

## Chapter 8

### INTERNATIONAL COMPARISON OF SELECTED SITES OF CANCER

This chapter compares the Age Adjusted Rates (AARs) of Indian PBCRs (2009-2011) with the AARs of International PBCRs from five different continents viz., Africa, Asia, Australia, Europe, North America and South America available in Cancer Incidence in Five Continents (CIV Vol-IX) providing data from 1998-2002. Two registries from each continent demonstrating the highest AAR has been taken for comparison with the top five AARs among Indian PBCRs for all sites and selected sites of cancer.

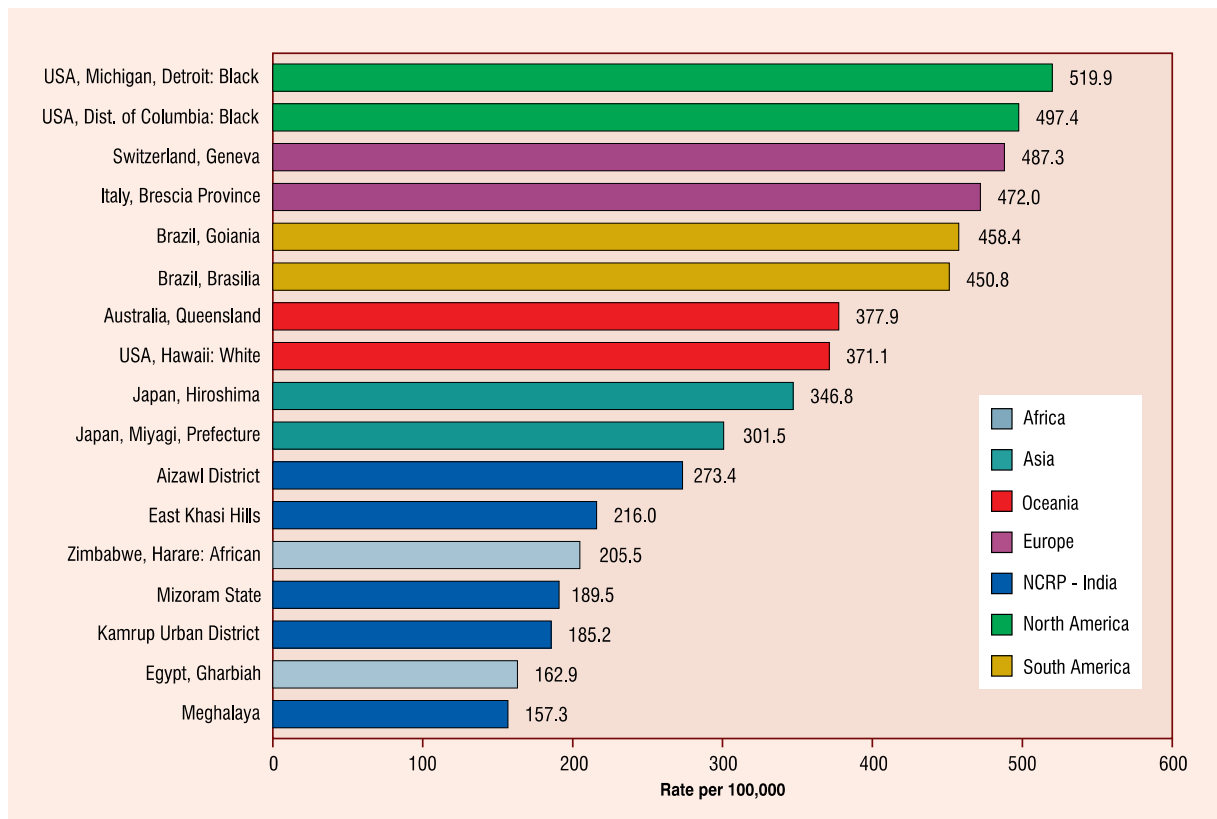
Figure 8.1 shows the highest AAR for all sites of cancer (ICD-10: C00-C97) in males and females. The highest AAR in males (519.9) was seen among the Black population of Detroit, Michigan State, USA, whereas the highest AAR in females (389.3) was seen in Goiania, Brazil. Aizawl District among the Indian PBCRs had higher AARs in both males (273.4) and females (227.8).

Figures 8.2 to 8.10 give the AAR comparison for selected sites of cancer.

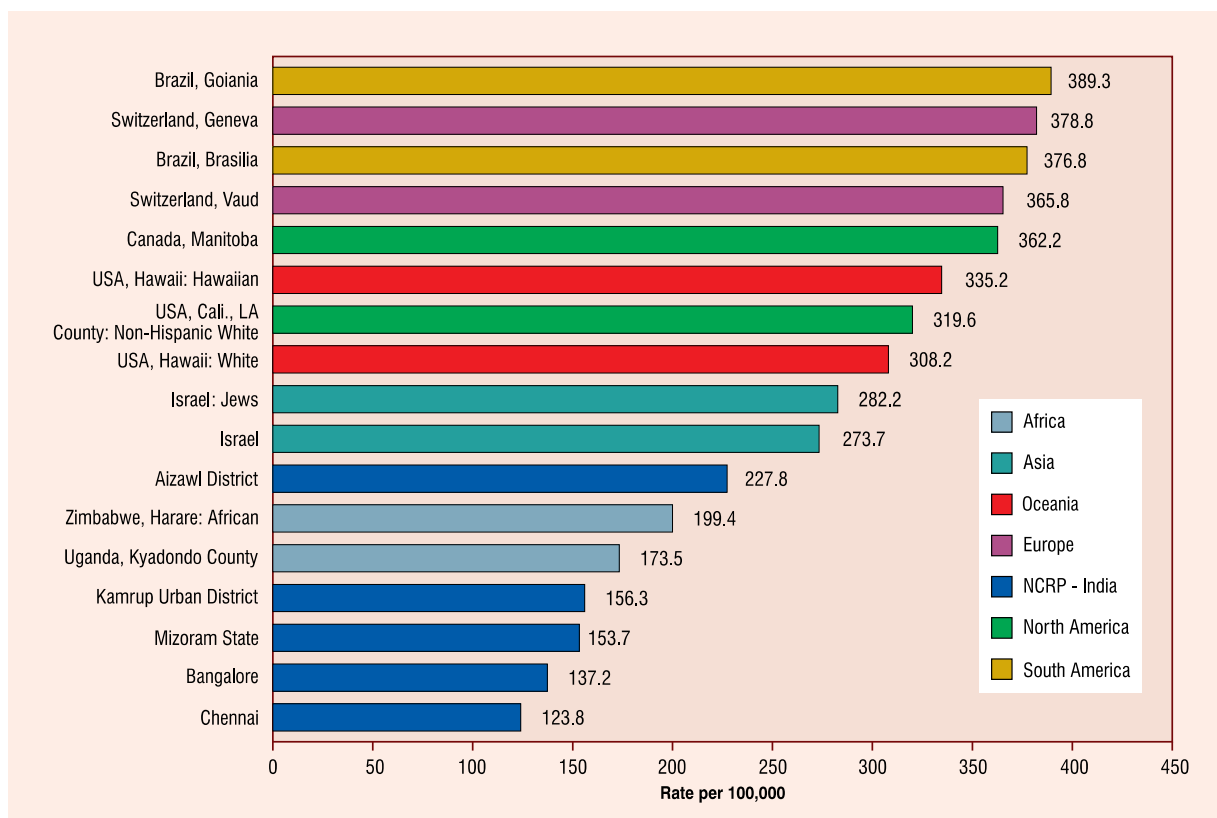
*Indian PBCRs had the highest AARs (given in parentheses) in cancers of the tongue in males [Ahmedabad Urban (12.2), Kamrup Urban District (9.4), Ahmedabad Rural (9.3), Bhopal (9.0) and Delhi (8.0)], Hypopharynx [Males: East Khasi Hills (21.5), Meghalaya (17.4), Aizawl District (15.4), Kamrup Urban District (14.7) and Dibrugarh District (11.7); Females: Kamrup Urban District (3.6), Cachar District (2.6), East Khasi Hills (2.5), Dibrugarh District (2.0) and Meghalaya (1.9)], Oesophagus [Males: East Khasi Hills (71.4), Meghalaya (46.2), Aizawl District (42.0), Kamrup Urban District (27.0) and Mizoram State (26.0); Females: East Khasi Hills (30.2), Meghalaya (19.8) and Kamrup Urban District (18.3)]*

