMI is one of the methods of assessing nutritional status. It is calculated with the help of measuring height and weight of a person. The BMI is expressed as the ratio of weight in kilograms to the square of height in metres (kg/m^2). A substantial proportion (56.4%) of women of the country in the age group of 15 to 49 is having normal BMI range. Out of the remaining women in the same age group, thin, overweight and obese women account for 22.9, 15.5 and 5.1 per cent respectively. The BMI among men in the same age group is however better as majority (60.9%) of them are in the normal BMI range and the proportion of thin (20.2%), overweight (15.9%) and obese (3.0%) is relatively less. Among the states and union territories of

the country, the share of thin women is the highest in Jharkhand (31.6%) and Bihar (30.5%). Chandigarh (26.5) and Delhi (33.5%) surpass all with respect to overweight women and Chandigarh (14.9%) joins Lakshadweep (14.6%) with highest proportion of obese women in the country. Although in comparison women, men are better off with respect to BMI index, spatial variations are not uncommon. A large segment of men in Madhya Pradesh (28.4%) and Uttar Pradesh (25.9%) have been reported as thinner, in Puducherry (32.3%) and Andaman and Nicobar Islands (30.1%) as overweight, and in Andaman and Nicobar Islands (8.1%) and Andhra Pradesh (7.7%) as obese (NFHS- 4, 330-331).

4.6 Women empowerment

Women empowerment is also an important part of development, human development and economies. Woman empowerment can be seen in term of education, employment, income, freedom, participation in decision making in family, self-respect etcetera. With respect to employment, while majority (97.5%) of the male population of the country have been absorbed, among the female segment of the population only about one-third (30.7%) is engaged in economically productive activities. Among women, 63.3 per cent participate in all three types of decision making (74.5% - own health care, 73.4% -making major household purchases, 74.6%-visit to her family or relatives) and 16 per cent participate in none of the three decisions making. This is a good sign that percentage participation of women in decision making is increasing. Around two-fifth (40.5%) of women are allowed to go out of home for different purposes such as, market (54.2%), health centre (49.9%) and places outside the village/community (48%) and 6.2 per cent women are not allowed to go to any of the three places at all (NFHS-4,511).

4.6.1 Domestic Violence

According to Protection of Women from Domestic Violence Act 2005 (PWDVA), domestic violence is comprehensive and includes all forms of physical, emotional, verbal sexual and economic violence and covers both actual acts of such violence and threats of violence. From the NFHS – 4 records, it is evident that around a quarter (26.8%) of the women in the country have experienced physical violence since they attained the age of 15. There are different types of spousal violence, of

which most common is physical violence (27.4%) followed by emotional (12.7%) and sexual (6.4%) violence. The states and union territories where physical violence is recorded to be highest include Manipur (49.4%), Andhra Pradesh (42.9%) and Telangana (41.8%), and where sexual violence is recorded to the be the highest, include Bihar (12.9%) and Manipur (11.5%) (NFHS-4, 562 & 589).

4.7 Risk Factors

Diseases are caused by various factors. Some diseases have genetic roots, while others emanate from the type of life style followed. Tobacco consumption in any form is one of the most important risk factors as it is highly injurious to health and can cause many kinds of diseases. Consumption of tobacco in any form is very high among men (45.5%) in the age group of 15 to 49 years in comparison to their women (6.8%) counterparts of the country. Interestingly, higher proportion of rural women (8.1%) consumes tobacco than urban women (4.4%). Similar is the pattern in case of rural (48.0%) and urban (38.9%) men. Tobacco is consumed in various forms like *Paan Masala* or *Gutka,* Cigarette and *Bidi* in India, of which most widely used form is *Paan Masala or Gutka.* Tobacco consumption is seen to be more common among people with no schooling, and people belonging to ST community, Christian religion and lower wealth Index.

