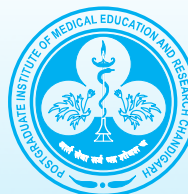


Population Based Cancer Registries at Chandigarh and SAS Nagar, Sangrur, Mansa Districts Punjab State, India

A collaborative project of
Tata Memorial Centre, Mumbai , Maharashtra State, India
Post Graduate Institute of Medical Education and Research , Chandigarh, India
Department of Health and Family Welfare, Government of Punjab State, India
Health Department, Chandigarh Administration, India



Punjab State, North India

Cancer Burden in Chandigarh and Punjab State First Year Report : 2013

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1. Background

Population Based Cancer Registries (PBCR) are essential to know the true cancer burden in the Population. In the year 2013, TMC in collaboration with PGI, Chandigarh with active support from Government of Punjab started the population based cancer registries in urban, semi urban and rural population so as to know the cancer burden and trends over the period in these area. The population based cancer registries are covering 4.5 million population. The data has been collected from Chandigarh UT and three districts in Punjab viz; SAS Nagar, Mansa and Sangrur.

The information presented in this report pertains to all cancer cases registered at Punjab and Chandigarh registries for the year 2013.

2. Population Covered

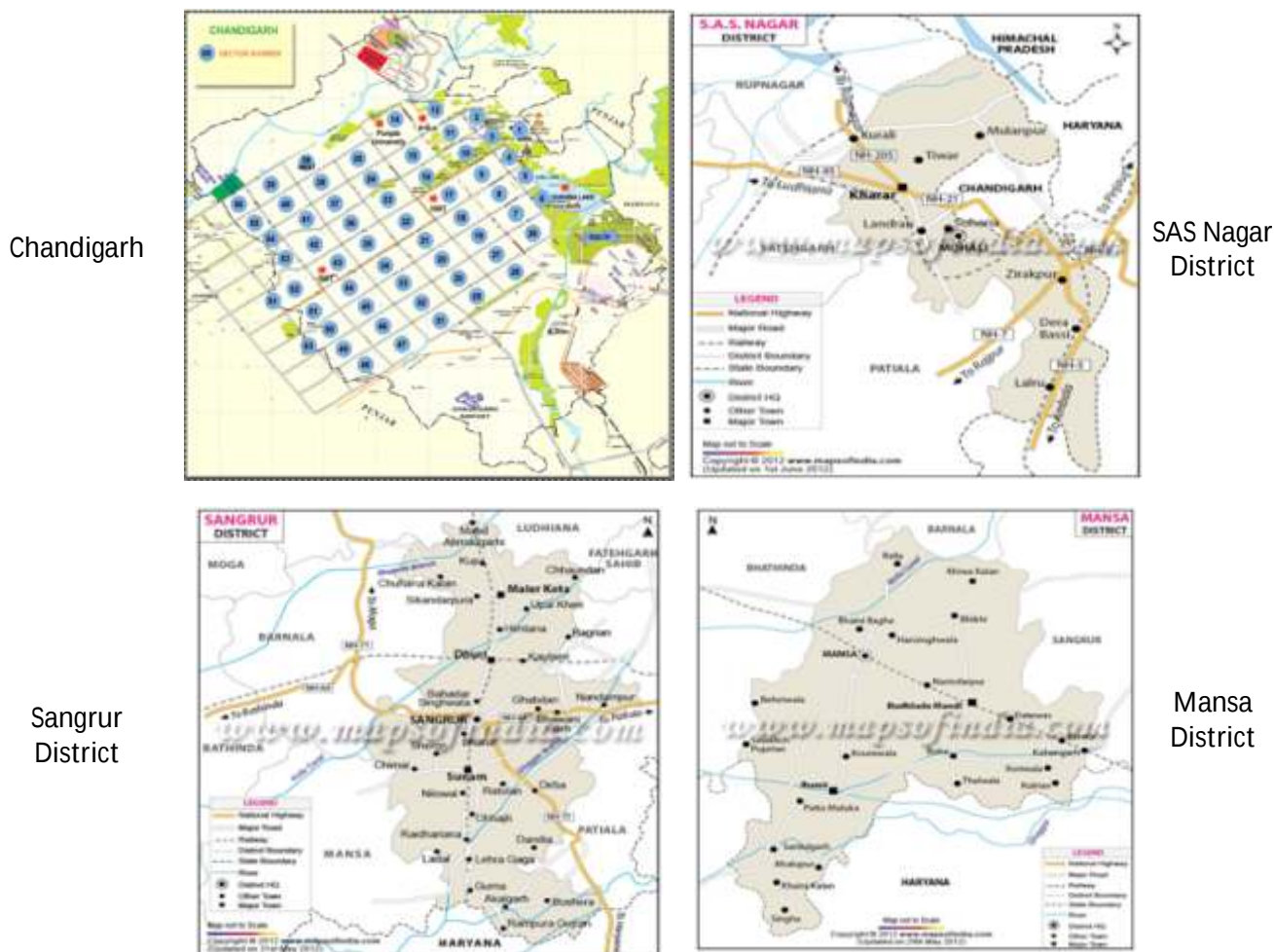
The Mansa and Sangrur registries are rural registries, SAS Nagar registry is a semiurban registry whereas Chandigarh is predominantly urban registry.

Table1: Estimated Population distribution among the selected districts across rural and urban areas: 2013

PBCR	Population covered (in million)*	Rural Area (%)	Urban Area (%)
Chandigarh	1.05	2%	98%
SAS Nagar	1.0	45%	55%
Sangrur	1.7	69%	31%
Mansa	0.77	79%	21%

* Estimated population based on growth of 2001 and 2011 census population

3. Area Covered



4. Cancer Incidence and Mortality

Table 2: Population Covered, Incidence Cases Registered and Incidence Rate by Sex: 2013

	Chandigarh	SAS Nagar	Sangrur	Mansa
Male				
Population covered	606811	573093	902730	419289
Number of cases registered	406	334	378	187
Age Adjusted Incidence Rate Per 100,000	93.4	74.3	43.7	45.3
Female				
Population covered	500616	503924	798646	370714
Number of cases registered	427	433	420	216
Age Adjusted Incidence Rate Per 100,000	105.0	104.2	52.6	55.8

Table 3: Population Covered, Death Due to Cancer and Death Rate by Sex: 2013

	Chandigarh	SAS Nagar	Sangrur	Mansa
Male				
Population covered	606811	573093	902730	419289
Number of cancer related deaths	164	176	243	112
Age Adjusted Mortality Rate Per 100,000	38.0	38.9	28.7	27.4
Female				
Population covered	500616	503924	798646	370714
Number of cancer related deaths	123	146	205	121
Age Adjusted Mortality Rate Per 100,000	32.7	33.6	26.0	30.5

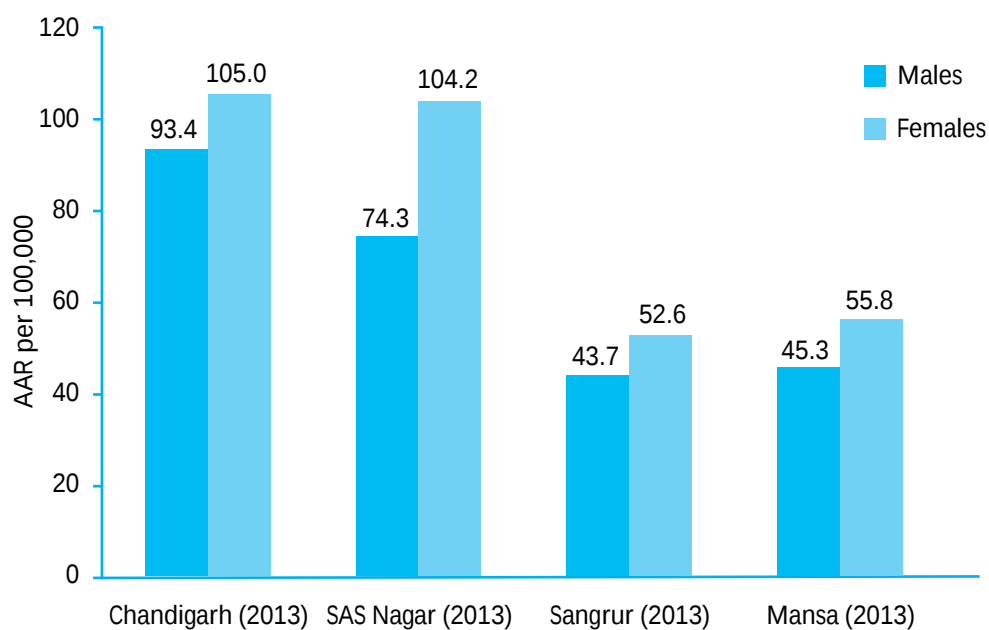


Figure 1: Cancer Incidence by Sex (2013)