**Fig. 8.1: International Comparison of AAR with that of PBCRs in India**  
**ALL SITES (ICD-10: C00-C97)**

**Males**

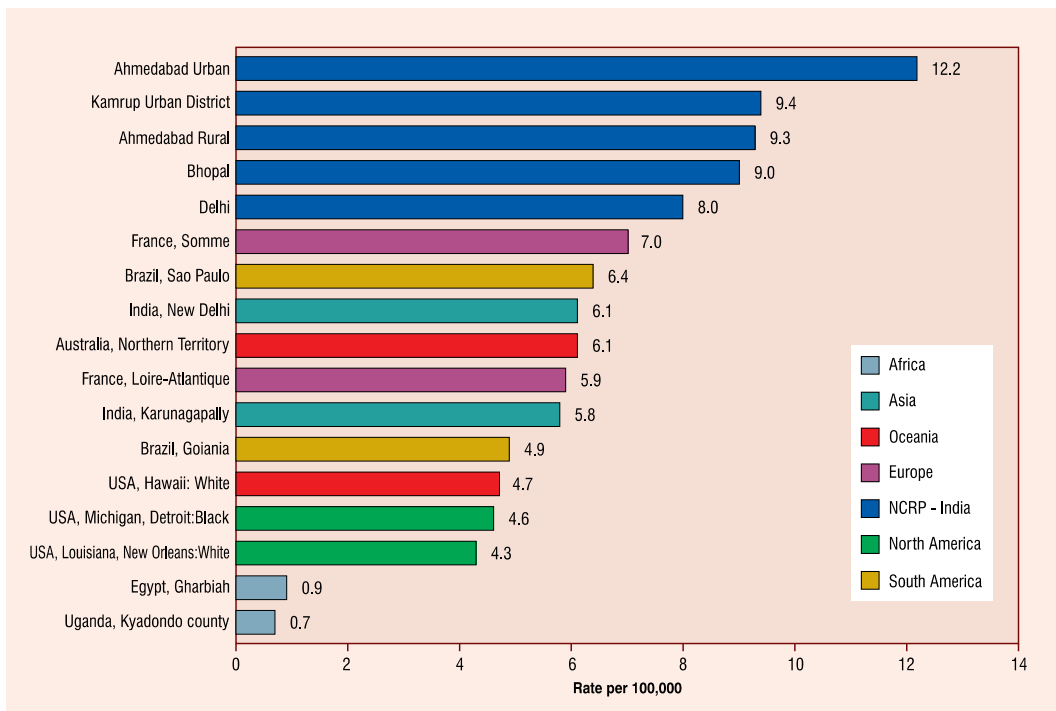


**Females**

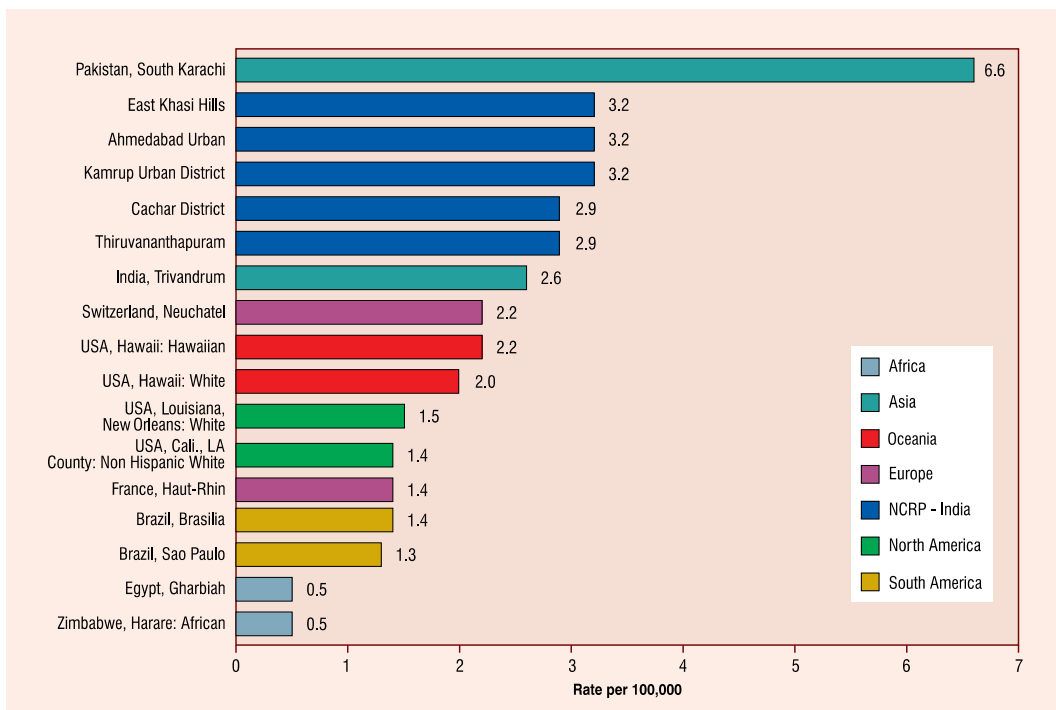


**Fig. 8.2: International Comparison of AAR with that of PBCRs in India  
TONGUE (ICD-10: C01-C02)**

**Males**



**Females**

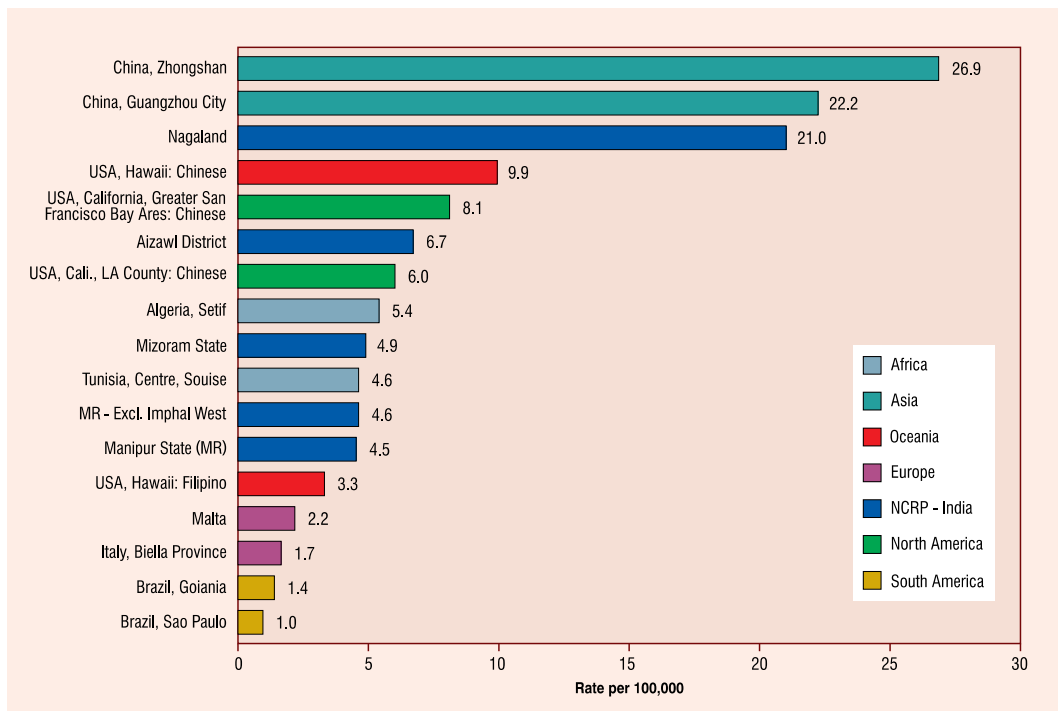