Another risk factor is consumption of alcohol. Around one (1.2%) per cent of women in the age group of 15 to 49 years of the country drink alcohol, with significant variation between their rural (1.5%) and urban (0.7%) segments. Consumption of alcohol among men is much higher (28.7% in urban and 29.5% in rural areas) than among women. The two north-eastern states of Arunachal Pradesh (26.3%) and Sikkim (23.0%) have the highest percentage of women consuming alcohol. Arunachal Pradesh (59%) also remains at the top position with the highest percentage of men consuming alcohol (NFHS-4, 362 & 369).

4.8 Prevalence of Disease

The Indian population suffers from both communicable and non-communicable diseases. Major diseases prevailing in the country include tuberculosis (TB), diabetes, asthma, goitre and thyroid disorder, heart disease and cancer.

The rate of incidence of TB in India is recorded to be 316 per 1,00,000 persons, of which almost all (96.52%) are under treatment. The incidence of

medically treated TB however, occurs highly unevenly over the states and union territories of the country. The disease is more active in the north-eastern part of the country where the two states of Arunachal Pradesh (799 per 1,00,000persons) and Manipur (715per 1,00,000 persons) have registered the highest number of TB patients in the country. On the other hand, the incidence of the disease has largely been curbed in western India where Daman & Diu (51 per 1,00,000 persons), Goa (74 per 1,00,000 persons) and Chandigarh (89 per 1,00,000 persons) have recorded extremely low number of TB patients (NFHS-4, 349 & 351 and Map-4.4).

Prevalence of diabetes in India is about 1.7 per cent in the population of 15 to 49 years. However, a large proportion of women in Andaman & Nicobar Islands (4.6%) and Kerala (4.3%) and, men in Meghalaya (4.6%) and Kerala (4.3%) is reported diabetic. Among men it is the highest in Kerala (4.3%) and Meghalaya (4.6%) and the lowest in Haryana (0.5%) and Uttarakhand (0.6%) states (NFHS-4, 358 and Map- 4.5).

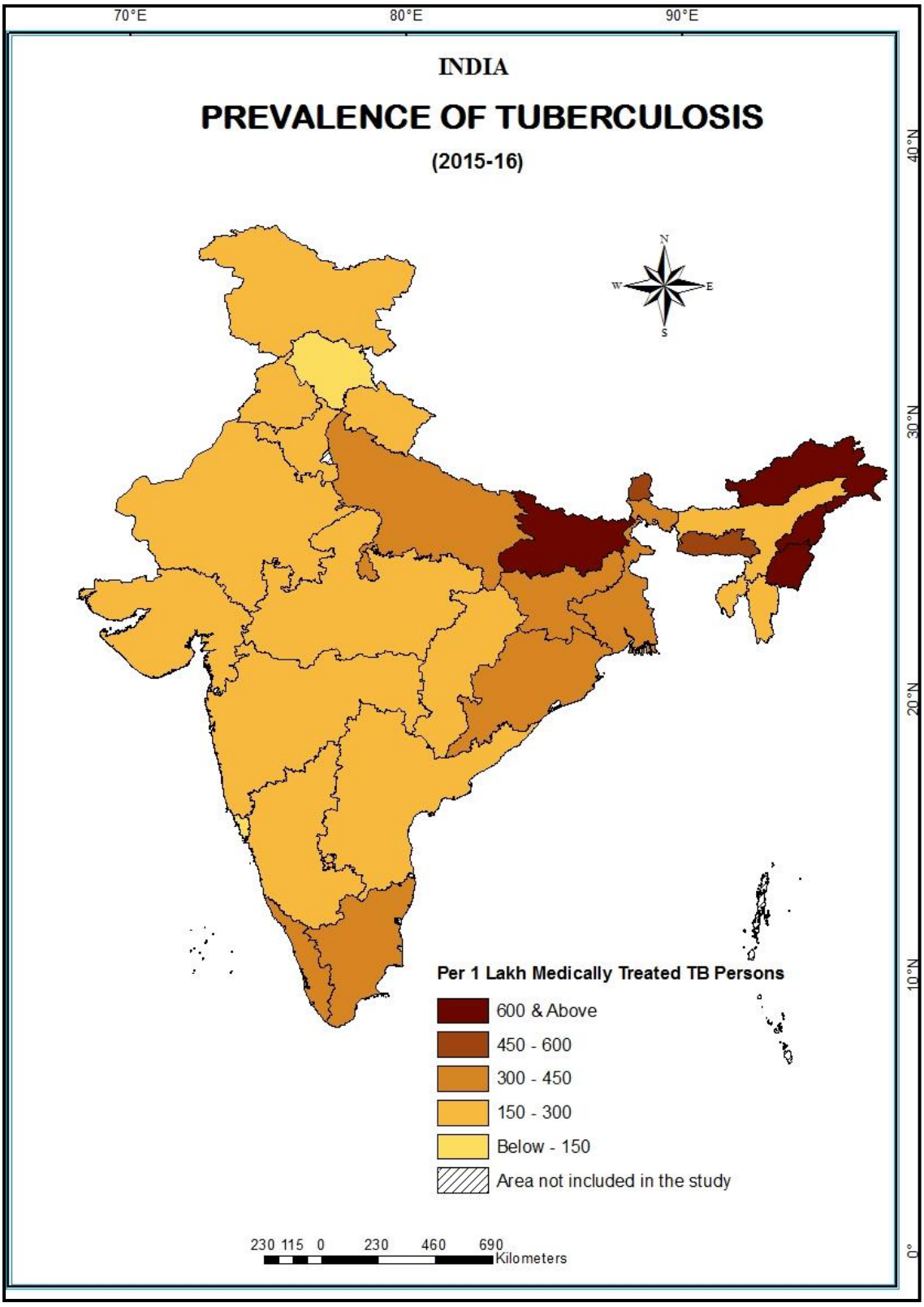
Prevalence of asthma is 1.9 per cent in women and 1.2 per cent in men. The highest percentage of asthma patients are found in the southern states. With respect to women, the proportion of asthma patients is very high in Andaman & Nicobar Islands (4.5%) and Tamil Nadu (3.0%), and with respect to men Tamil Nadu (3.0%) and Puducherry (2.8%) take the lead (NFHS-4, 358 and Map-4.6)