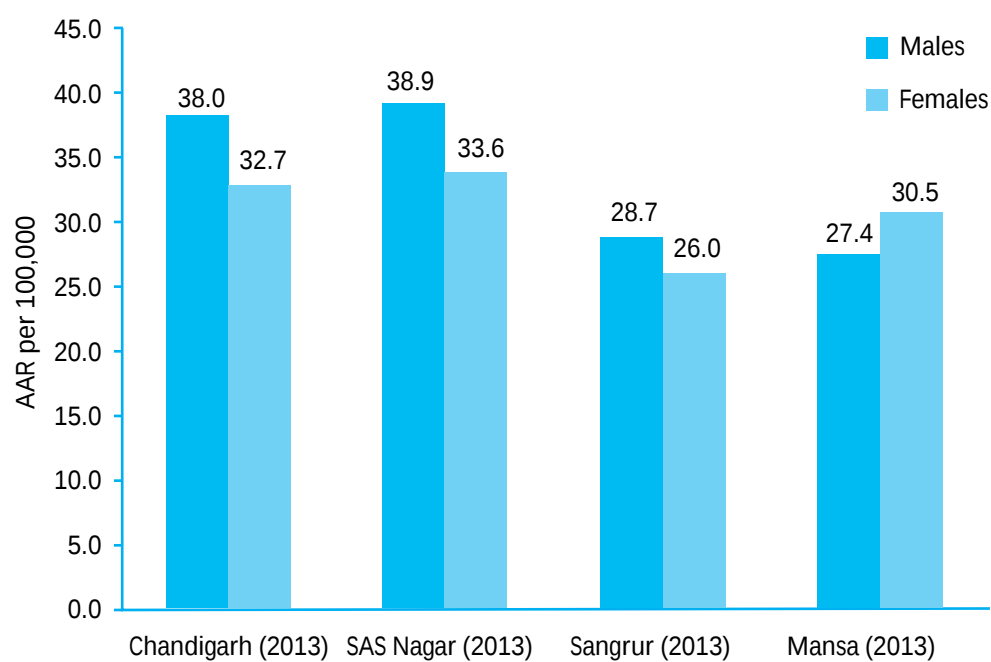
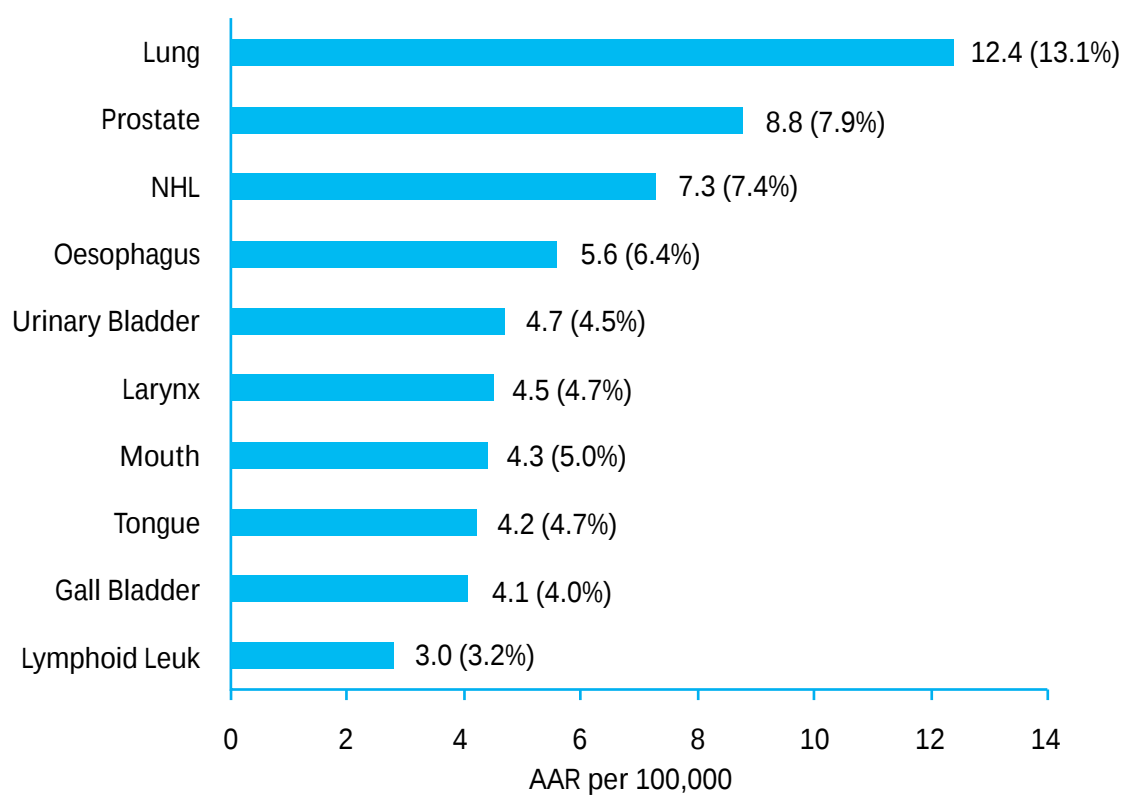
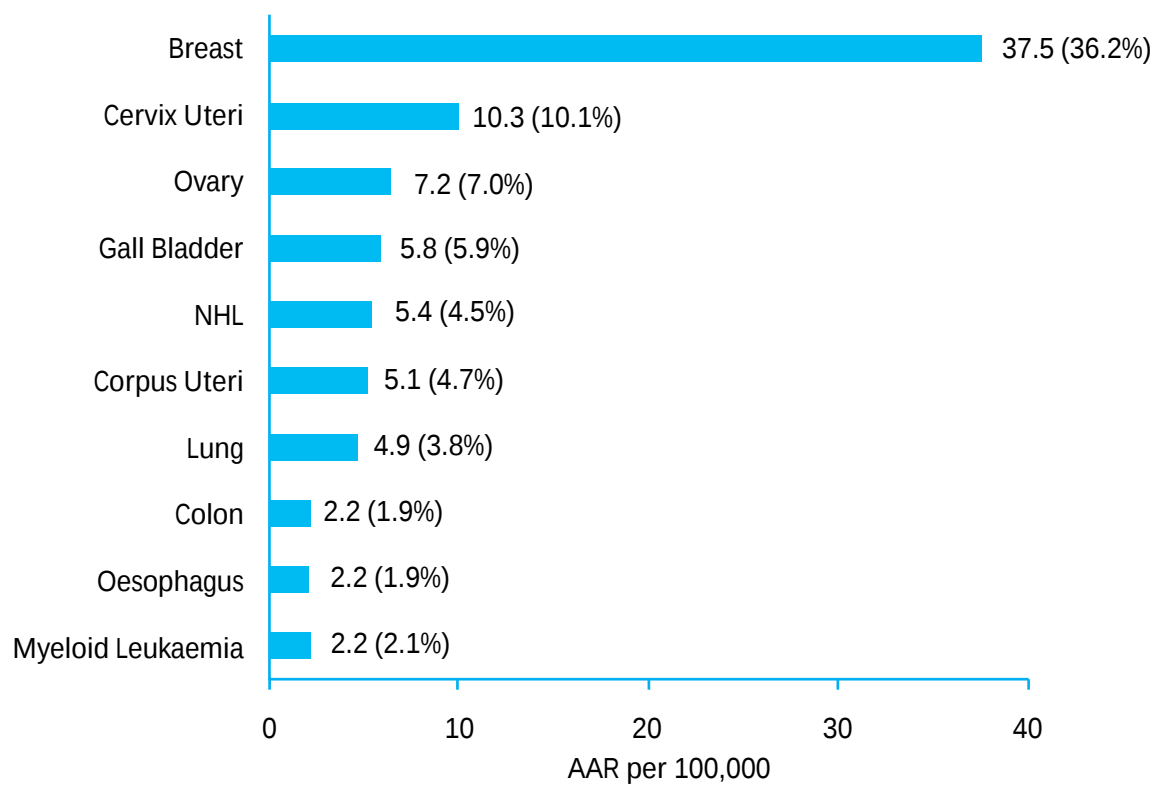