**Males:** Ahmedabad Urban had the highest AAR (12.2) among all the Indian and international PBCRs. The top five positions were occupied by five Indian PBCRs.

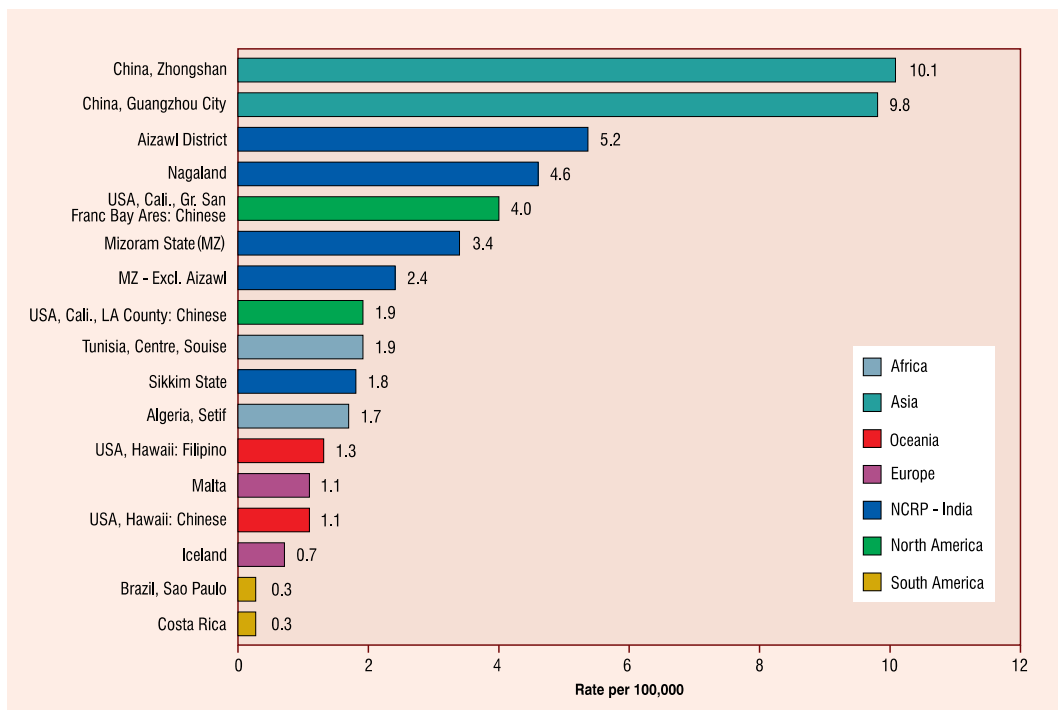
**Females:** South Karachi in Pakistan had highest AAR (6.6). Three Indian PBCRs, East Khasi Hills of Meghalaya State, Ahmedabad Urban and Kamrup Urban District followed next with an AAR of 3.2.

