

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
Director Health Services, Chandigarh, India



1941 - 2016

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Chandigarh UT, North India



Punjab State, India

Cancer Burden in Chandigarh and Punjab State
Report: 2013-2014

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Population Based Cancer Registry Report Release 2013



The First year report of “**Population Based Cancer Registry in Punjab and Chandigarh**” was released on 8th March, 2016 at Bhargava Auditorium ,PGIMER, Chandigarh. The occasion was graced by Dr. K. K. Talwar, Dr. Yogesh Chawala Director PGI Chandigarh, Ms Vini Mahajan, IAS, PSHFW, Punjab, Prof Raj Bhaddur, Vice Chancellor BFUHS, Dr. JS Thakur, Dr. Rajesh Dikshit and Mr. T. Anbumani.

Cancer Registry Principal Investigator, Co-Principal Investigator and Co-investigators

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Dr. Jagat Ram Director, PGIMER, Chandigarh (From November 2016)	Chairman
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Dr. Sushmita Ghoshal Professor and Head Radiotherapy, PGIMER, Chandigarh	Member
Dr. Subhash C. Varma Professor and Head, Internal Medicine, PGIMER, Chandigarh	Member
Dr. Rajesh Dikshit Professor, Epidemiology, TMC, Mumbai	Member
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Dr. Atul Budukh Assistant Professor, Epidemiology, TMC, Mumbai	Member

Chandigarh	Ms. Balkiran Kaur, Mrs. Pratibha Saxena, Ms. Pooja and Mr. Manoj Kumar
SAS Nagar	Mr. Pardeep Shekhawat, Mr. Narinderjit Singh and Mr. Satyam Kumar Ojha, Mr. Ashok, Dr. Mohd. Abu Bashar
Sangrur	Mr. Prithviraj Kadam, Mr. Sanjeev Kumar, Mr. Dhalwinder Singh, Mr. Kuldeep Singh, Mr. Jitender Kumar Mr. Lakhwinder Singh, Mr. Amarjeet Singh, Mr. Amritpal Singh dhillon
Mansa	Mr. Prithviraj Kadam, Ms. Gurpreet Kaur and Mrs. Kirna
Supportive Staff from TMC	Mrs. Sonali Bagal, Ms. Ankita Manjrekar, Ms. Bhavna Jaiswar, Ms. Shraddha Shinde, Mrs. Suchita Yadav

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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 PGIMER, Chandigarh and Government of Punjab started the population based cancer registries in urban, semi urban and rural population so as to the know the cancer burden and trends over the period in these areas. The population based cancer registries are covering 4.6 million population. The data have 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 with four registries mentioned above in the year 2013-2014.

2. Population Covered

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

Table1: Estimated average population distribution among the selected districts across rural and urban areas: 2013-2014

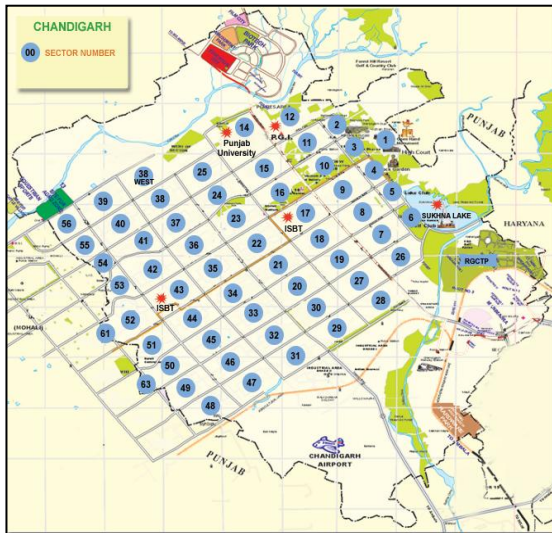
PBCR	Population covered (in million)*	Rural Area (%)	Urban Area (%)
Chandigarh	1.1	2%	98%
SAS Nagar	1.0	45%	55%
Sangrur	1.7	69%	31%
Mansa	0.8	79%	21%

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

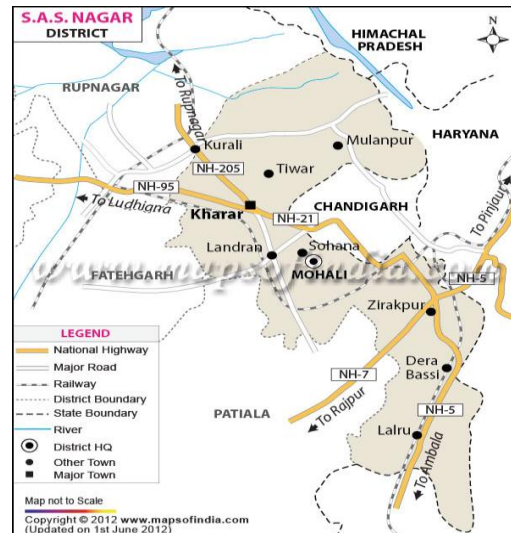
3. Release of the first year report of the cancer registries

The first year report of the Chandigarh, SAS Nagar, Sangrur and Mansa districts cancer registries was released on March 08, 2016 at Baraga auditorium, PGIMER Chandigarh. The occasion was graced by Dr. KK Talwar, Dr. Yogesh Chawala then director PGIMER, Chandigarh, Ms. Vini Mahajan IAS PSHFW, Punjab, Prof Raj Bhaddur- Vice Chancellor. **The message from first year report of cancer registry highlighted that cancer incidence rates are not high in Punjab and they are at par with the other parts of India.**

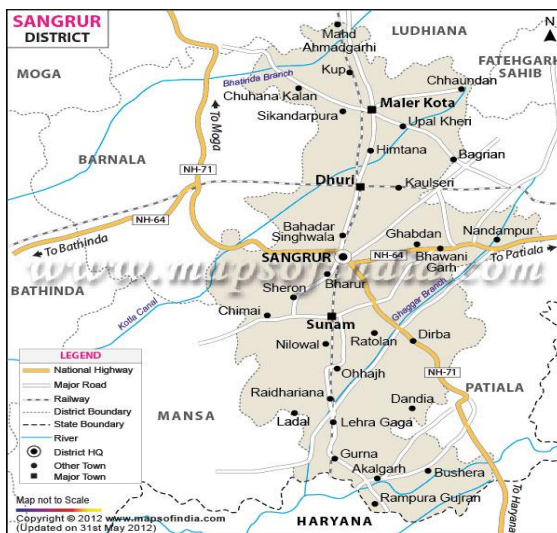
4. Area Covered



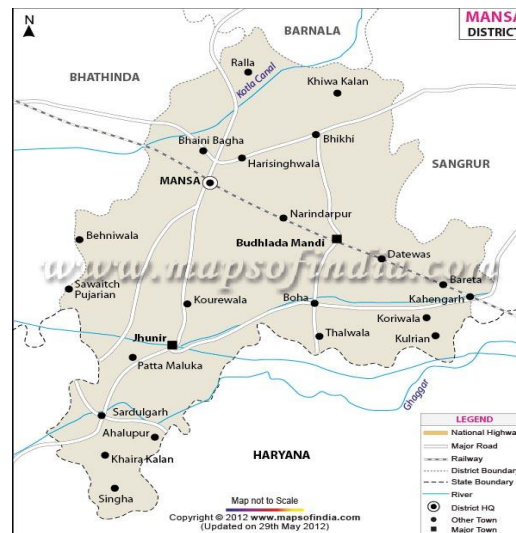
Chandigarh



SAS Nagar District



Sangrur District



Mansa District

5. Cancer Incidence and Mortality

Table 2: Population covered, incidence cases registered and incidence rate by sex : (2013-2014)*

	Chandigarh	SAS Nagar	Sangrur	Mansa
Male				
Average Population covered	612824	582158	908129	421596
Number of cases registered	855	751	808	400
AAR per 100,000 *	96.1	80.4	46.7	47.7
Cumulative risk of getting the disease (0-74 age group)	12% (1 in 8)	11% (1 in 9)	5% (1 in 20)	5% (1 in 20)
Female				
Average Population covered	506513	515894	803345	372831
Number of cases registered	859	899	927	469
AAR per 100,000 *	104.1	103.5	57.6	59.1
Cumulative risk of getting the disease (0-74 age group)	13% (1 in 7)	13% (1 in 7)	6% (1 in 17)	6% (1 in 17)