Figure 2: Cancer Mortality by Sex (2013)

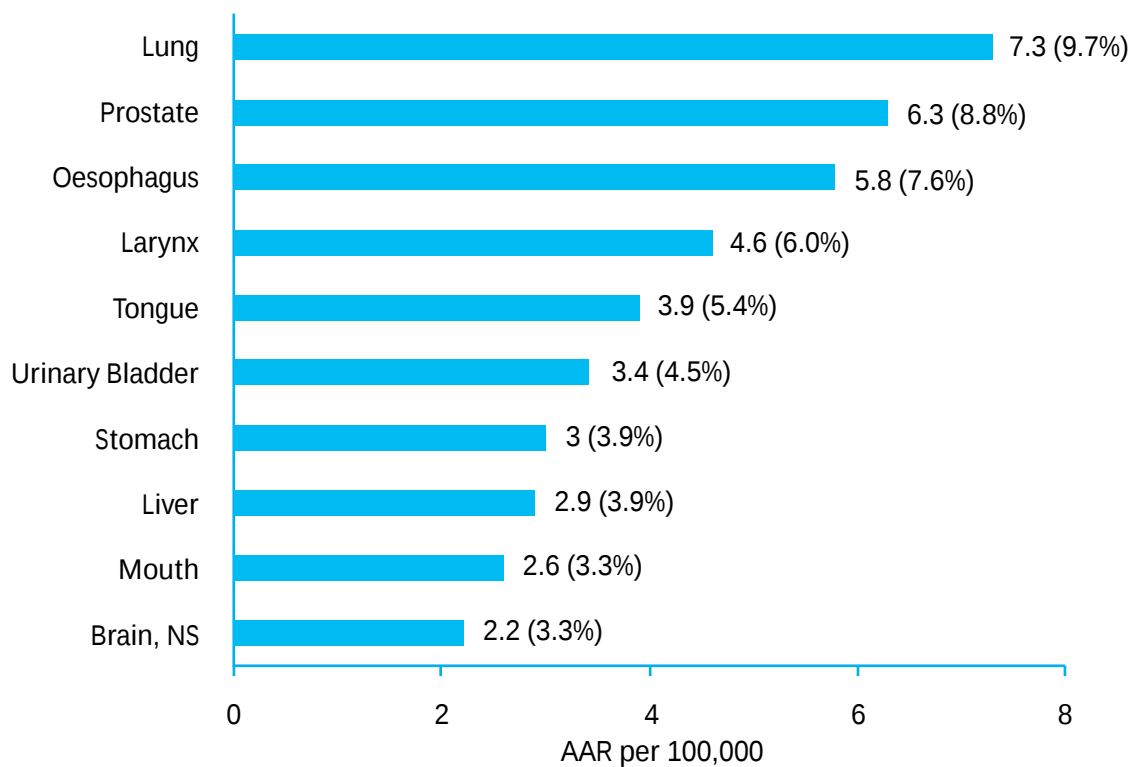
5. Leading Cancer Sites



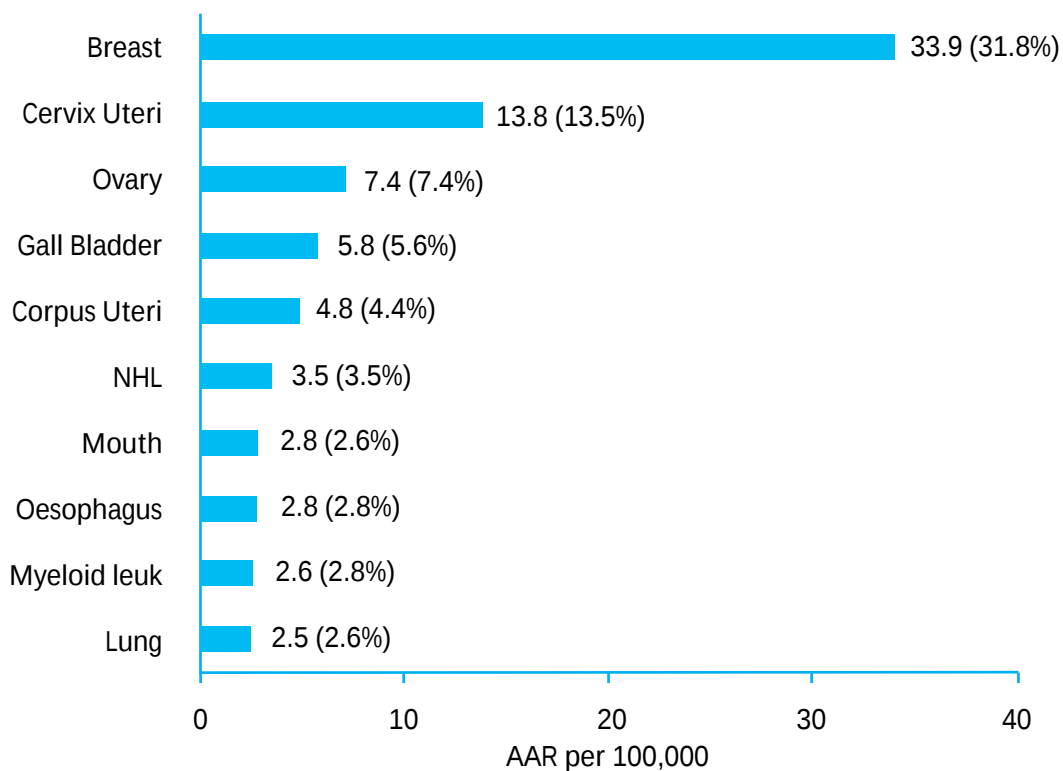
Figures in the parentheses indicate percentage
Figure 3: Leading Cancer Sites in Chandigarh – Males (2013)



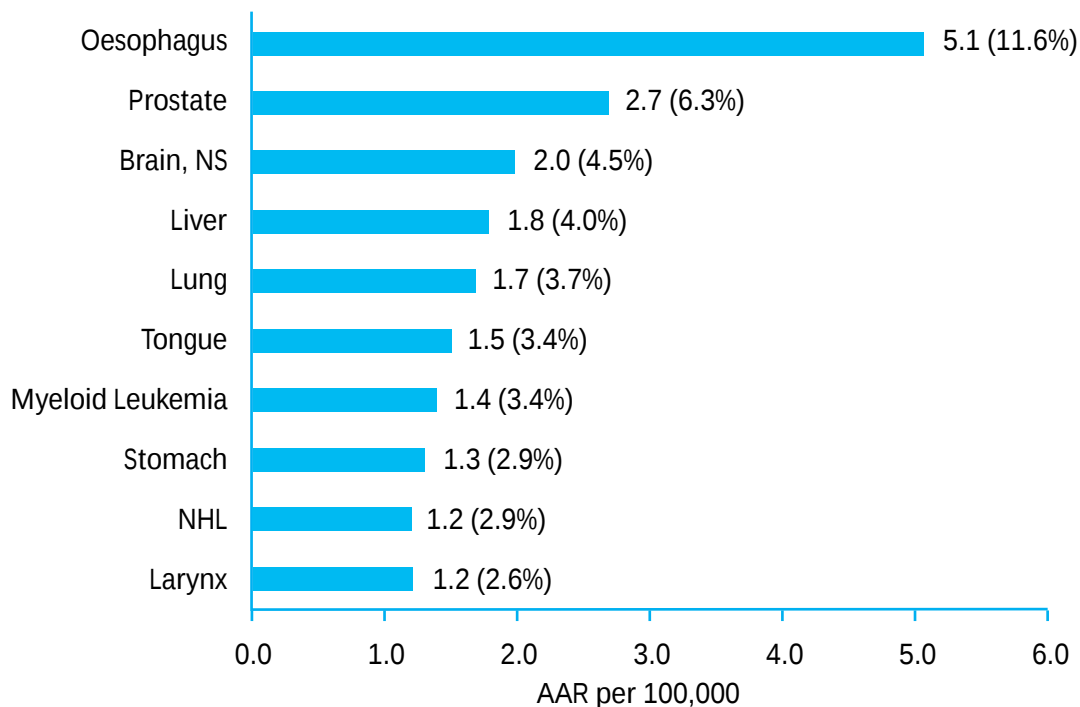
Figures in the parentheses indicate percentage
 Figure 4: Leading Cancer Sites in Chandigarh – Females (2013)