Prevalence of goitre or any other thyroid disorder is 2.2 per cent in women and 0.5 per cent in men. Among women the highest prevalence of goitre has been reported from Kerala (8.1%) and Jammu & Kashmir (7.0%) and among men from Tamil Nadu (2.0%) (NFHS-4,358).

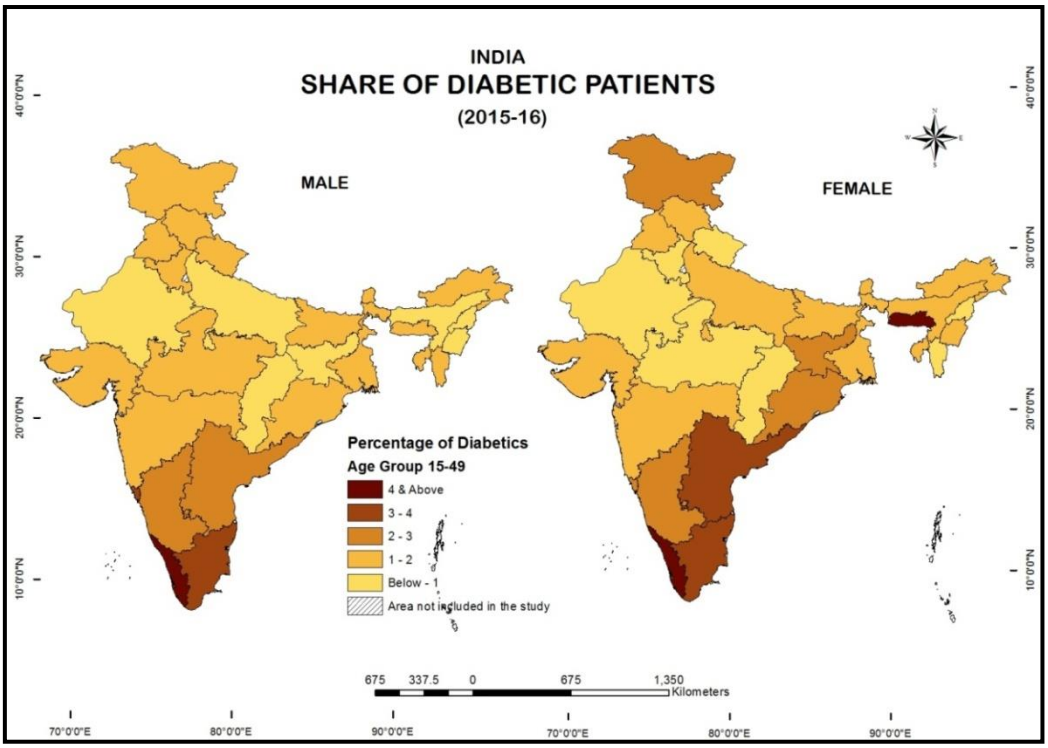
Prevalence of heart diseases is 1.3 and 1.0 per cent in women and men respectively. The maximum proportion of women has been suffering from heart diseases in Jammu and Kashmir (4.5%) and Meghalaya (3.8%). Lakshadweep (2.9%) has reported the highest proportion of men suffering from the disease (NFHS-4,358 and Map-4.7)