Table 3: Population covered, death due to cancer and death rate by sex : (2013-2014)*

	Chandigarh	SAS Nagar	Sangrur	Mansa
Male				
Average Population covered	612824	582158	908129	421596
Number of deaths registered	379	386	553	246
AAR per 100,000 *	43.7	41.9	32.1	29.2
Cumulative risk of death due to disease (0-74 age group)	7% (1 in 14)	6% (1 in 17)	4% (1 in 25)	3% (1 in 33)
Female				
Average Population covered	506513	515894	803345	372831
Number of deaths registered	264	320	486	242
AAR per 100,000 *	33.9	36.3	30.4	30.3
Cumulative risk of death due to disease (0-74 age group)	6% (1 in 17)	6% (1 in 17)	4% (1 in 25)	3% (1 in 33)

*AAR :Age adjusted rate per 100,000

* Including 2013 late registration

Figure 1: Cancer incidence by sex (2013-2014)

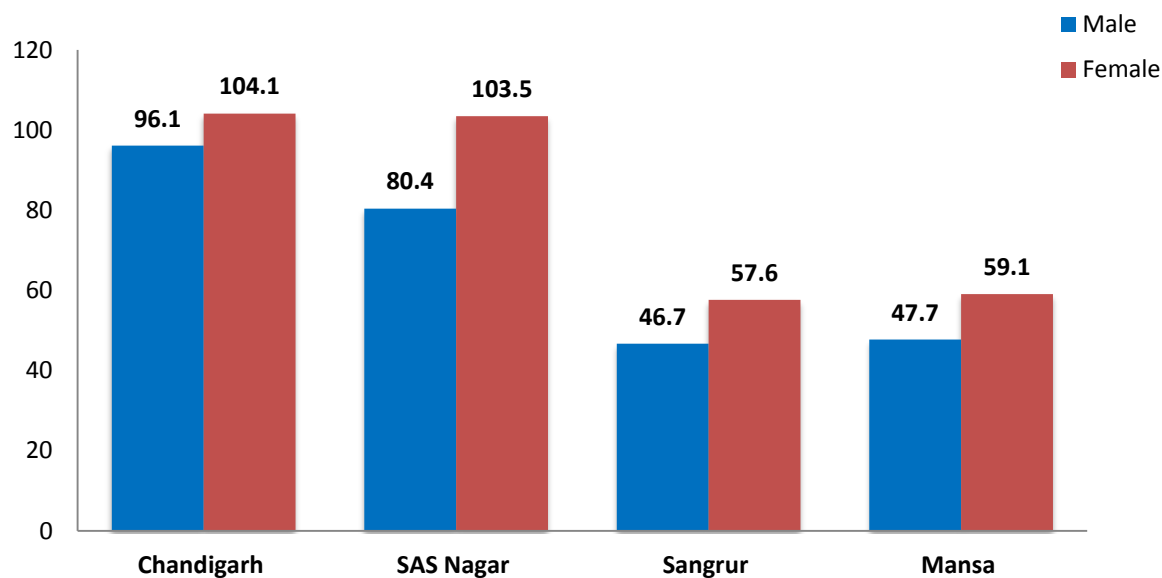
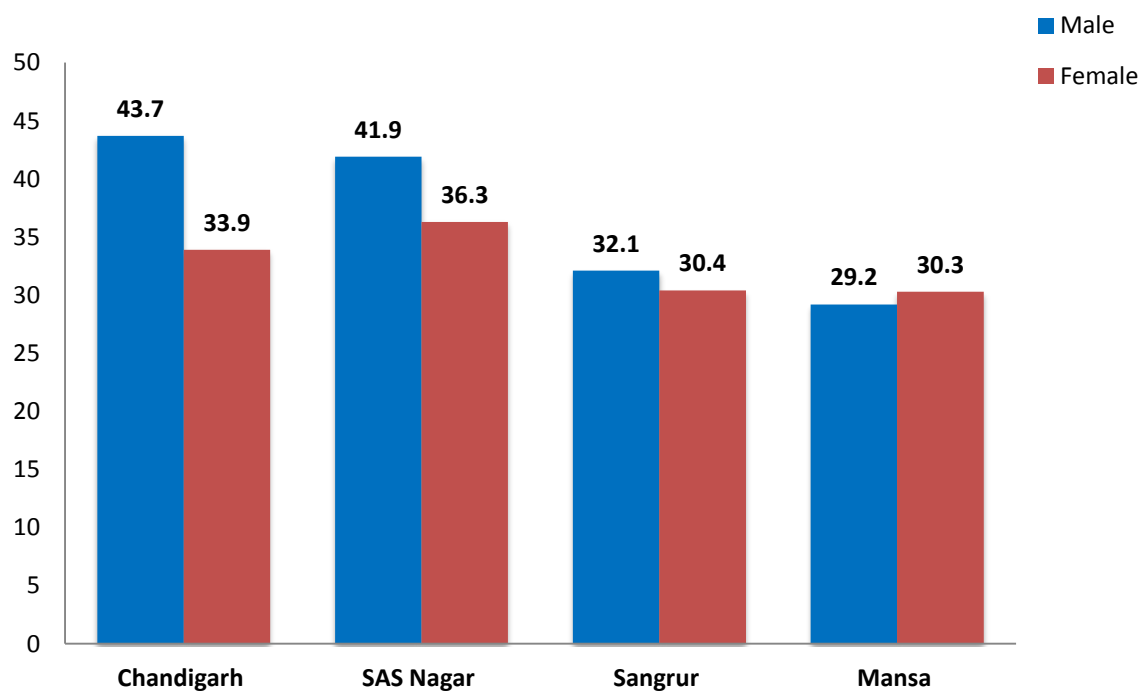
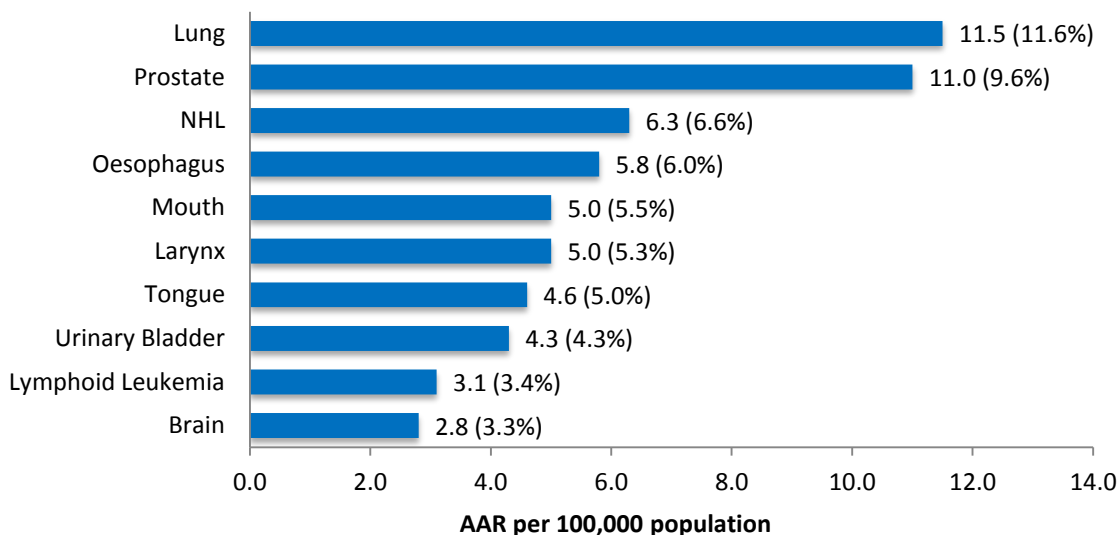


Figure 2: Cancer mortality by sex (2013-2014)