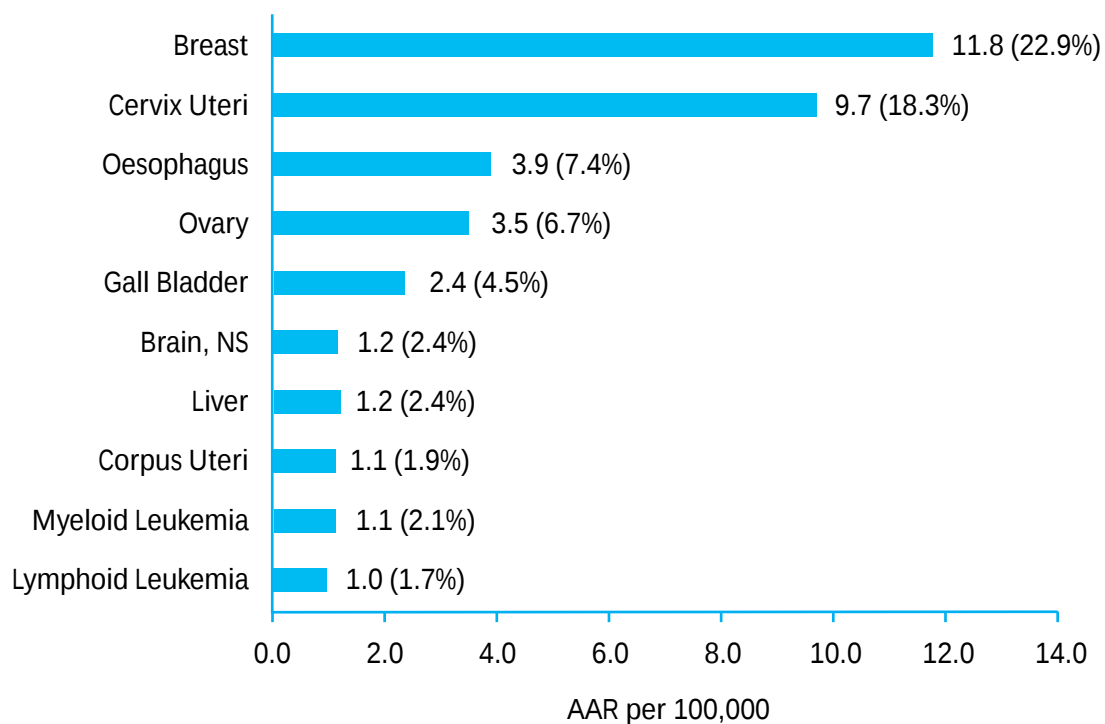
Figures in the parentheses indicate the percentage
 Figure 5: Leading Cancer Sites in SAS Nagar – Males (2013)



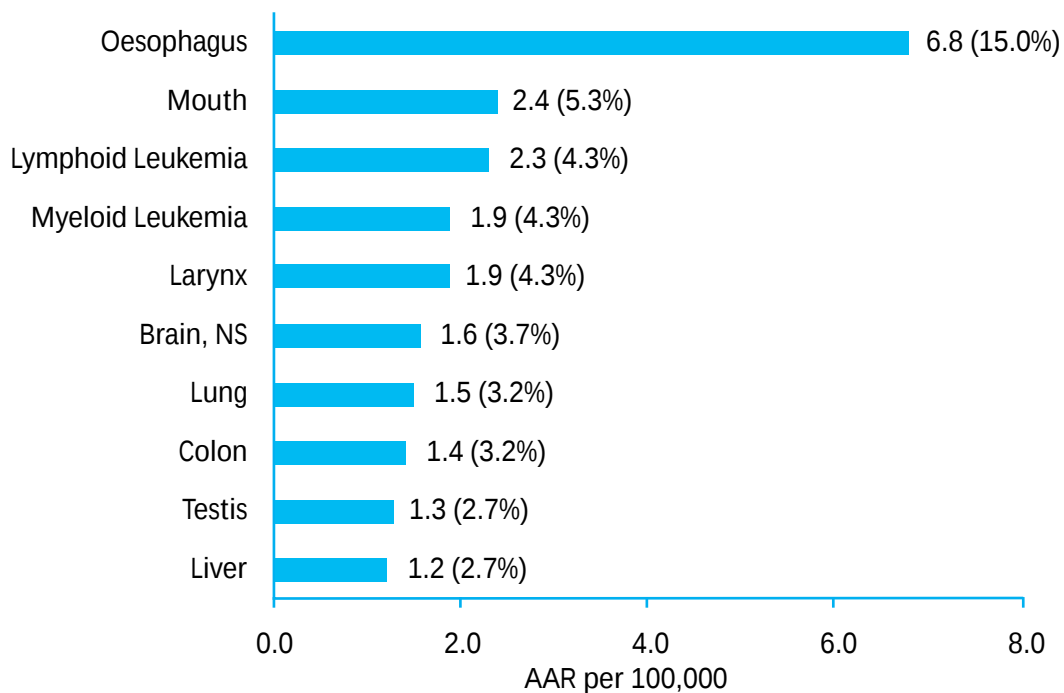
Figures in the parentheses indicate the percentage
 Figure 6: Leading Cancer Sites in SAS Nagar – Females (2013)



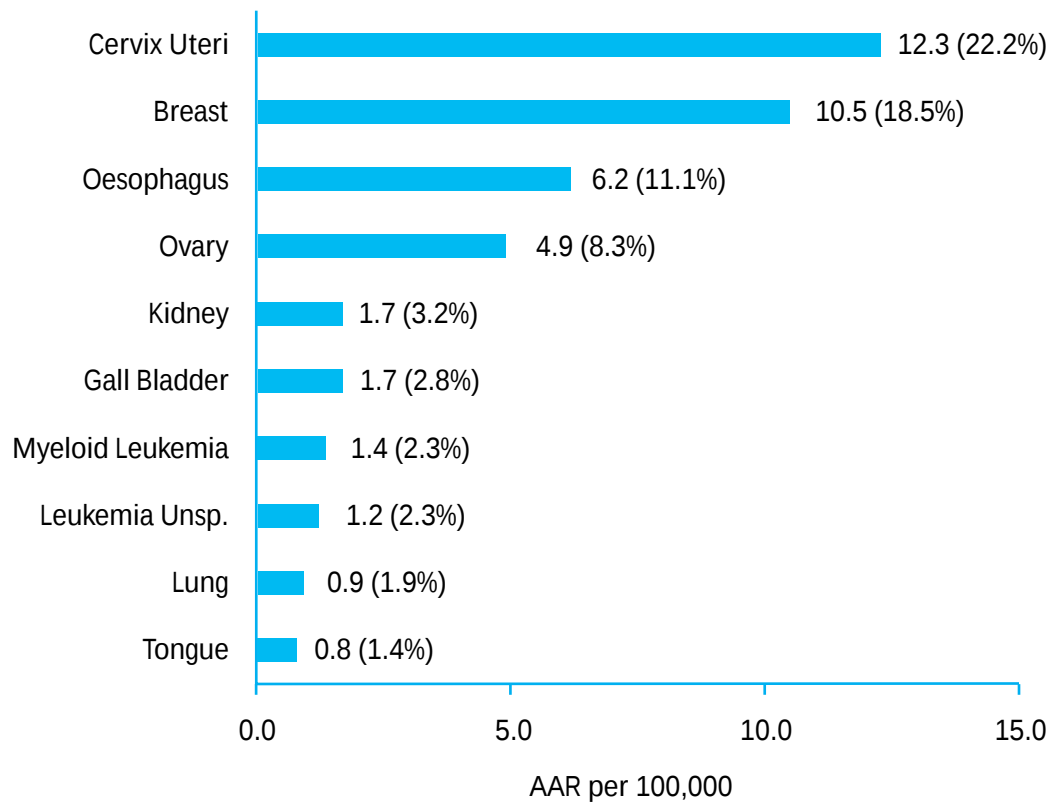
Figures in the parentheses indicate the percentage
 Figure 7: Leading Cancer Sites in Sangrur – Male (2013)