**Fig. 8.3: International Comparison of AAR with that of PBCRs in India  
NASOPHARYNX (ICD-10: C11)**

**Males**



**Females**

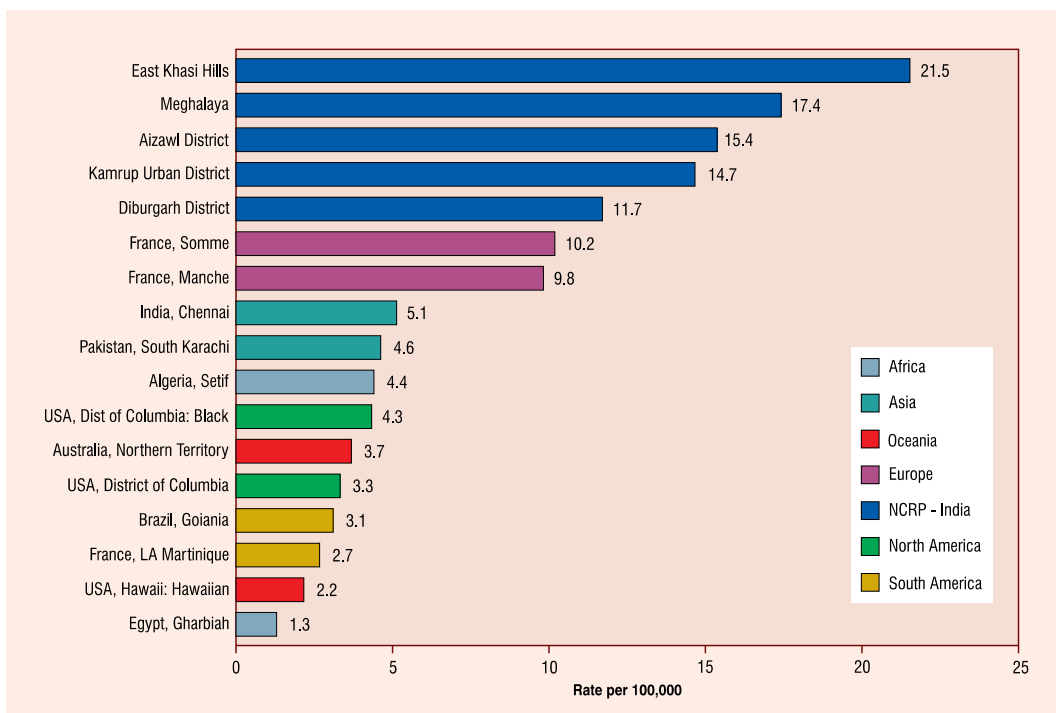


**Males:** Zhongshan in China had the highest AAR (26.9). Nagaland PBCR from India had the third highest AAR (21.0).

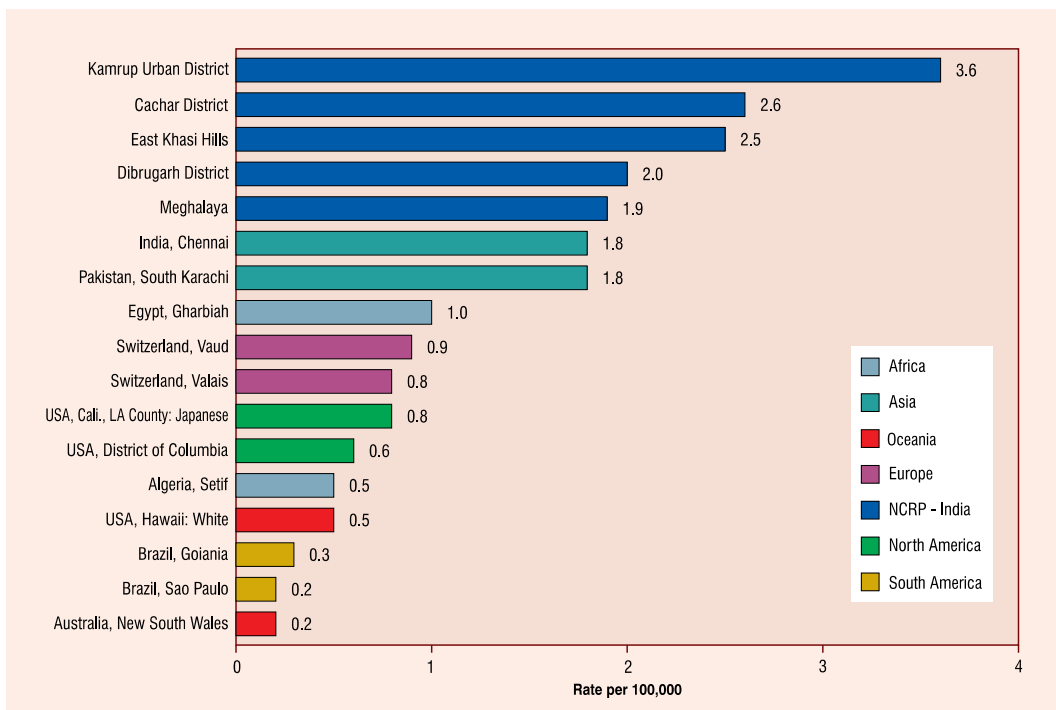
**Females:** Zhongshan and Guangzhou in China had highest AARs of 10.1 and 9.8 respectively. Aizawl District and Nagaland from India had 5.2 and 4.6 respectively.