Prevalence of cancer in the country is 0.3 and 0.2 per cent in women and men respectively. While Meghalaya and Tamil Nadu (0.4%) states have reported maximum percentage of cancer affected women, Tamil Nadu (1.8%) and Andaman and Nicobar Islands (1.6%) have reported maximum percentage of cancer affected men (NFHS-4,358 and Map-4.8).

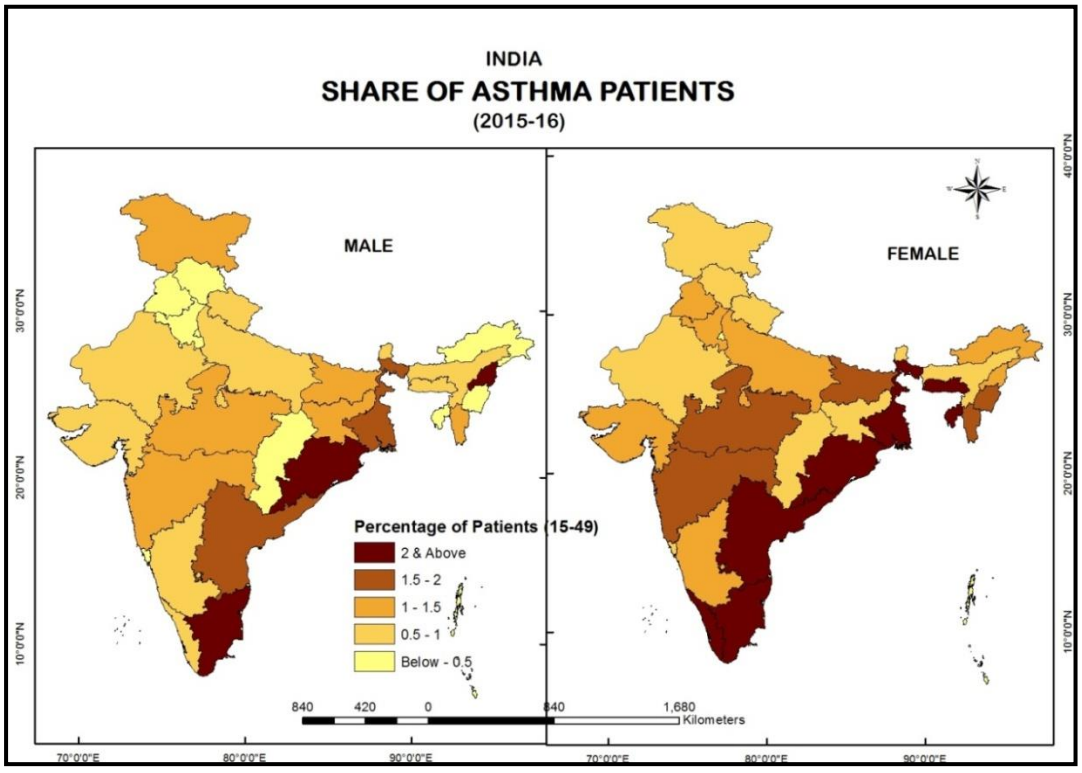
Map-4.4


70°E
80°E
90°E
40°N
30°N
20°N
10°N
0°
INDIA