Figures in the parentheses indicate the percentage
 Figure 8: Leading Cancer Sites in Sangrur – Female (2013)



Figures in the parentheses indicate the percentage
 Figure 9: Leading Cancer Sites in Mansa – Males (2013)



Figures in the parentheses indicate the percentage
Figure 10: Leading Cancer Sites in Mansa – Females (2013)

6. Comparison of Cancer Incidence Rates with Other Indian Registries

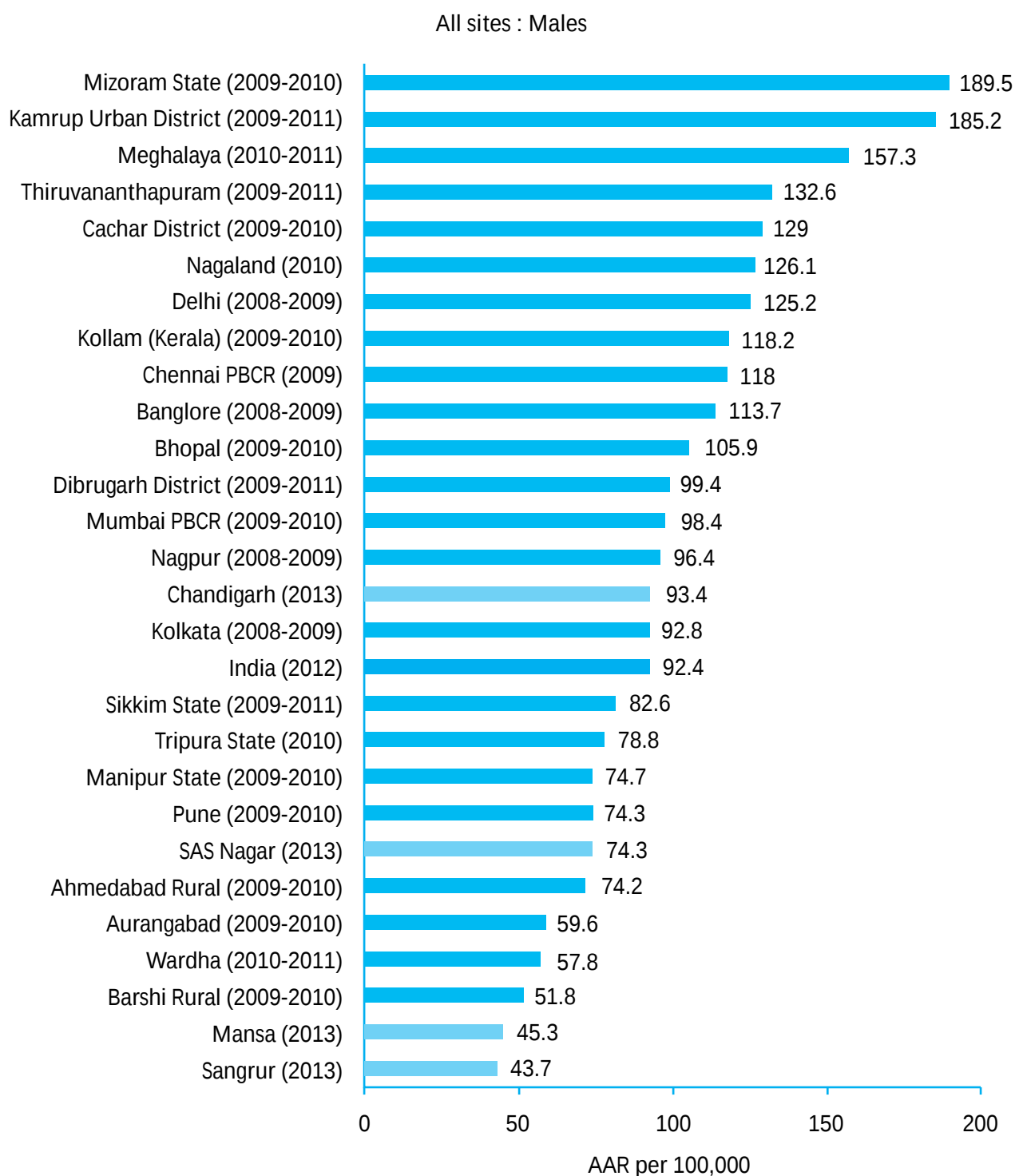


Figure 11: Age Adjusted Incidence Rate of all cancer sites from Indian PBCR – Males
Reference: 1 to 6

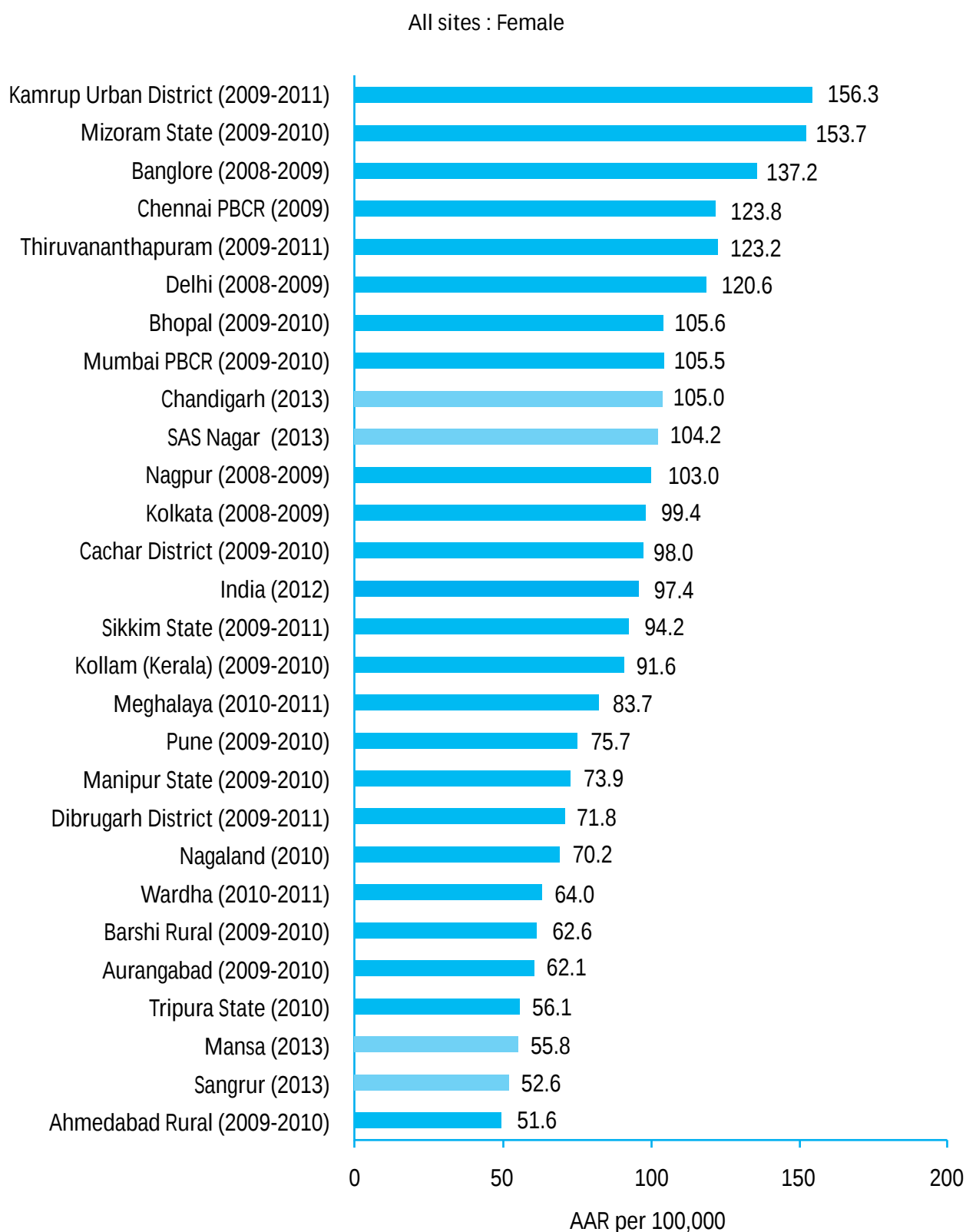


Figure 12: Age Adjusted Incidence Rate for all Cancer Sites from Indian PBCR - Females
Reference: 1 to 6