**Fig. 8.4: International Comparison of AAR with that of PBCRs in India  
HYPOPHARYNX (ICD-10: C12-C13)**

**Males**



**Females**

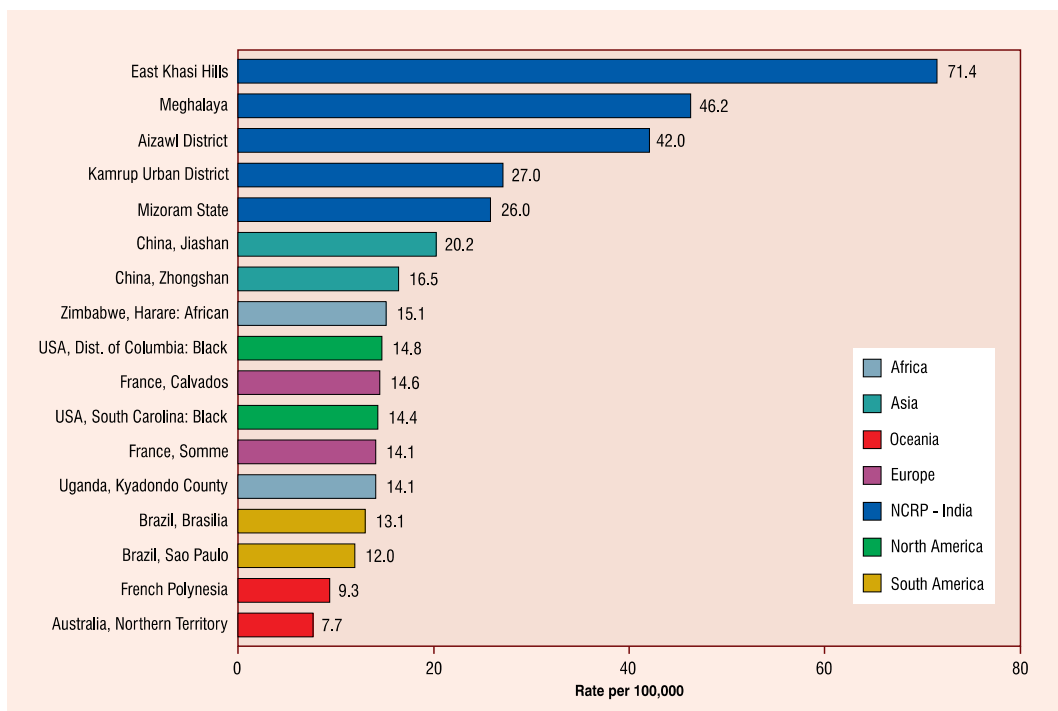


**Males:** East Khasi Hills had the highest AAR (21.5) among all the Indian and international PBCRs. The top five positions were occupied by five Indian PBCRs.

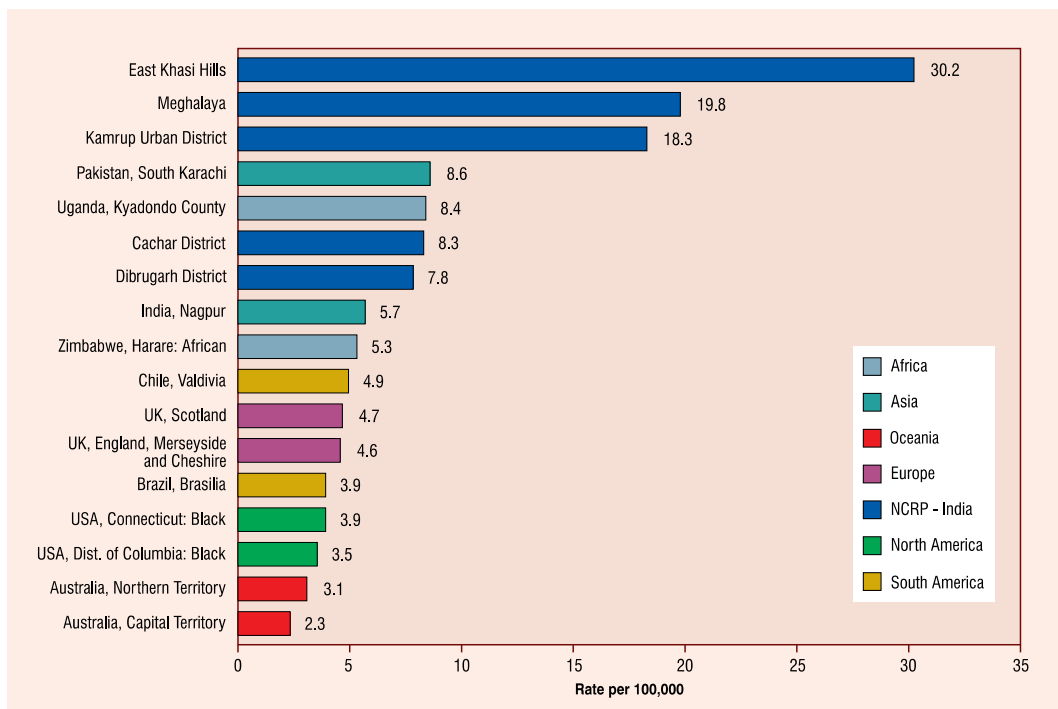
**Females:** Kamrup Urban District had highest AAR (3.6) followed by four more Indian PBCRs among all the Indian and international PBCRs.

**Fig. 8.5: International Comparison of AAR with that of PBCRs in India**  
**OESOPHAGUS (ICD-10: C15)**

**Males**



**Females**



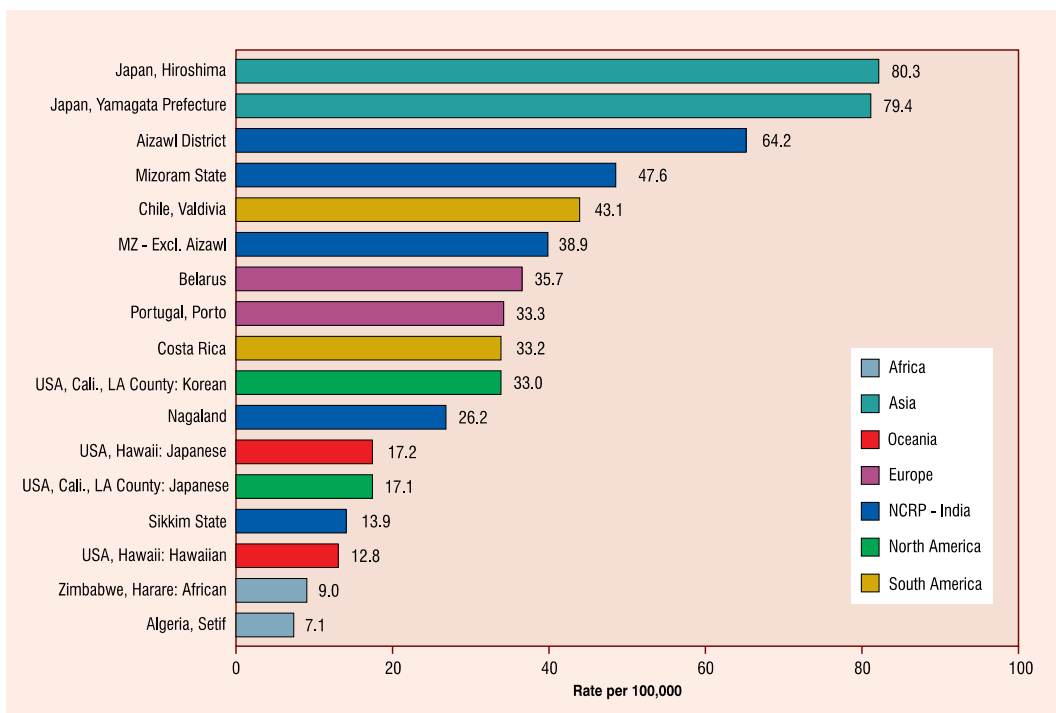
**Males:** East Khasi Hills District in Meghalaya had the highest AAR (71.4) followed by four more North Eastern PBCRs from India.