PREVALENCE OF TUBERCULOSIS
(2015-16)
N
W
E
S
Per 1 Lakh Medically Treated TB Persons
600 & Above
450 - 600
300 - 450
150 - 300
Below - 150
Area not included in the study
230 115 0 230 460 690
Kilometers

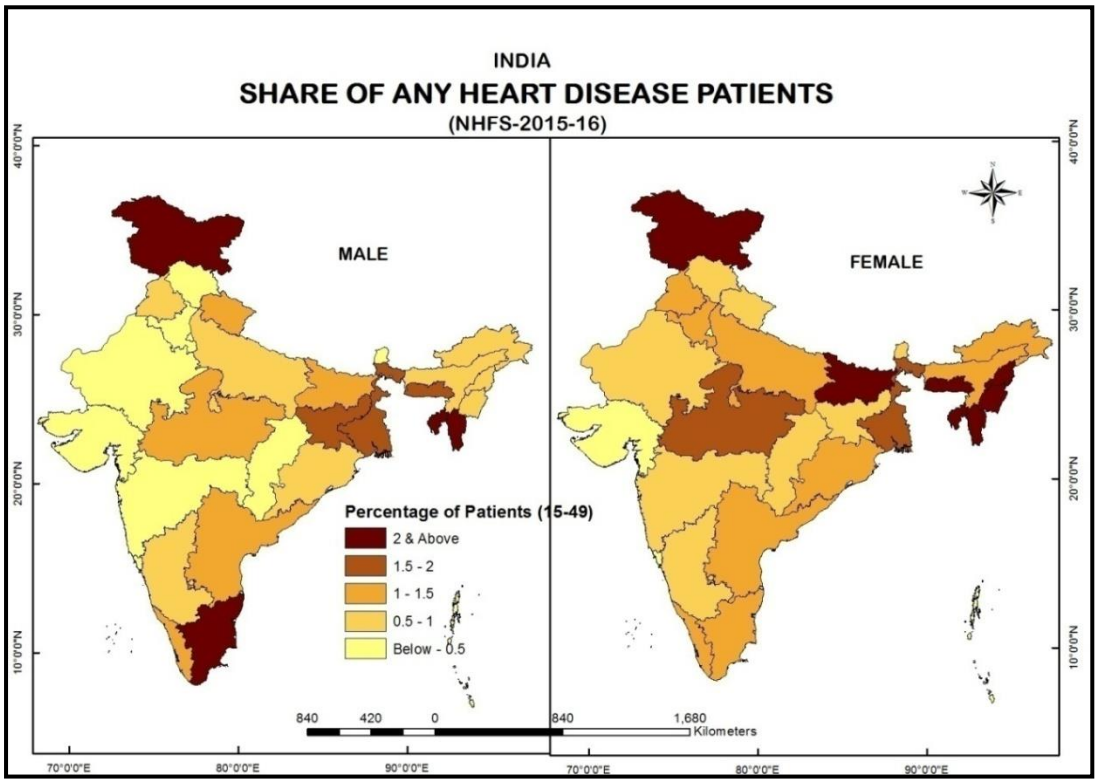
Map-4.5


INDIA
SHARE OF DIABETIC PATIENTS
(2015-16)
MALE
FEMALE
Percentage of Diabetics
Age Group 15-49
4 & Above
3 - 4
2 - 3
1 - 2
Below - 1
Area not included in the study
675 337.5 0 675 1,350
Kilometers