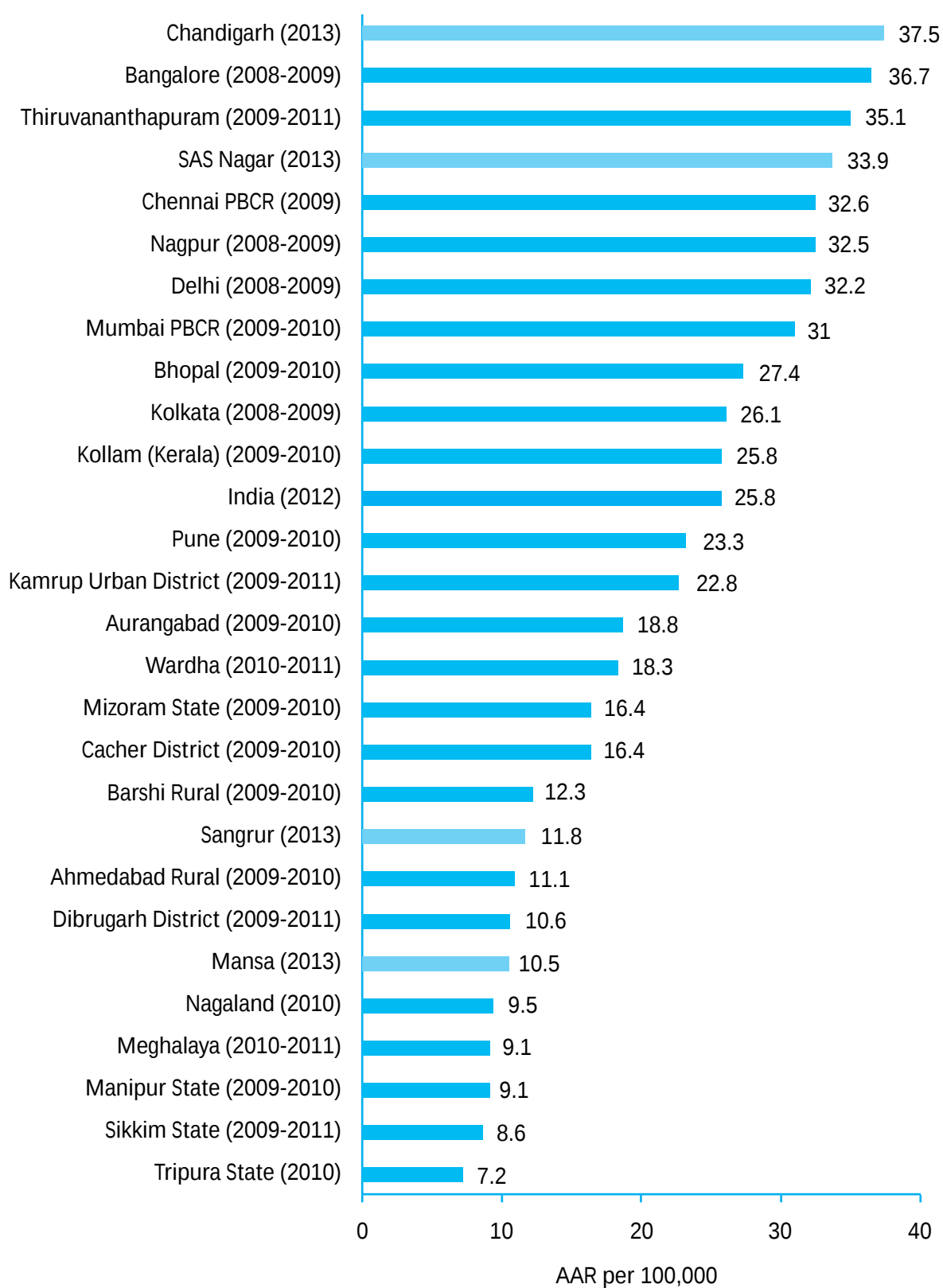


Figure 13: Age Adjusted Incidence Rate of Breast Cancer from Indian PBCR
Reference: 1 to 6

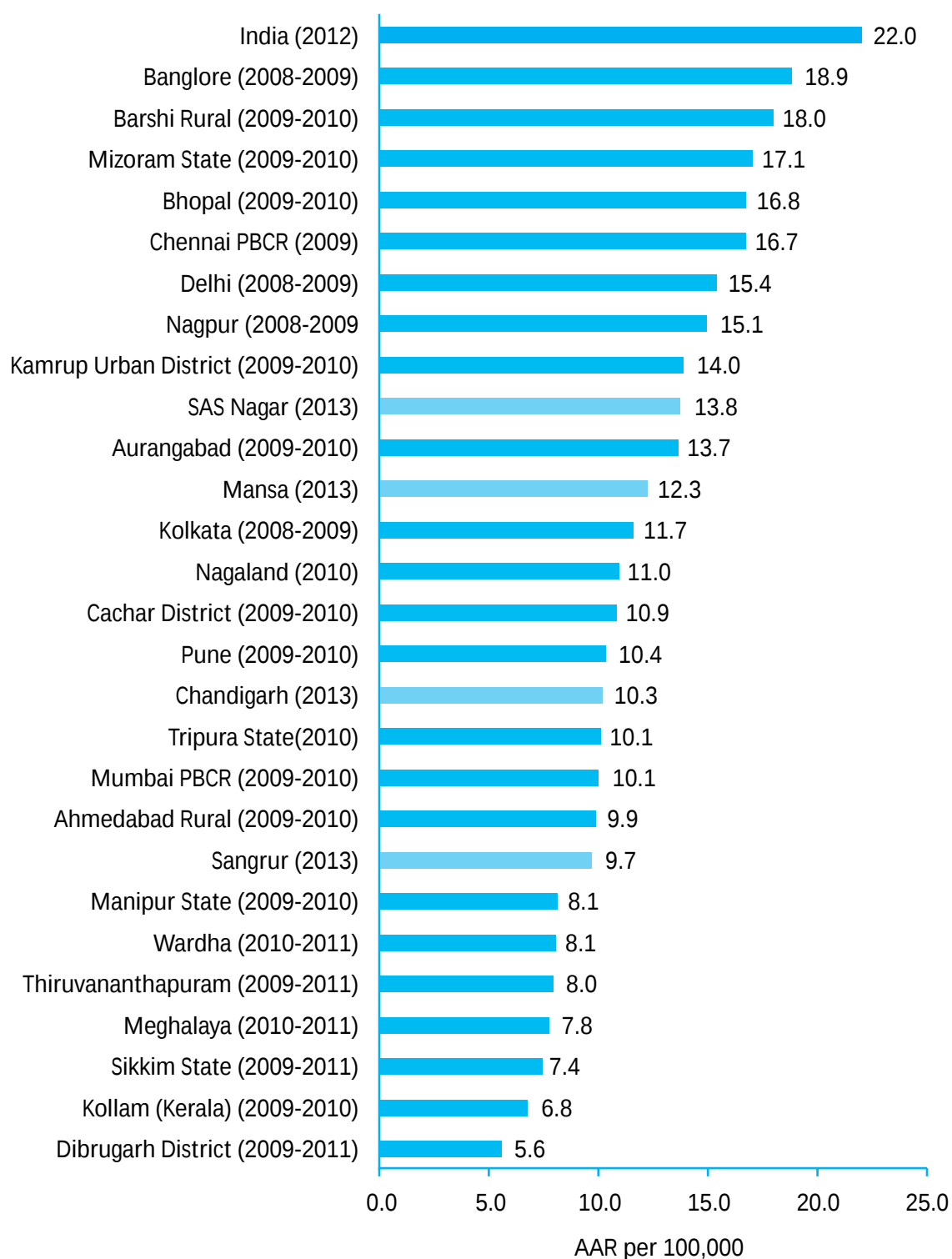


Figure 14: Age Adjusted Incidence Rate of Cervix Uteri Cancer from Indian PBCR
Reference: 1 to 6