**Females:** East Khasi Hills District in Meghalaya had the highest AAR (30.2) internationally.

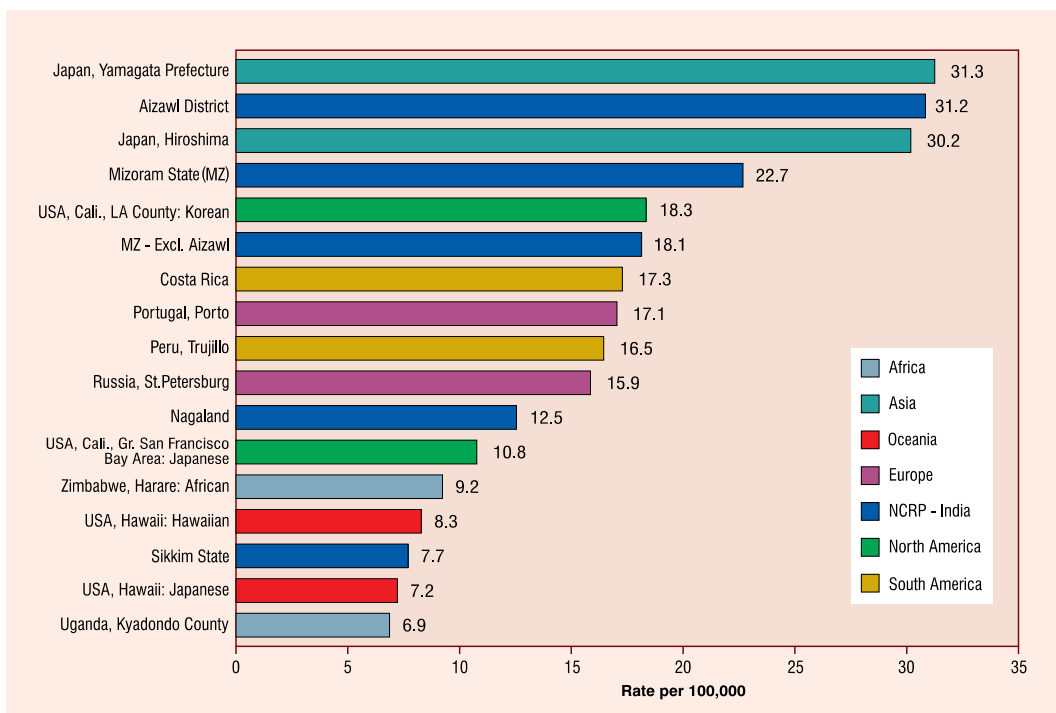
GLOBOCAN estimates of world Age Standardised Incidence Rate (ASR) for the year 2008 give the highest AAR of 22.3 and 11.7 per 100,000 for Southern Africa in males and females respectively.

**Fig. 8.6: International Comparison of AAR with that of PBCRs in India  
STOMACH (ICD-10: C16)**

**Males**



**Females**



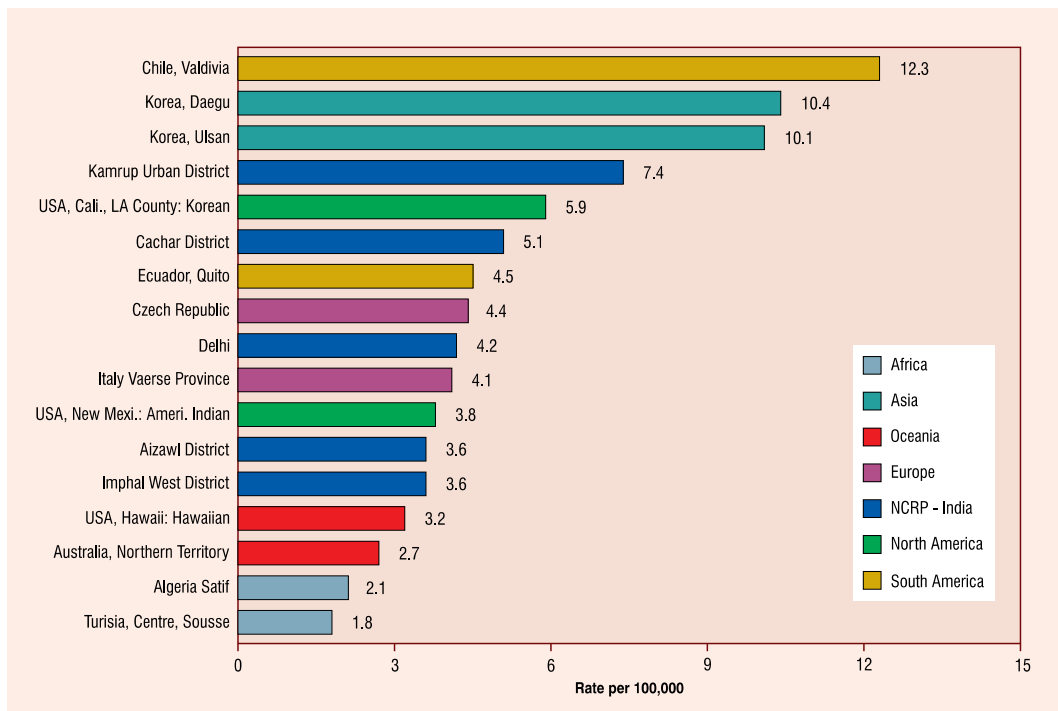
**Males:** Hiroshima and Yamagata Prefecture in Japan had the highest AAR (80.3) and (79.4) respectively. Aizawl District had the highest AAR (64.2) among Indian PBCRs.

**Females:** Yamagata Prefecture in Japan had the highest AAR (31.3) internationally closely followed by Aizawl District (31.2).