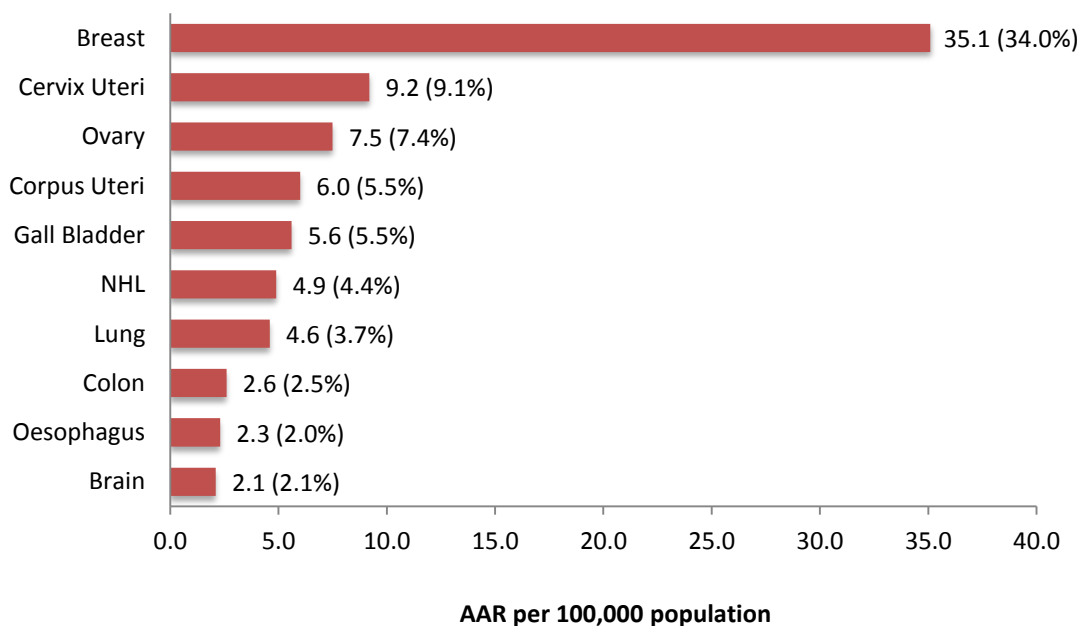
6. Leading cancer sites

Figure 3: Leading cancer sites in Chandigarh – Males (2013-2014)



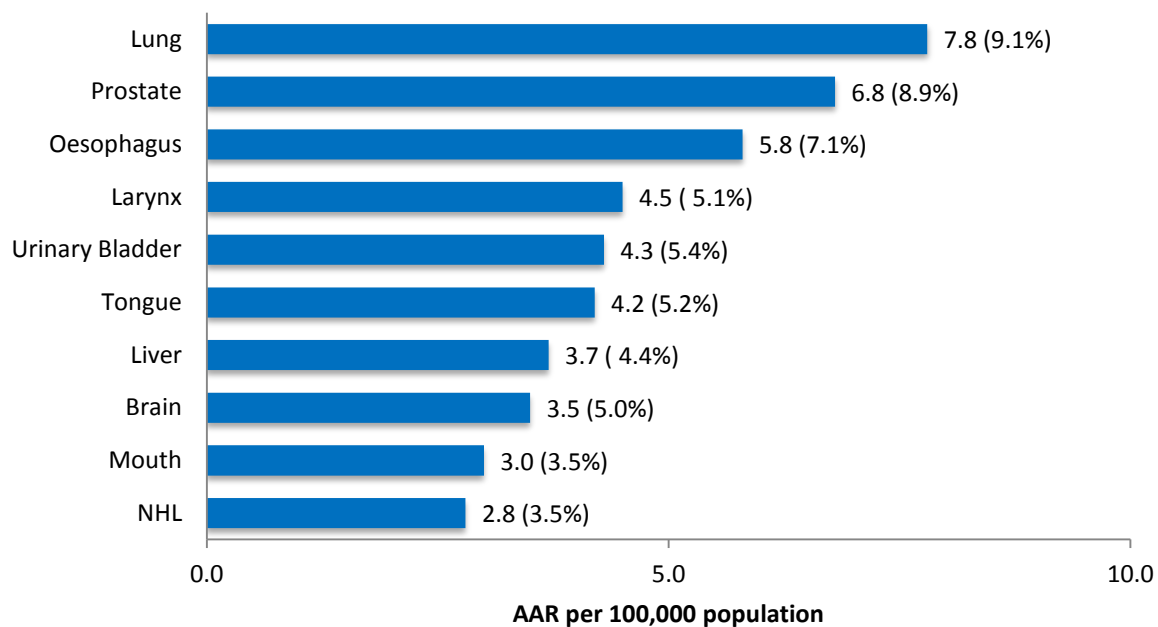
Figures in the bracket indicates percentage

Figure 4: Leading cancer sites in Chandigarh – Females (2013-2014)



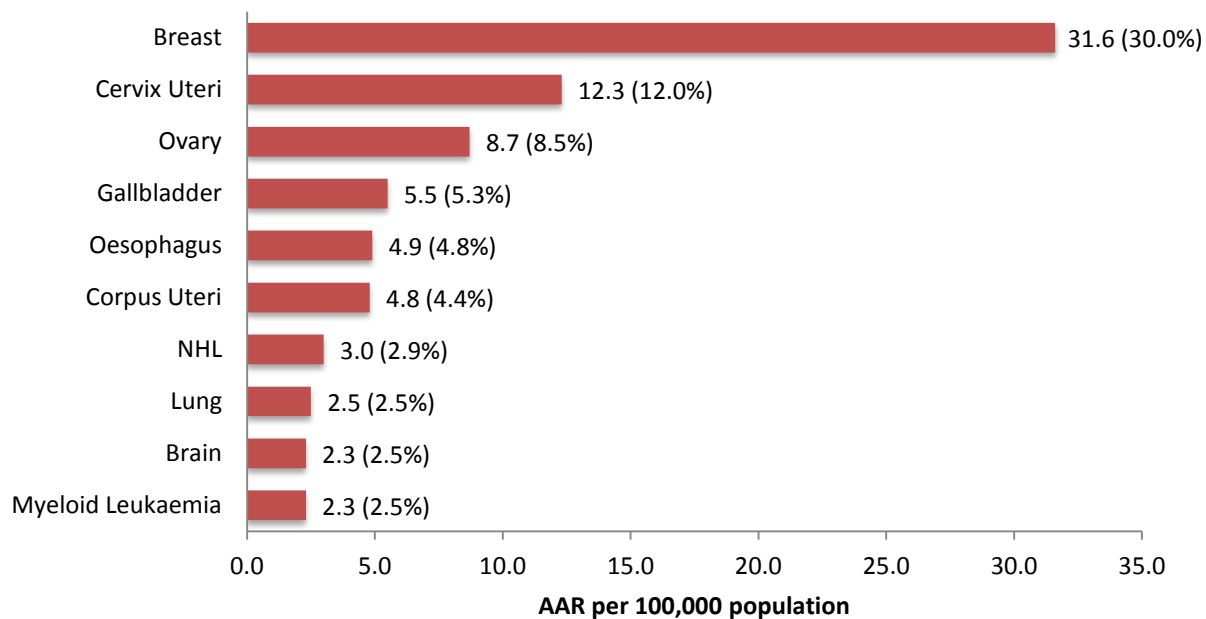
Figures in the bracket indicates percentage

Figure 5: Leading cancer sites in SAS Nagar – Males (2013-2014)



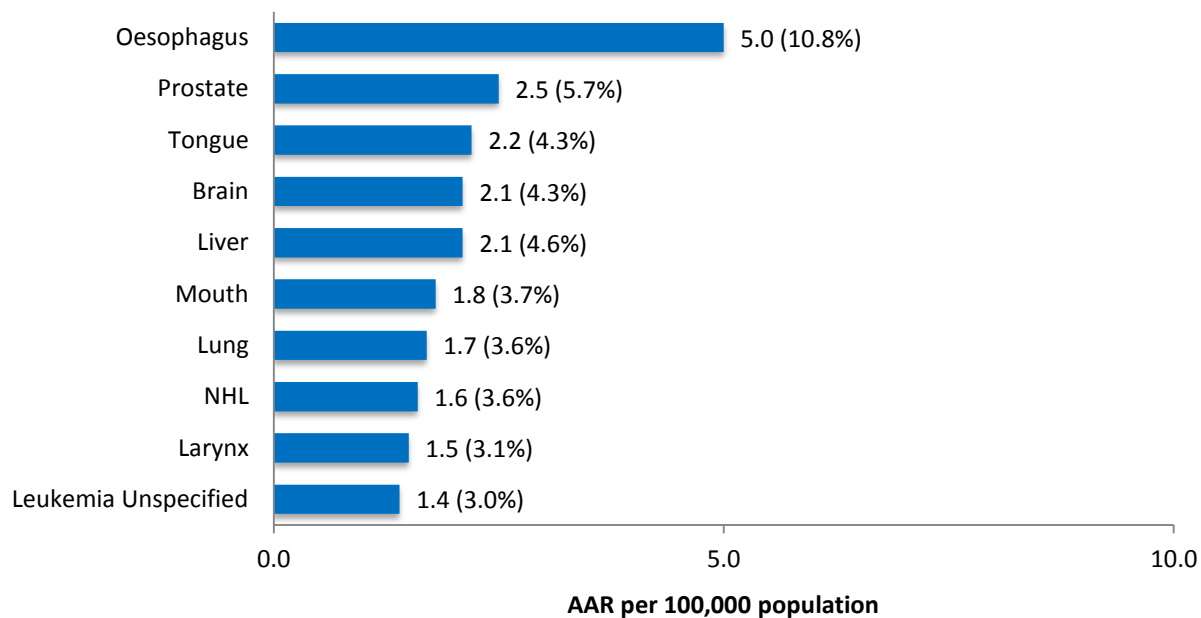
Figures in the bracket indicates percentage