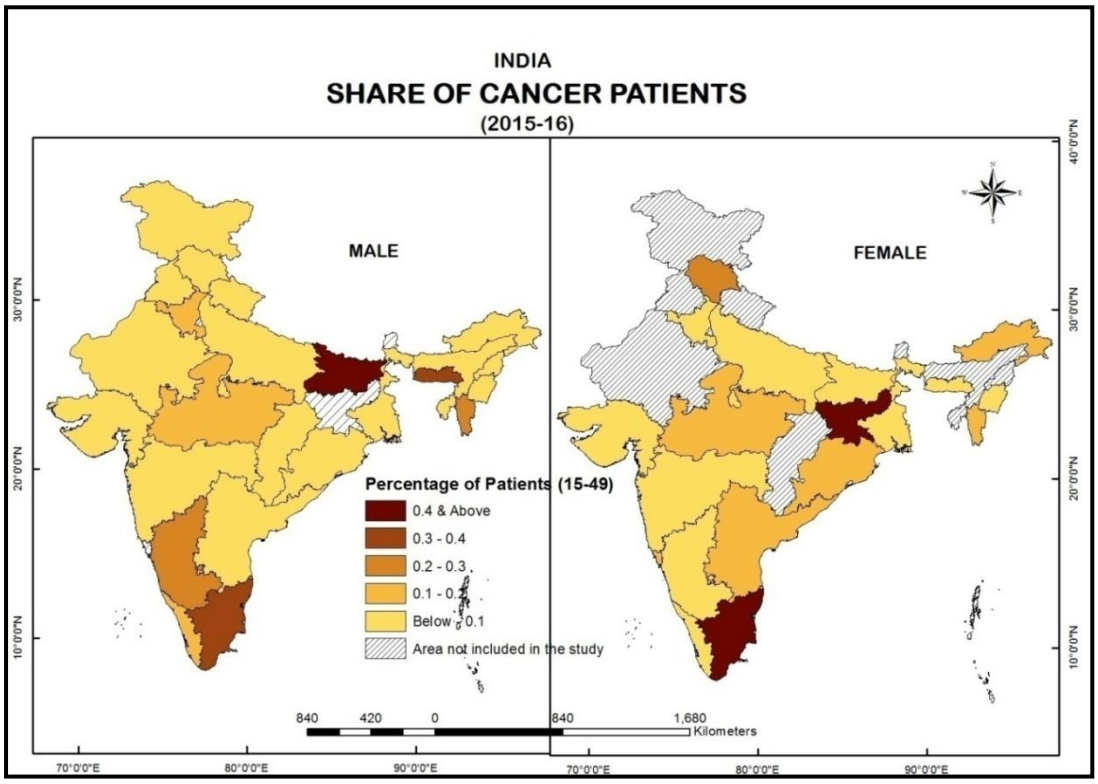
Map-4.6


INDIA
SHARE OF ASTHMA PATIENTS
(2015-16)
MALE
FEMALE
Percentage of Patients (15-49)
2 & Above
1.5 - 2
1 - 1.5
0.5 - 1
Below - 0.5
840 420 0 840 1,680
Kilometers

Map-4.7


INDIA
SHARE OF ANY HEART DISEASE PATIENTS
(NHFS-2015-16)
MALE
FEMALE
Percentage of Patients (15-49)
2 & Above
1.5 - 2
1 - 1.5
0.5 - 1
Below - 0.5
840 420 0 840 1,680
Kilometers
70°0'0"E
80°0'0"E
90°0'0"E

Map-4.8


INDIA
SHARE OF CANCER PATIENTS
(2015-16)
MALE
FEMALE
Percentage of Patients (15-49)
0.4 & Above
0.3 - 0.4
0.2 - 0.3
0.1 - 0.2
Below - 0.1
Area not included in the study
840 420 0 840 1,680
Kilometers
70°0'0"E
80°0'0"E
90°0'0"E