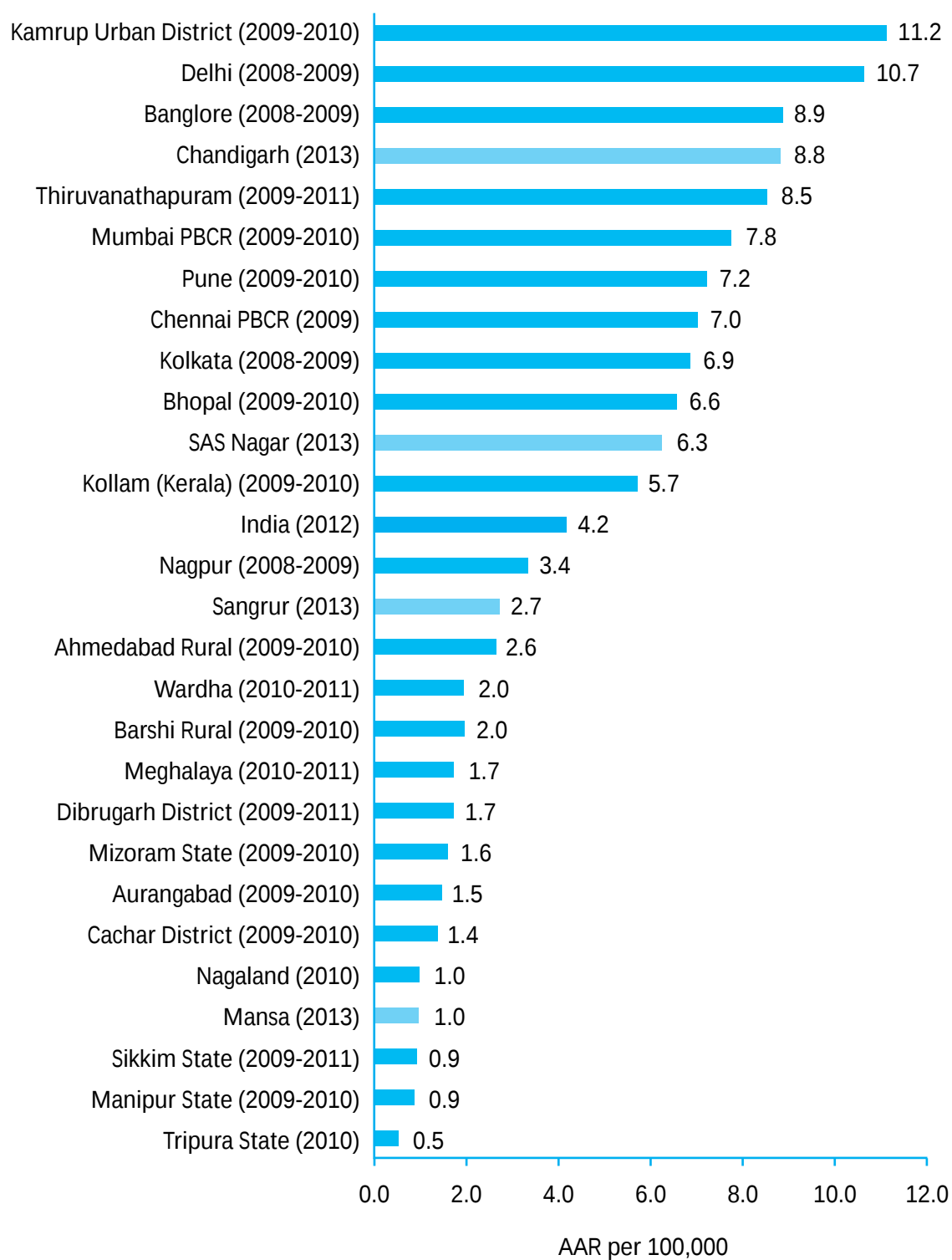


Figure 15: Age Adjusted Incidence Rate of Prostate cancer from Indian PBCR
Reference: 1 to 6

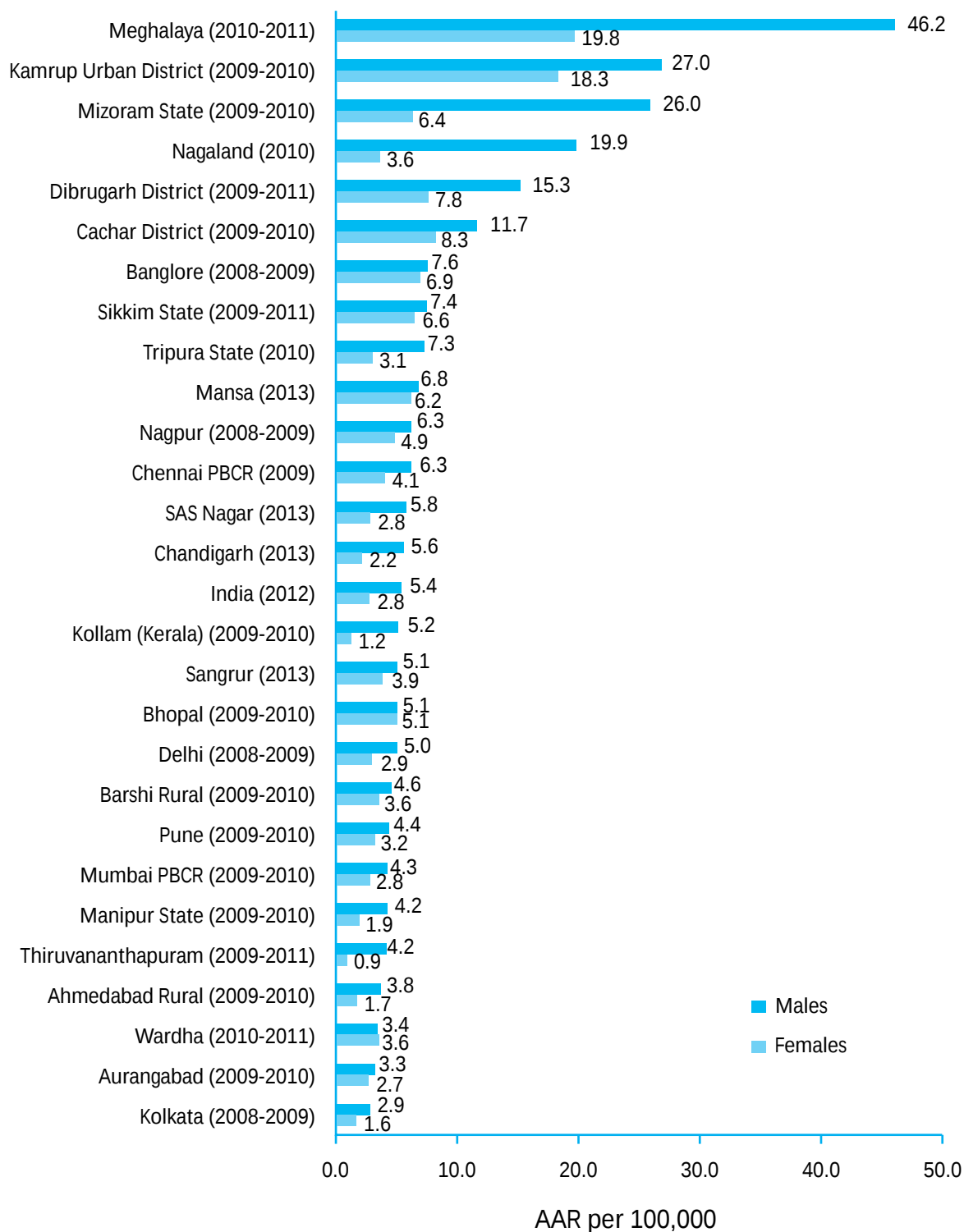


Figure 16: Age Adjusted Incidence Rate of Oesophagus Cancer from Indian PBCR
Reference: 1 to 6