Figure 6: Leading cancer sites in SAS Nagar – Females (2013-2014)



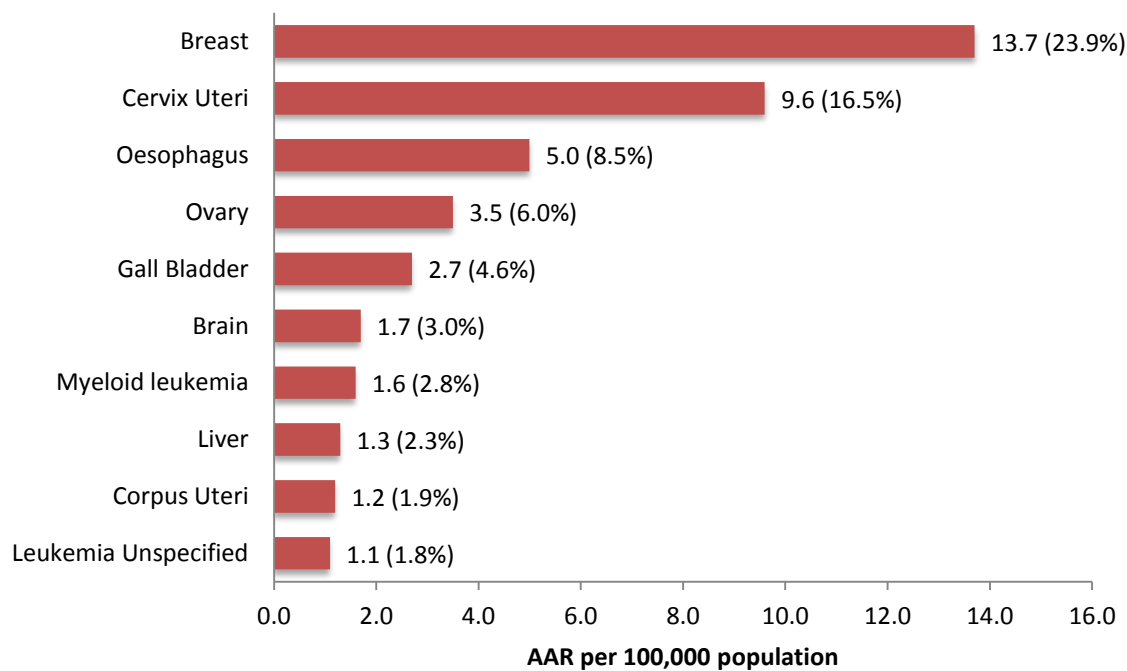
Figures in the bracket indicates percentage

Figure 7: Leading cancer sites in Sangrur – Males (2013-2014)



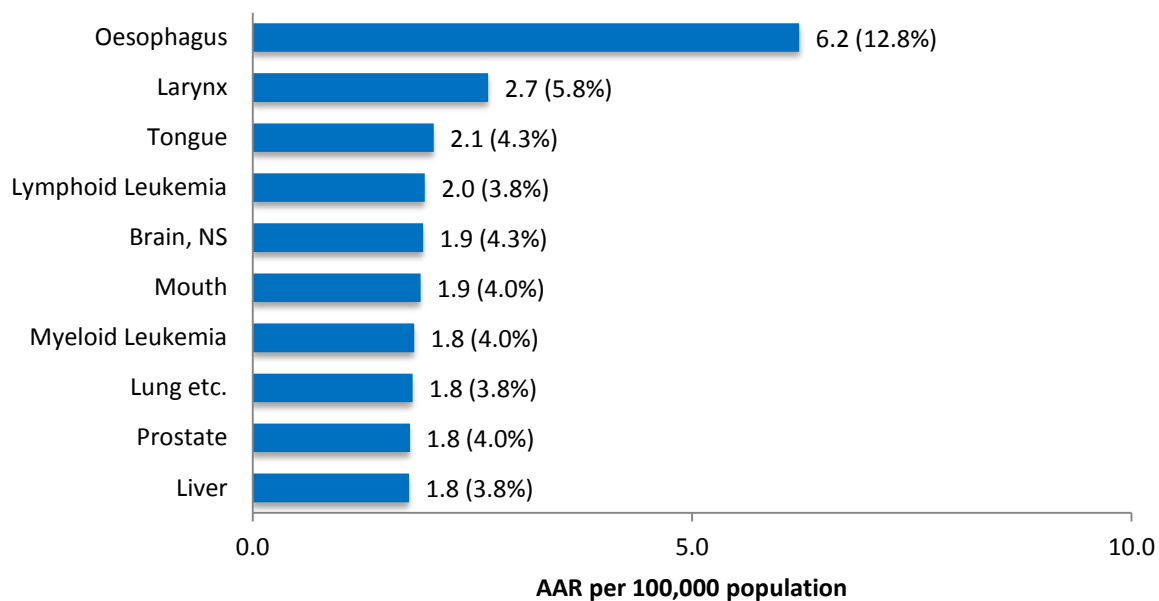
Figures in the bracket indicates percentage

Figure 8: Leading cancer sites in Sangrur – Females (2013-2014)



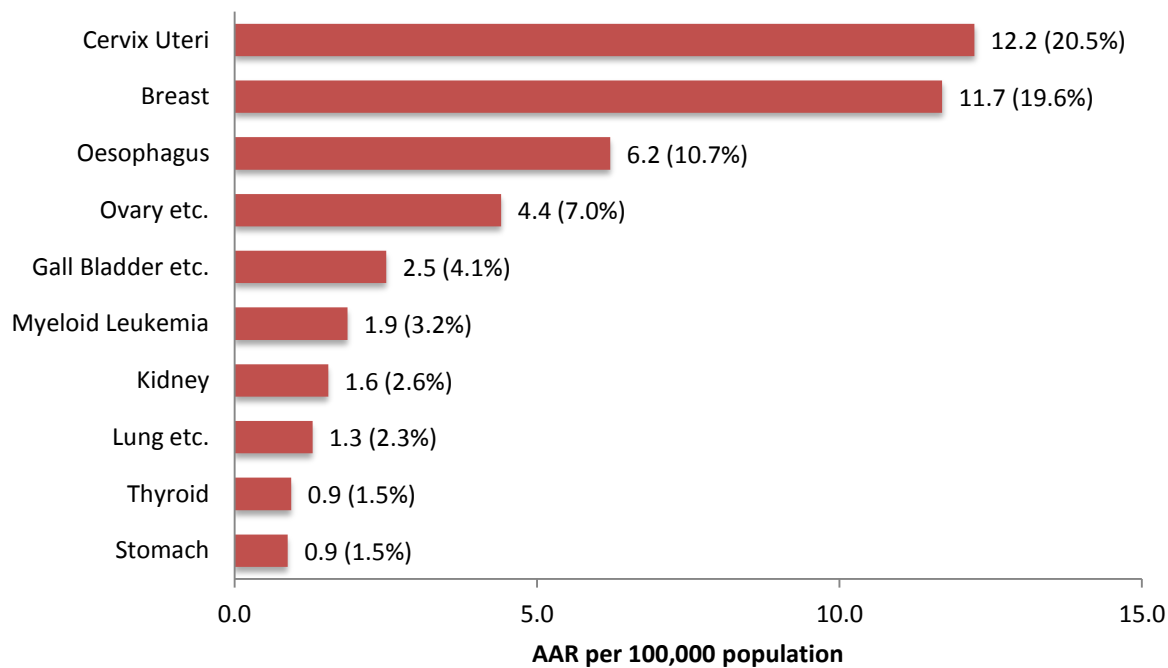
Figures in the bracket indicates percentage