Awareness about HIV/AIDS in the Indian population is very high. More than two-thirds of women (75.6%) and men (88.9%) in the age group of 15 to 49 reported of having heard about the disease. Comprehensive knowledge about HIV/AIDS is highest in urban areas in comparison to rural areas of India. Prevalence of HIV positive in India is 0.24 per cent, with minor variation between women (0.23%) and men (0.25%). Higher proportion of people is affected by the disease in the southern and north-eastern states. The north-eastern states of Mizoram, Manipur and Nagaland (1.48%) have reported the highest percentage (1.48%) of HIV/AIDS patients in the country, followed by Andhra Pradesh and Telangana-0.92%) and Karnataka, Uttar Pradesh, Madhya Pradesh, Uttarakhand and Rajasthan (0.53%). The least proportion of HIV/AIDS affected people were reported from Himachal Pradesh and Jammu & Kashmir (0.08%) (NFHS – 4, 434).

4.9 Conclusion

Living conditions and status of health in India as displayed through the discussion in this chapter appears to be highly uneven over space. Dependence of households on the public sector health facilities in the country is relatively less (44.9%), without much of variation between rural (46.4%) and urban (42.0%) areas. Lesser use of Government health facilities has been ascribed to distance (44.6%), timing (26.4%), absence of health staff (14.8%), waiting time (40.9%), and quality of service (48.1%). Non use of the Government health care services happens to be extremely high in the states of Uttar Pradesh (80%), Bihar (77.6%), Punjab (72.9%) and Jharkhand (71.6%).

The achievement of the country in terms of certain living conditions that affect the health of the population, seem to have been satisfactory, while a lot needs to be done in case of others. The country has been able to provide improved source of drinking water to almost all (89.9%) of its population with minor variation between its urban (91.1%) and rural (89.9%) areas. However, across the states and union territories the share of population availing the facility varies tremendously with Chandigarh (99.5%) at the top and Manipur (41.6%) at the bottom. Similarly, almost all (88.2%) of the households in the country have access to electricity connection. On the other hand, much remains to be provided in terms of *pucca* houses, separate space in the house for cooking purposes, and LPG/natural gas for cooking purposes. On an average, respectively only around 56.4 per cent, 49.0 per cent and 42.3 per cent of the

households in the country have these facilities. With respect to *pucca* houses, the rural segment of the population is much behind (41.3%) their urban (84.5%) counterparts. The difference between the rural (40.9%) and urban (64.3%) segments in the context of separate space in the house for cooking is however relatively less. Use of LPG/natural gas as cooking fuel is extremely limited in the rural areas (23%) unlike the urban areas (78.3%). Majority of the rural households depend on wood, dung cakes, charcoal, kerosene and agricultural crop wastes for cooking purposes. Use of such kitchen fuel is most common among the households of Bihar (81.9%) and Jharkhand (80.6%).

Analysis of health status in the country also reveals interesting results. The TFR of women in the productive age group of 15 to 49 has reduced during the last few years from 2.7 in 2005-06 to 2.1 in 2015-16. The recent statistics reveal that the TFR in the urban areas has come down to 1.8 children, while in the rural areas it remains above this mark (2.4). The reduction in the fertility rate in the country might be due to increased awareness in the population about family planning methods as well as increased levels of literacy and education. It is observed that almost the entire married women population (99.6%) in the age group of 15 to 49 years and the total women population (97.8%) have the knowledge of contraception methods. The modern family planning methods used include female sterilization (36%), Condoms/*Nirodh* (5.6%), pills (4.1%), IUD or PPIUD (1.5%) and male sterilization (0.3%).

The TFR in India has declined from 2.7 (NFHS-2) to 2.2 (NFHS-4). However, the under-five mortality rate expressed in terms of deaths per 1,000 live births has remained very high in some of the states and union territories of the country like, Uttar Pradesh (78), Madhya Pradesh (64.6) and Chhattisgarh (64.3). Performance of Kerala is of course commendable, where under-five deaths per 1,000 live births are the least (7.1). The achievement of the country with respect to administration of vaccination to children between the age group of 12 to 23 months has been remarkable, although much remains to be done. While only 44 per cent of these children have been recorded for having been vaccinated by the NHFS-3, the coverage increased to 66 per cent by the NHFS-4. Proportion of children of this age group who received all basic vaccines was 62 per cent. The problem of anaemia is found to be relatively higher among the females in comparison to the males (22.7 %) in the country with 53 per cent of them being anaemic (12.0g/dl). Among children, a very