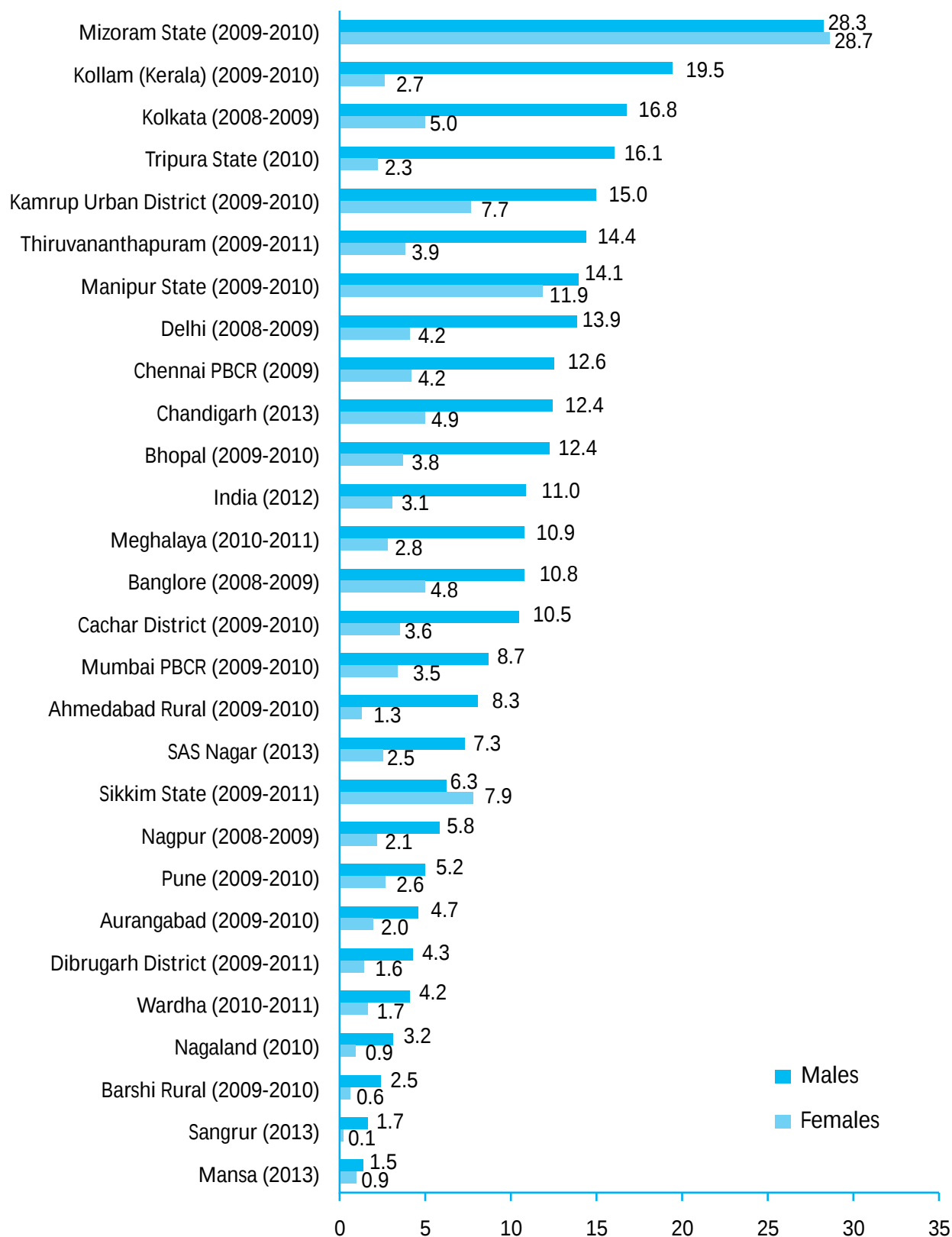


Figure 17: Age Adjusted Incidence Rate of Lung Cancer from Indian PBCR
Reference: 1 to 6

7. Highlights :

- The Population Based Cancer Registry of Chandigarh covers 100% population of the Chandigarh Union Territory.
- SAS Nagar, Sangrur and Mansa registries covers around 3.6 million population, which is 8% of the total state population of Punjab.
- The Chandigarh PBCR incidence rates of male and female are slightly higher than the national rate (Male 93.4, India 92.4, Female 105.0, India 97.4 per 100,000).
- SAS Nagar female cancer incidence rate is slightly higher than the national rate (104.2 Vs 97.4 Per 100,000), however male cancer incidence rates are lower than the national rates (74.3VS 92.4 per 100,000).
- Sangrur and Mansa Cancer Registry rates are lower than the urban cancer registries, however, these are in comparison with other rural registries in the country.
- In females breast cancer incidence rate of 37.5 per 100,000 of Chandigarh is the highest incidence rate in the country. The breast cancer incidence rate of SAS Nagar Cancer Registry is higher than Mumbai and Kolkata PBCR.
- Breast cancer is the predominant cancer in all the population based cancer registries.
- Cervix uteri cancer is second leading cancer site which follows breast cancer in Chandigarh, SAS Nagar, Sangrur PBCR however, it is the first leading cancer site in Mansa PBCR.
- 15% to 20% registered cancer cases are classified under other and unspecified sites in Sangrur and Mansa PBCR. It shows poor diagnostic facilities in these areas. In the coming year due to improvement in the diagnostic facilities the patterns of leading cancer sites may change.
- Lung and Prostate cancers are the two most common cancers in the urban male population while Cancer Oesophagus is common in the rural areas.
- The prostate cancer incidence rate of Chandigarh PBCR is slightly higher than Mumbai and Chennai PBCR, however, it is lower than the New Delhi PBCR.
- Oesophageal cancer incidence rates in males in Mansa district are higher than Chandigarh, SAS Nagar and Sangrur district.
- Most of the cancer cases from rural area are diagnosed at the advanced stages of the disease.
- Around 50 to 60% male cancer cases are surviving in the urban population, however around 35 to 40% male cases are surviving in the rural population.
- Around 70% female Cancer cases are surviving in the urban population, however around 45 to 50% cases are surviving in the rural population.

8. Cancer Control in Punjab and Chandigarh

Cancer registries are the first step in cancer control. The registry data has estimated that the risk of getting cancer in males is in the range of 5 to 11% and in females 6 to 13%. The risk is double in the urban area as compared to rural area. The major cancers in Punjab are Breast, Cervix Uteri, Lung, Prostate and Oesophagus and in Chandigarh are Breast, Cervix Uteri, Lung and Prostate. Most of the cancers are preventable. Based on the observation from the registry, Tata Memorial Centre has started satellite centre in Sangrur and will establish comprehensive cancer centre in SAS Nagar. PGIMER is also starting 500 bedded multispecialty hospital in Sangrur besides the facilities offered at Regional Cancer Centre, PGIMER, Chandigarh.

Breast Cancer is prevented by reducing central obesity and doing regular physical activity. To control Cervical Cancer both primary prevention measures in terms of good genital hygiene and secondary prevention by visual inspection, acetic acid is required. Most of the cancer types in Punjab can be prevented by reducing alcohol consumption and applying tobacco control measures.

In addition cancer awareness programme need to start particularly for early detection of breast and cervical cancer. The registries will be useful in future to monitor cancer trends and evaluate the effects of prevention and treatment.

9. References

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2. GLOBOCAN 2012: Estimated Cancer Incidence, Mortality and Prevalence worldwide: IARC/WHO, Lyon France 2012.
3. Chandigarh Population Based Cancer Registry Report: 2013 – Tata Memorial Centre, Mumbai and Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh
4. SAS Nagar Population Based Cancer Registry Report: 2013 – Tata Memorial Centre, Mumbai and Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh
5. Mansa Population Based Cancer Registry Report: 2013 – Tata Memorial Centre, Mumbai and Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh.
6. Sangrur Population Based Cancer Registry Report: 2013 – Tata Memorial Centre, Mumbai and Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh.

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