Figure 9: Leading cancer sites in Mansa – Males (2013-2014)



Figures in the bracket indicates percentage

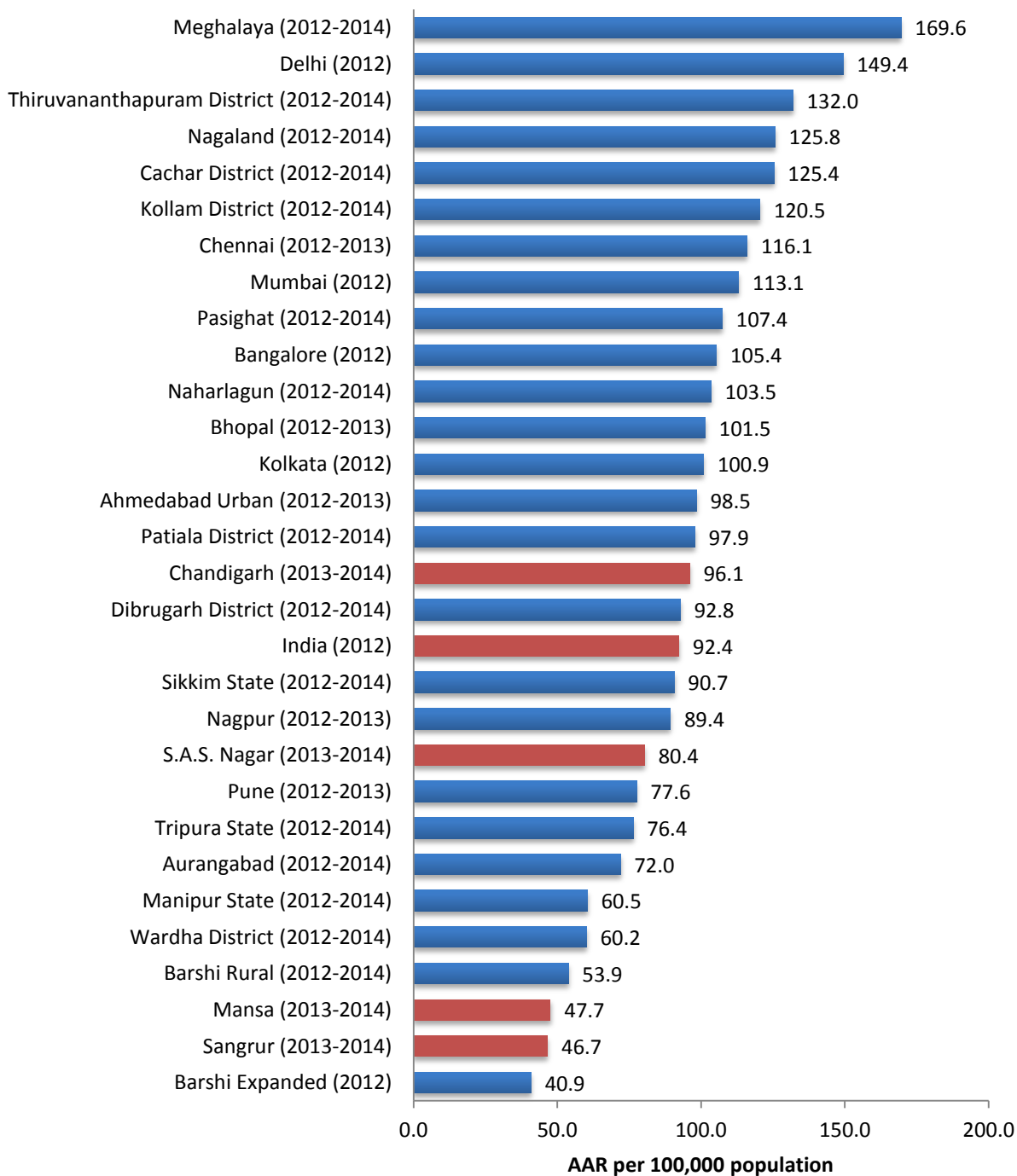
Figure 10: Leading cancer sites in Mansa – Females (2013-2014)



Figures in the bracket indicates percentage

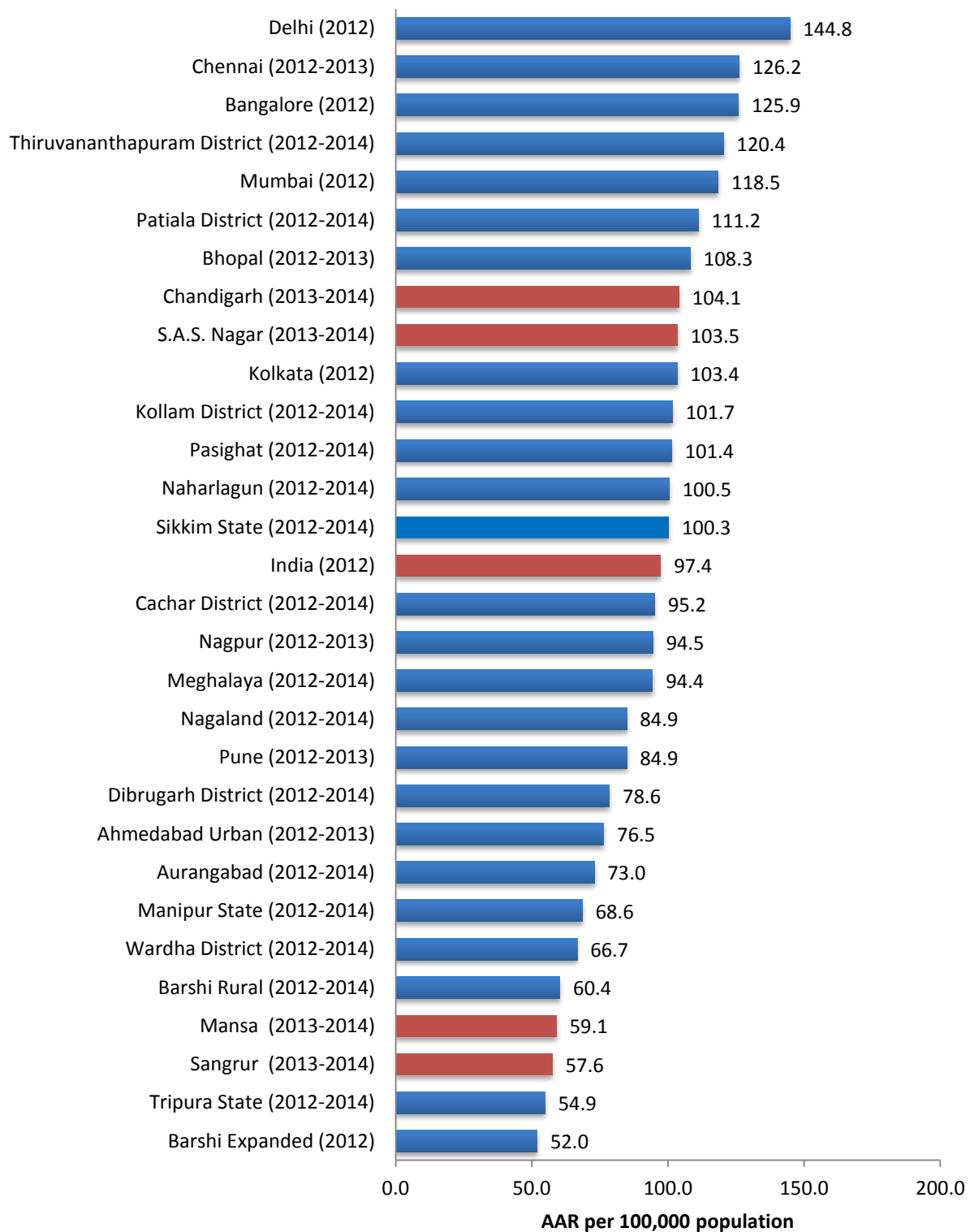
7. Comparison of cancer incidence rate with other Indian registries