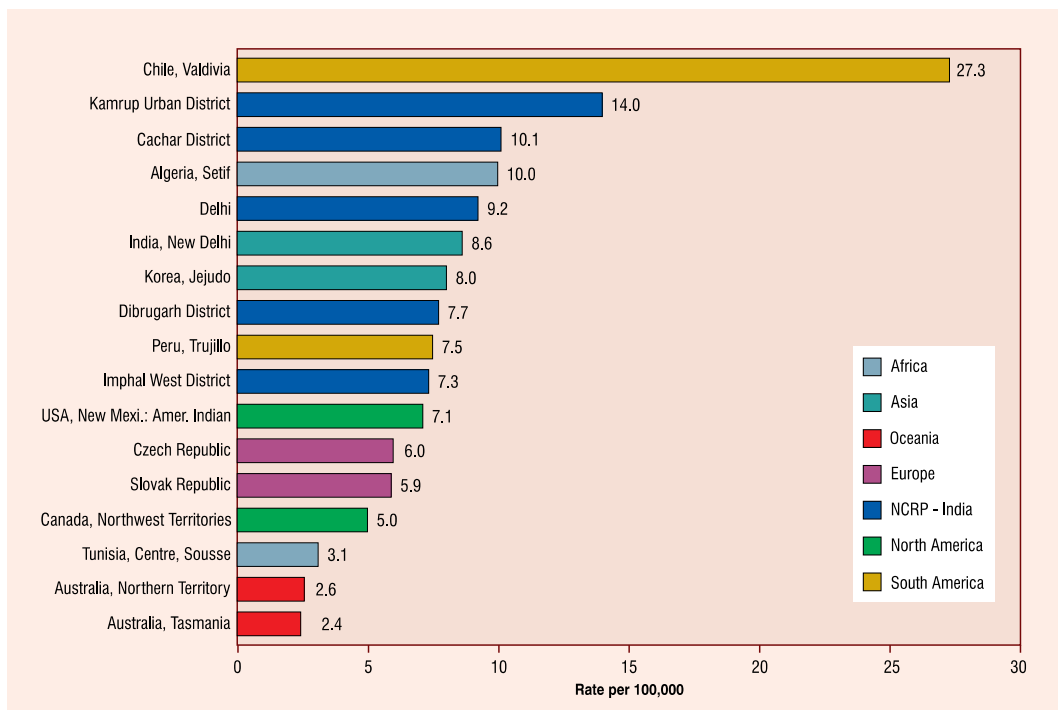
GLOBOCAN estimates of world ASR for the year 2008 give the highest AAR of 42.4 and 18.3 per 100,000 for Eastern Asia in males and females respectively.

**Fig. 8.7: International Comparison of AAR with that of PBCRs in India**  
**GALLBLADDER (ICD-10: C23-C24)**

**Males**



**Females**



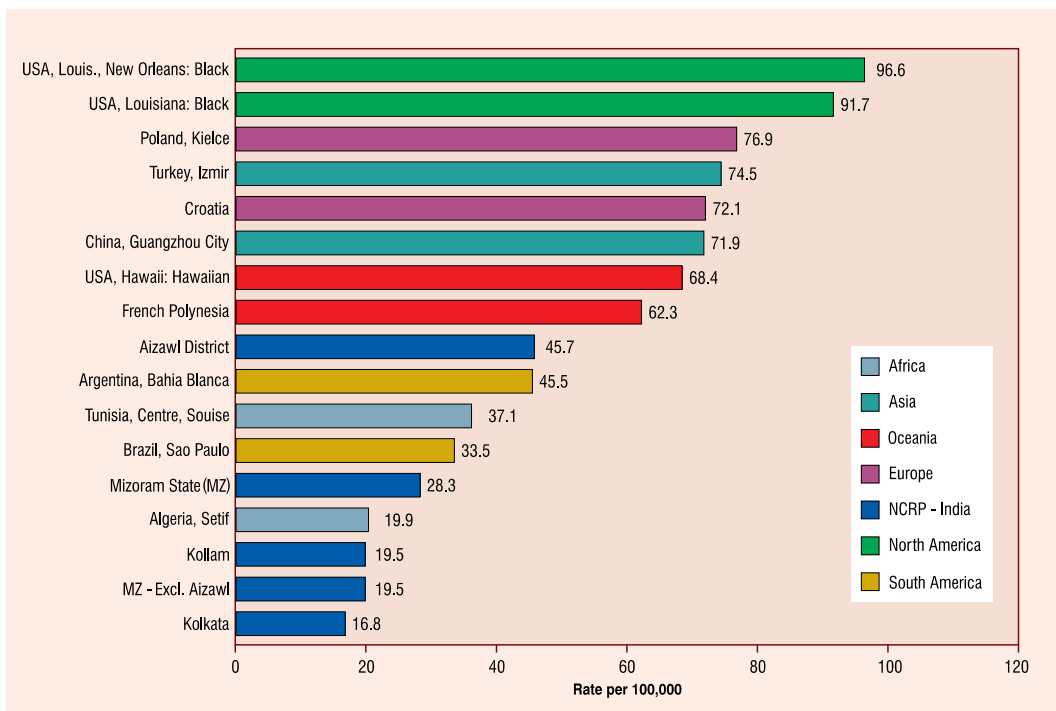
**Males:** Valdivia in Chile had the highest AAR (12.3) internationally and Kamrup Urban District had an AAR of 7.4 from India.

**Females:** Valdivia in Chile had the highest AAR (27.3) internationally. Kamrup Urban District and Cachar District followed next with AARs of 14.0 and 10.1 respectively.