high proportion is anaemic in Dadar & Nagar Haveli (84%) and Daman and Diu (73.8%), and the proportion of anaemic children is the lowest in Mizoram (19.3%). Prevalence of severe anaemia in the child population is recorded to be the highest in Delhi (4.1) and Chandigarh (4.0%) and lowest in Manipur (0.2%). Among women any form of anaemia is the highest in Dadra & Nagar Haveli (79.5%) and Chandigarh (75.9%), and the lowest in Mizoram (24.8%). Among men, any form of anaemia is recorded to be the highest in Meghalaya (32.4%) and the lowest in Manipur (9.5%).

Prevalence of communicable diseases is increasing in the country. On an average, the country has around two per cent of the population in the age group of 15 to 49 suffering from diabetes. However, the proportion remains almost double in Andaman & Nicobar Islands (4.6%) and Kerala (4.3%). Among women, Meghalaya (4.6%) tops the rank while among males it is the highest in Kerala (4.3%). With regard to asthma too, higher proportion of women (1.9%) are affected in comparison to their male counterparts (1.2%). The problem of asthma is higher in the southern states. The largest percentage of women in Andaman & Nicobar Islands (4.5%) and Tamil Nadu (3.0%) are asthma patients. The highest percentage of males suffers from this ailment in Tamil Nadu (3.0%) and Puducherry (2.8%). Prevalence of goitre or any other thyroid disorder is also higher among females (2.2%) in comparison to males (0.5%). The problem of goitre is however much more acute among the women population of Kerala (8.1%) and Jammu Kashmir (7.0%). Among males, the highest proportion (2.0%) is affected by goitre in Tamil Nadu. With respect to heart diseases too females (1.3%) of the country register a higher proportion in comparison to males (1.0%). The women of Jammu and Kashmir (4.5%) and Meghalaya (3.8%) and males of Lakshadweep (2.9%) are the worst suffers in this context. Prevalence of cancer seems to be scarce in the country with only around 0.3 and 0.2 per cent of women and men respectively suffering from the disease. Highest proportion women in Meghalaya (0.4%) and men (1.8%) in Tamil Nadu have been detected with cancer. Awareness about HIV/AIDS is substantially high in the country where more than three-fourth of the females (75.6%) and almost all the males (88.9%) in the age group of 15 to 49 have some knowledge about it. On an average, around 0.24 per cent of the country's population has been detected HIV positive, without much difference between the registered cases among women (0.23%) and men (0.25%). The disease has a higher spread in the southern and north-eastern states followed by the central Indian states. Prevalence of HIV/AIDS is a matter of serious concern in case of states of Mizoram,

Manipur and Nagaland (1.48%) in the north east, Andhra Pradesh and Telangana (0.92%), Karnataka (0.53%) in the south, and Uttar Pradesh, Madhya Pradesh, Uttarakhand and Rajasthan (0.53%) in the north-central India. Consumption of tobacco in any form among the women folk in the age group of 15 to 49 is relatively lower (6.8%) than their male counterparts (45.5%). It is interesting to note that the proportion of women consuming tobacco in the rural areas (8.1%) is higher than in the urban areas (4.4%). Similar is the pattern in case of rural (48.0%) and urban (38.9%) men. Consumption of tobacco in the form of *Paan Masala* or *Gutka* is more common. It is observed that consumption of tobacco in any form is higher among people with no schooling, the ST population, population belonging to Christian religion and people having lower wealth index. Alcohol consumption among women in the age group of 15 to 49 of the country is much less (1.2%) against almost one-third (29.2%) of their male counterparts doing so. However, in the north eastern states of the country in general and in the states of Arunachal Pradesh (26.3%) and Sikkim (23.0%) in particular, consumption of alcohol among women in the age group of 15 to 49 is exorbitantly high. Slightly less than two-thirds (59%) of the males of Arunachal Pradesh in this age group have been reported alcoholic.