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



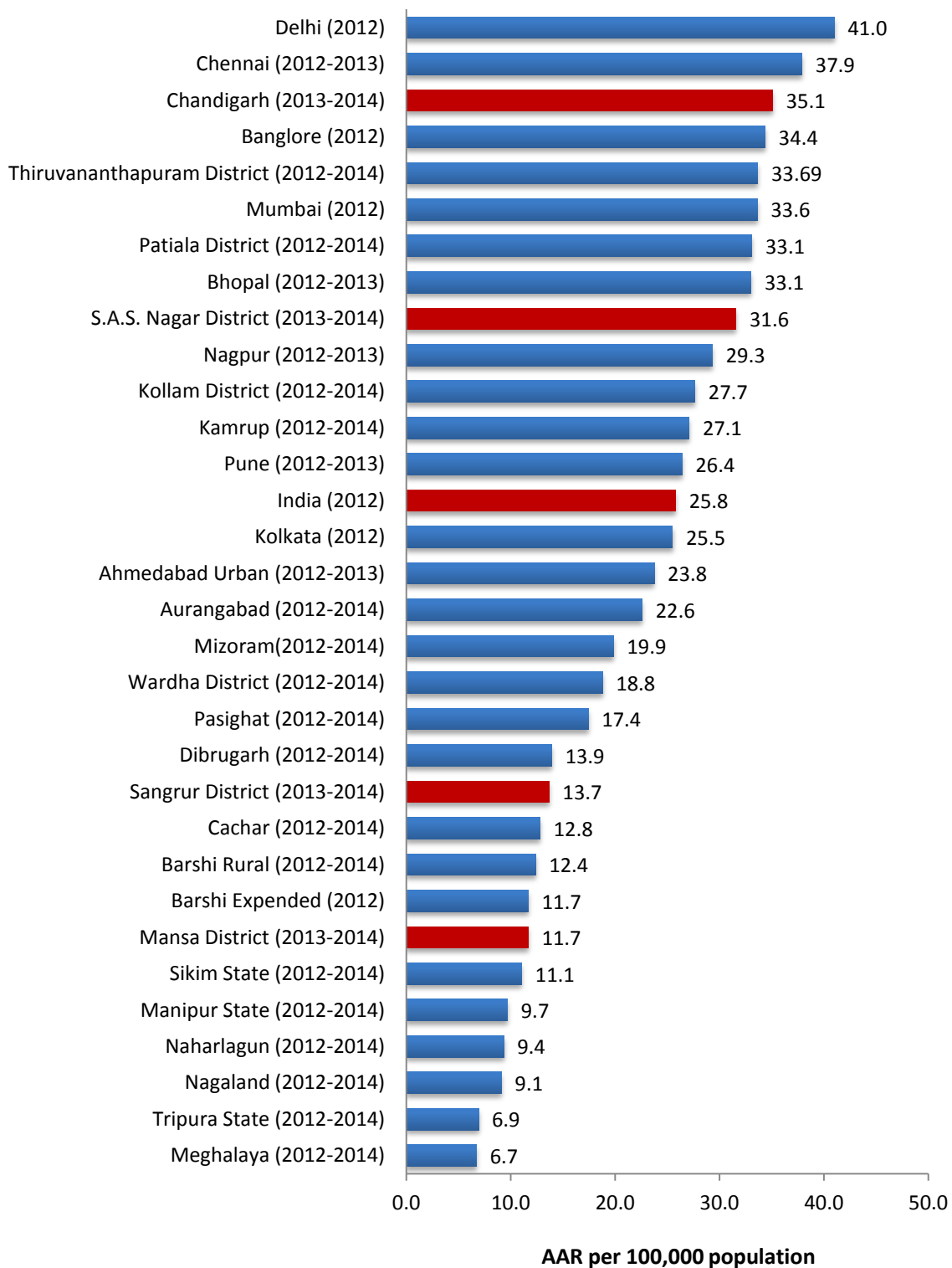
(Reference: 1 to 10)

Figure 12: Age Adjusted Incidence Rate for all cancer sites from Indian PBCR - Females



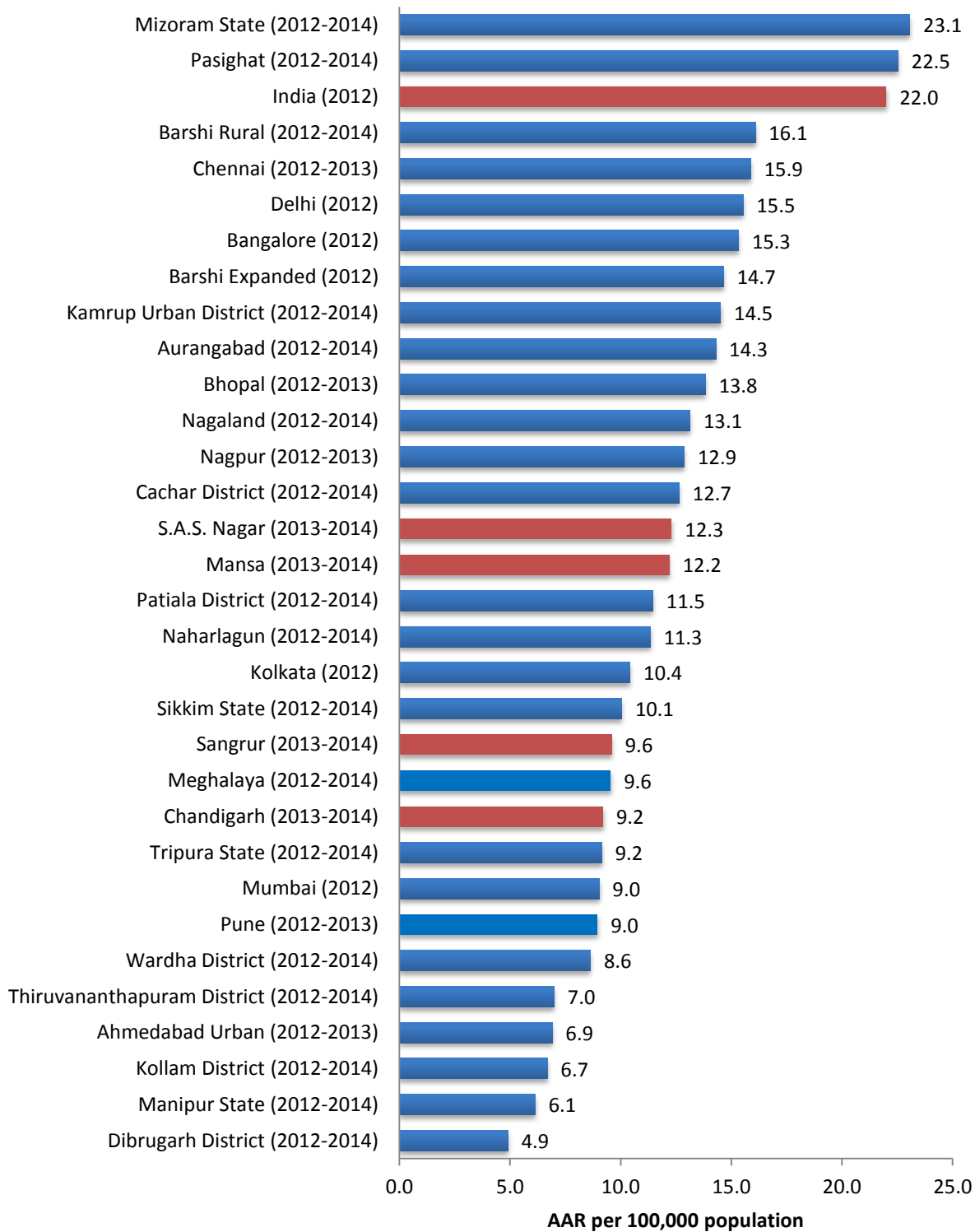
(Reference: 1 to 10)