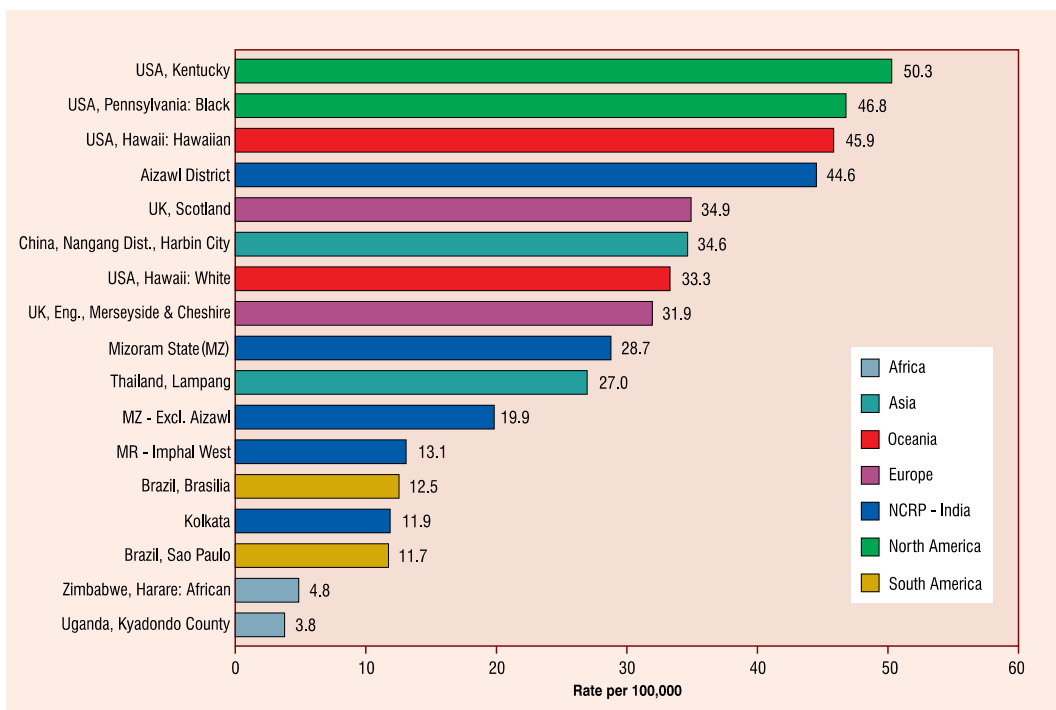


**Fig. 8.8: International Comparison of AAR with that of PBCRs in India  
LUNG (ICD-10: C33-C34)**

**Males**



**Females**

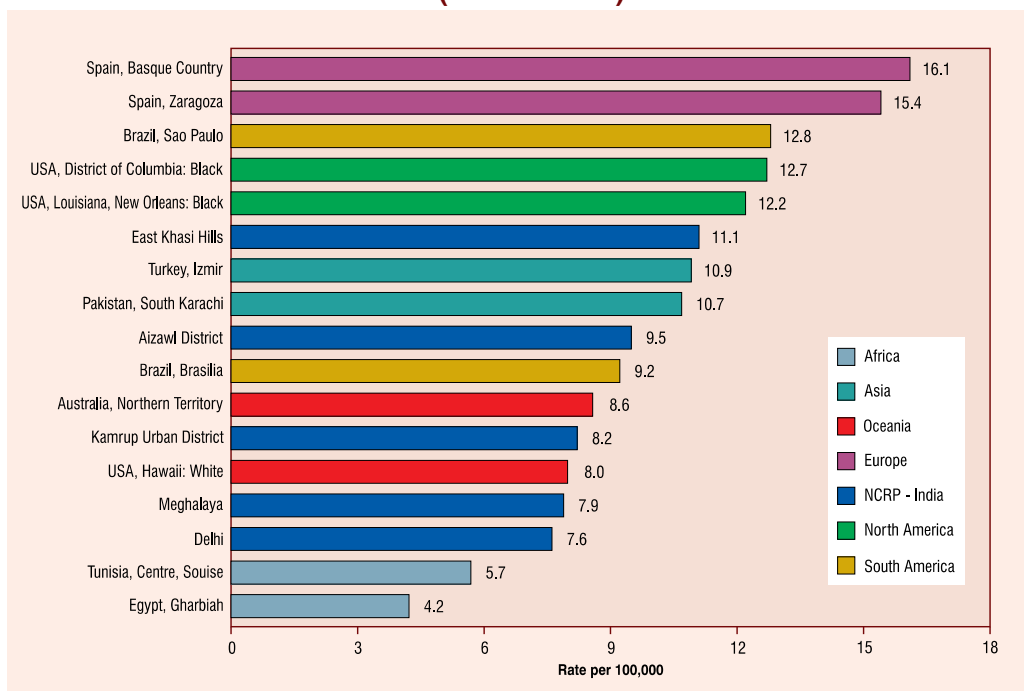


**Males:** The Black population of New Orleans, Louisiana, USA had the highest AAR (96.6).

**Females:** Kentucky, USA had highest AAR (50.3) followed by the Black population of Pennsylvania, USA (46.8). Aizawl District had an AAR of 44.6 from India.

GLOBOCAN estimates of world ASR for the year 2008 give the highest AAR of 48.5 and 35.8 per 100,000 for Northern America in males and females respectively.

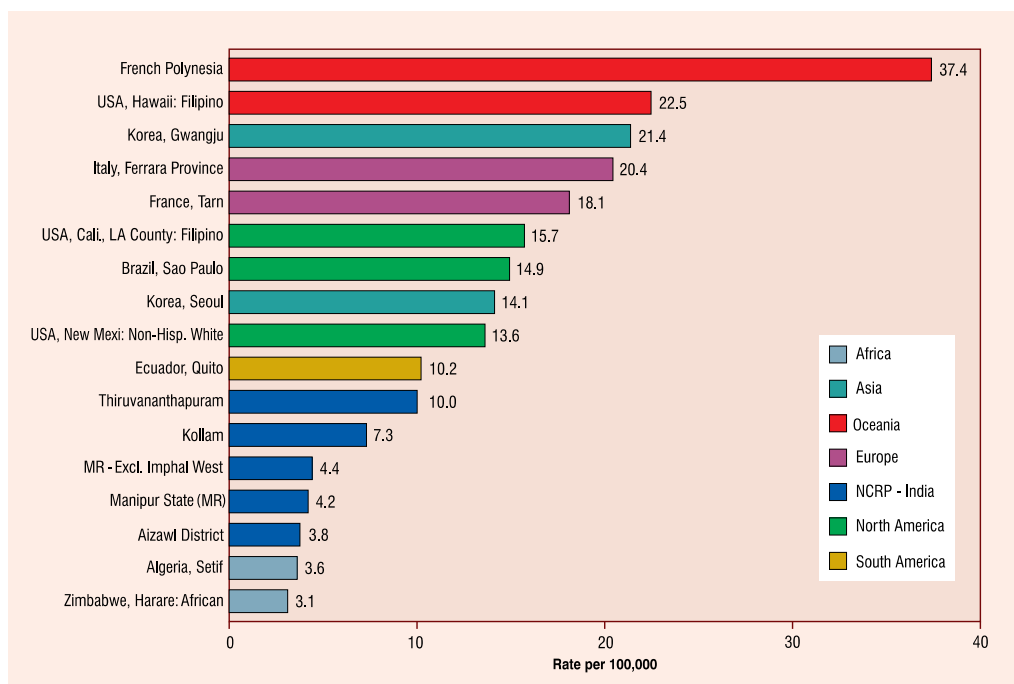
**Fig. 8.9: International Comparison of AAR with that of PBCRs in India**  
**LARYNX (ICD-10: C32) - Males**



**Males:** Basque Country, Spain was at the top with an AAR of 16.1. East Khasi Hills District of Meghalaya had an AAR of 11.1 from India.

GLOBOCAN estimates of world ASR for the year 2008 give the highest AAR of 8.3 per 100,000 for Central and Eastern Europe in males.

**Fig. 8.10: International Comparison of AAR with that of PBCRs in India**  
**THYROID (ICD-10: C73) - Females**



**Females:** French Polynesia had the highest AAR (37.4). Thiruvananthapuram (10.0) was the highest among Indian PBCRs.

GLOBOCAN estimates of world ASR for the year 2008 give the highest AAR of 15.1 per 100,000 for Northern America in females.