Figure 13: Age Adjusted Incidence Rates of Breast Cancer from Indian PBCR



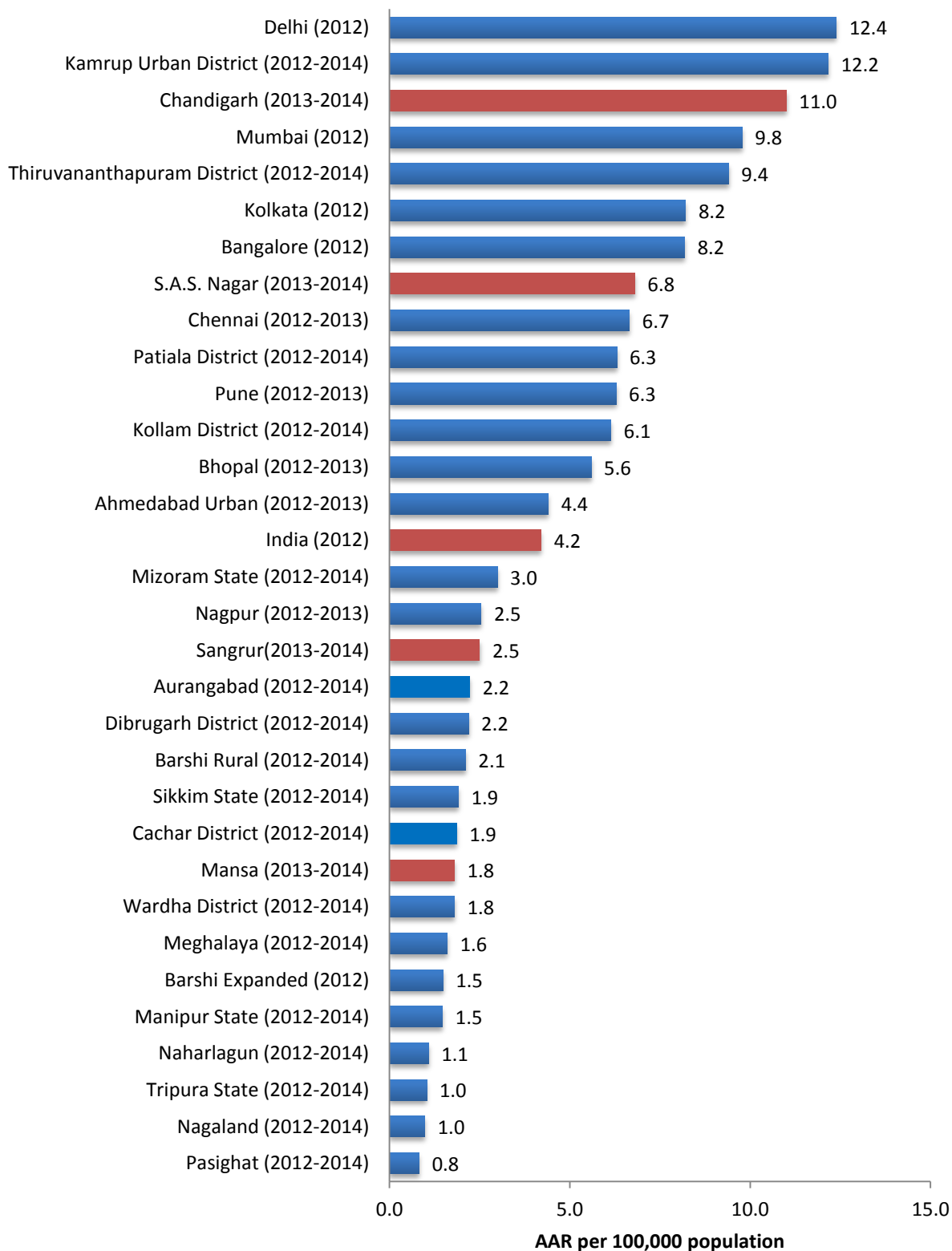
(Reference: 1 to 10)

Figure 14: Age Adjusted Incidence Rates of Cervix Uteri Cancer from Indian PBCR



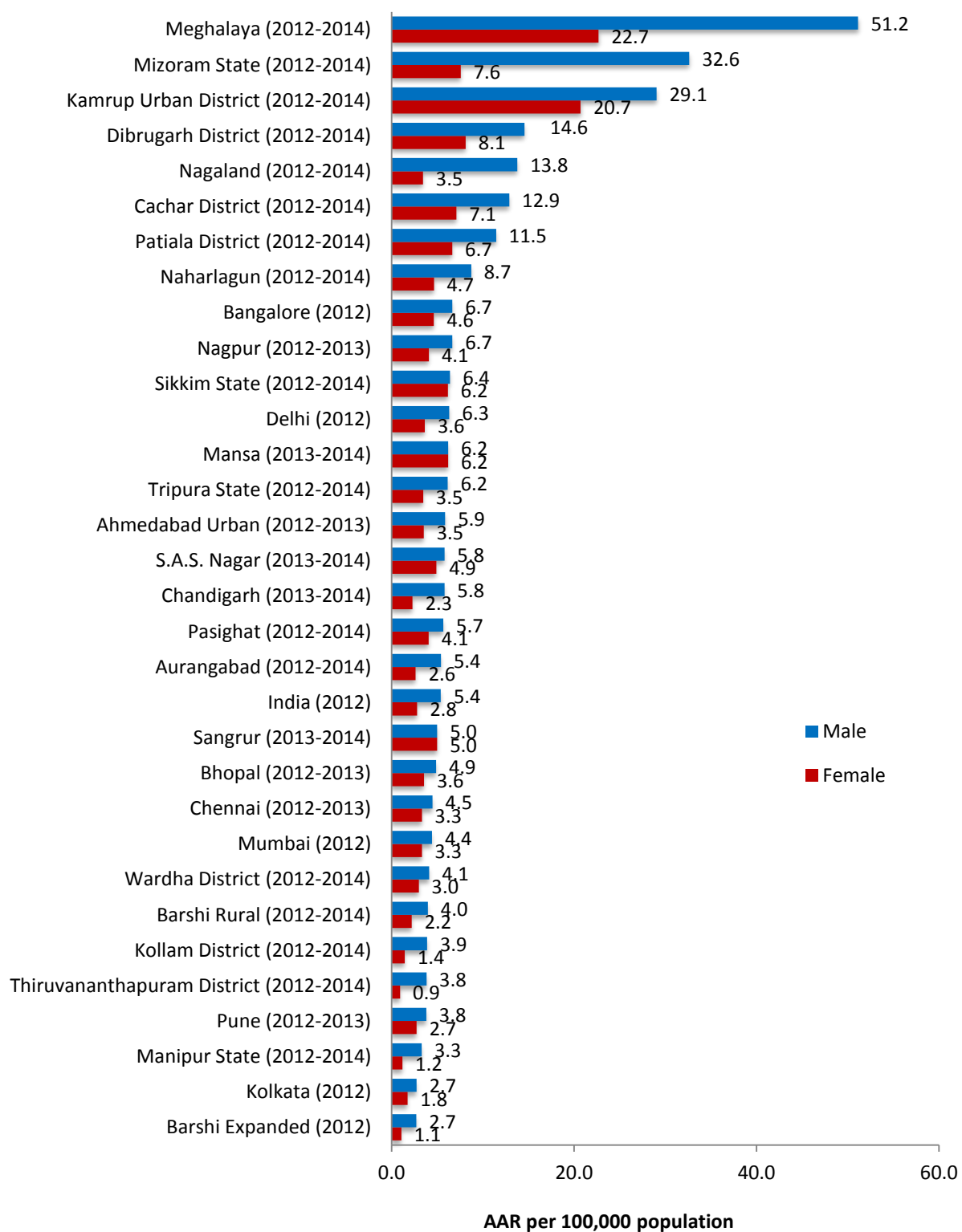
(Reference: 1 to 10)

Figure 15: Age Adjusted Incidence Rates of Prostate cancer from Indian PBCR



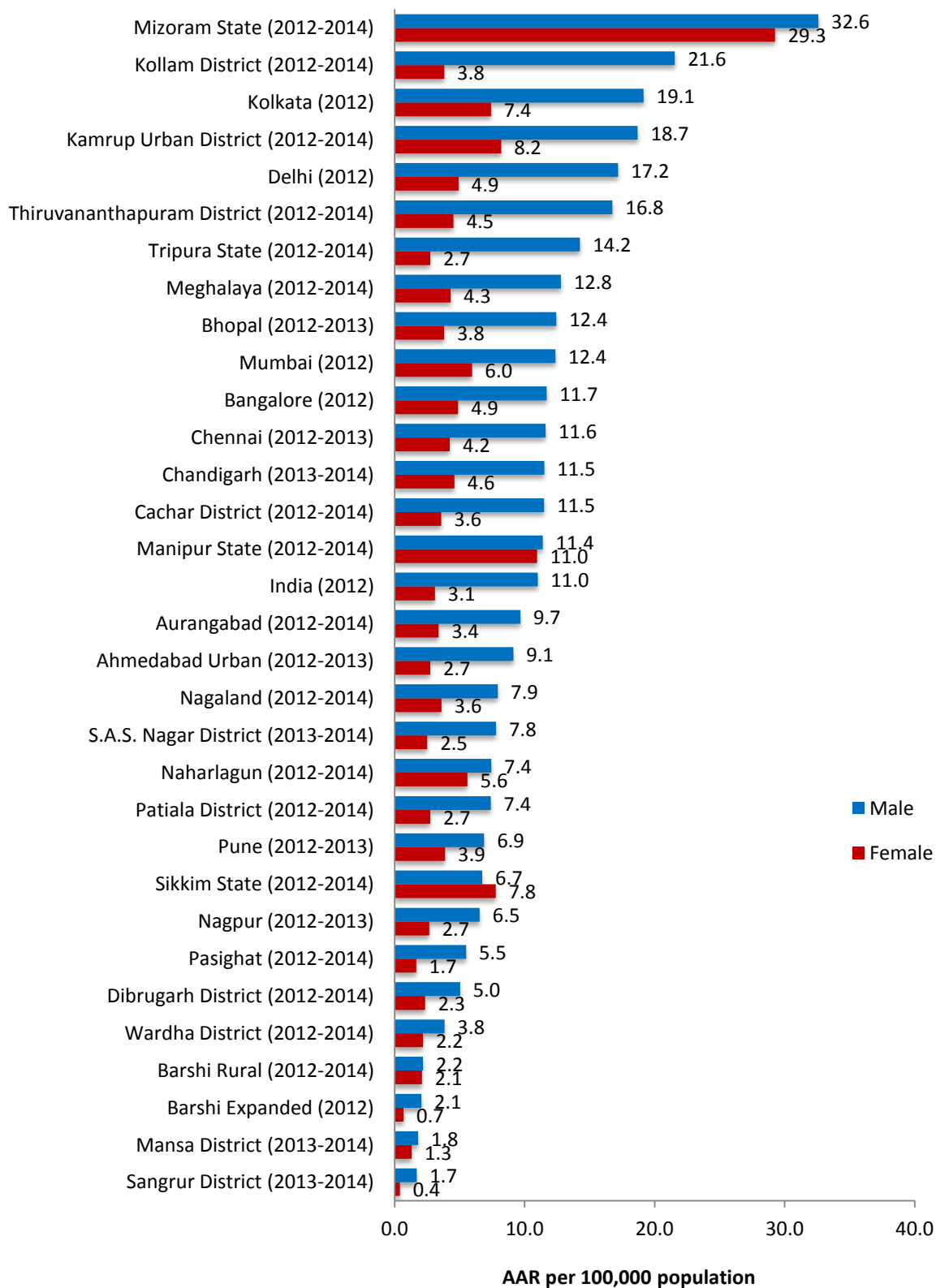
(Reference: 1 to 10)

Figure 16: Age Adjusted Incidence Rates of Oesophagus Cancer from Indian PBCR



(Reference: 1 to 10)

Figure 17: Age Adjusted Incidence Rates of Lung cancer from Indian PBCR



(Reference: 1 to 10)

8. Highlights:

- Population based cancer registry covers 100% population of the Chandigarh Union Territory.
- SAS Nagar, Sangur and Mansa registries covers around 3.6 million population, which constitutes 13% of the total population of Punjab.
- The Chandigarh PBCR incidence rate of Males and Females are higher than the national rate (Male 96.1, India 92.4, Female 104.6, India 97.4 per 100,000).
- SAS Nagar Female cancer incidence rate is slightly higher than the national rate (103.5 Vs 97.4 Per 100,000), however male cancer incidence rates are lower than the national rate (80.4 VS 92.4 per 100,000).
- Sangrur and Mansa Cancer Registry incidence rates are lower than the urban cancer registries, however, it is in comparison with other rural registries of the country.
- Female Breast Cancer Incidence rate of Chandigarh is 35.1 per 100,000 which is one of the highest incidence rate in the country but lower than Delhi and Chennai and 31.6 per 100,000 for SAS Nagar both of which are higher than the national rate.
- Breast cancer is the most predominant form of cancer in Chandigarh, SAS Nagar and Sangrur population based cancer registries.
- Cervix uteri cancer is second leading cancer site followed by breast cancer in Chandigarh, SAS Nagar, Sangrur PBCR however, it is the first leading cancer site in Mansa PBCR.
- 10 to 15% registered cancer cases are stated as others or unspecified sites in Sangrur and Mansa PBCR. It shows poor diagnostic facilities in this area. In the coming year due to improvement in the diagnostic facilities the patterns of leading cancer sites may change
- Lung, and prostate cancer are predominant cancers in the urban male population.
- Oesophagus cancer is the predominant cancer in Sangrur and Mansa PBCR. Its incidence rates in males and females in Mansa district are higher than Chandigah , SAS Nagar and Sangrur district.
- 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.
- Most of the cancer cases from rural area are diagnosed at the advanced stage of the disease.
- Approxiamtely 50% male cancer cases are surviving in the urban population, whereas only 35% male cases are surviving in the rural population.
- 60 to 70% female cases are surviving in the urban population, whereas only 43 to 49% cases are surviving in the rural population.
- **The cancer incidence rates for all cancer sites are stable in all the registries for the year 2013 as well in the year 2014. There is improvement in the cancer registration process. The rates of all cancer sites are in comparsion with the other parts of India.**

9. Cancer Control in Punjab

Cancer registries are the first step in cancer control. The registry data has estimated the risk of getting cancer in males in the range of 5 to 12% and in females it is 6 to 13%. **The risk is double in the urban areas as compared to rural areas.** The major cancers in Punjab are Breast, Cervix Uteri, Lung, Prostate and Oesophagus. 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 Mohali. PGI has also established a satellite centre besides regional cancer centre. Govt. of Punjab has taken various other steps to strengthen the services in the state.

In addition to the above, cancer awareness programme needs to be emphasized 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.

10. Reference

1. National Cancer Registry Programme – Indian Council of Medical Research : Three year report of PBCR 2012-2014, Bangalore 2016
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 Center, Mumbai and Post Graduate Institute of Medical Education and Research (PGI), Chandigarh
4. SAS Nagar Population Based Cancer Registry Report: 2013 – Tata Memorial Center, Mumbai and Post Graduate Institute of Medical Education and Research (PGI), Chandigarh
5. Mansa Population Based Cancer Registry Report: 2013 – Tata Memorial Center, Mumbai and Post Graduate Institute of Medical Education and Research (PGI), Chandigarh.
6. Sangrur Population Based Cancer Registry Report: 2013 – Tata Memorial Center, Mumbai and Post Graduate Institute of Medical Education and Research (PGI), Chandigarh.
7. Chandigarh Population Based Cancer Registry Report: 2014 – Tata Memorial Center, Mumbai and Post Graduate Institute of Medical Education and Research (PGI), Chandigarh
8. SAS Nagar Population Based Cancer Registry Report: 2014 – Tata Memorial Center, Mumbai and Post Graduate Institute of Medical Education and Research (PGI), Chandigarh
9. Mansa Population Based Cancer Registry Report: 2014 – Tata Memorial Center, Mumbai and Post Graduate Institute of Medical Education and Research (PGI), Chandigarh.
10. Sangrur Population Based Cancer Registry Report: 2014 – Tata Memorial Center, Mumbai and Post Graduate Institute of Medical Education and Research (PGI), Chandigarh.

11. Acknowledgement

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Tata Memorial Centre, Mumbai



**Centre for Cancer Epidemiology,
ACTREC, Kharghar, Navi Mumbai**



**Homi Bhabha Cancer Hospital,
Sangrur, Punjab**

“Cancer is curable if detected early.”