



HPV
INFORMATION
CENTRE

Human Papillomavirus and Related Diseases Report

ASIA

Version posted at www.hpvcentre.net on 17 April 2018

Copyright and Permissions

©ICO/IARC Information Centre on HPV and Cancer (HPV Information Centre), 2018.

All rights reserved. HPV Information Centre publications can be obtained from the HPV Information Centre Secretariat, Institut Català d'Oncologia, Avda. Gran Via de l'Hospitalet, 199-203 08908 L'Hospitalet del Llobregat (Barcelona) Spain. E-mail: hvpcentre@iconcologia.net. Requests for permission to reproduce or translate HPV Information Centre publications - whether for sale or for non-commercial distribution- should be addressed to the HPV Information Centre Secretariat, at the above address.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part the HPV Information Centre concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement. The mention of specific companies or of certain manufacturers products does not imply that they are endorsed or recommended the HPV Information Centre in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters. All reasonable precautions have been taken by the HPV Information Centre to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the HPV Information Centre be liable for damages arising from its use.

The development of this report has been supported by grants from the European Comission (7th Framework Programme grant HEALTH-F3-2010-242061, HEALTH-F2-2011-282562, HPV AHEAD).

Recommended citation:

Bruni L, Barrionuevo-Rosas L, Albero G, Serrano B, Mena M, Gómez D, Muñoz J, Bosch FX, de Sanjosé S. ICO/IARC Information Centre on HPV and Cancer (HPV Information Centre). Human Papillomavirus and Related Diseases in Asia. Summary Report 17 April 2018. [Date Accessed]

Abbreviations

Table 1: Abbreviations

Abbreviation	Full term
HPV	Human papillomavirus
PREHDICT Project	Health economic modelling of prevention strategies for HPV-related diseases in European countries
HPV Information Centre	ICO Information Centre on HPV and Cervical Cancer
GW	Genital warts
RRP	Recurrent respiratory papillomatosis
SIL	Squamous intraepithelial lesions
LSIL	Low-grade cervical lesions
HSIL	High-grade cervical lesions
ICC	Invasive cervical cancer
CIS	Carcinoma in situ
CIN	Cervical intraepithelial neoplasia
AIN2/3	Anal intraepithelial neoplasia of grade 2 and/or 3
VIN 2/3	Vulvar intraepithelial neoplasia of grade 2 and/or 3
VaIN 2/3	Vaginal intraepithelial neoplasia of grade 2 and/or 3
PeIN 2/3	Penile intraepithelial neoplasia of grade 2 and/or 3
95% CI	95% confidence interval
N	Number of cases tested
HPV Prev	HPV prevalence
ASR	Age-standardised rate
MSM	Men who have sex with men
Non MSM	Heterosexual men
SCC	Squamous cell carcinomas
STI	Sexually transmitted infections
HIV/AIDS	Human immunodeficiency virus/acquired immunodeficiency syndrome
TS	Type specific
EIA	Enzyme immunoassay
RLBM	Reverse line blotting method
RFLP	Restriction fragment length polymorphism
RHA	Reverse hybridisation assay
RLH	Reverse line hybridisation
LiPA	Line probe assay
SBH	Southern blot hybridisation
ISH	In situ hybridisation
MABA	Micro array-based assay
LBA	Line blot assay
HC2	Hybrid Capture 2
SAT	Suspension array technology
PCR	Polymerase chain reaction
SPF	Short primer fragment
q-PCR	Quantitative polymerase chain reaction
RLBH	Reverse line blot hybridisation
RT-PCR	Real-time polymerase chain reaction
DBH	Dot blot hybridisation
HR	High risk
DSA	Direct sequence analysis
MAA	Microchip array assay

Executive summary

Human papillomavirus (HPV) infection is now a well-established cause of cervical cancer and there is growing evidence of HPV being a relevant factor in other anogenital cancers (anus, vulva, vagina and penis) as well as head and neck cancers. HPV types 16 and 18 are responsible for about 70% of all cervical cancer cases worldwide. HPV vaccines that prevent HPV 16 and 18 infections are now available and have the potential to reduce the incidence of cervical and other anogenital cancers.

This report provides key information for Asia on: cervical cancer; other anogenital cancers, and head and neck cancers; HPV-related statistics; factors contributing to cervical cancer; cervical cancer screening practises; HPV vaccine introduction, and other relevant immunization indicators. The report is intended to strengthen the guidance for health policy implementation of primary and secondary cervical cancer prevention strategies in the region.

Asia has an estimated population of 1673.2 million women aged 15 years and older who are at risk of developing cervical cancer. Current estimates indicate that every year 284,823 women are diagnosed with cervical cancer and 144,434 die from the disease. Cervical cancer ranks* as the third most frequent cancer among women in Asia.

* Ranking of cervical cancer incidence to other cancers among all women according to highest incidence rates (ranking 1st). Ranking is based on crude incidence rates (actual number of cervical cancer cases). Ranking using age-standardized rate (ASR) may differ.

Table 2: Key statistics on Asia and its regions Asia

	Asia	Central Asia	Eastern Asia	South-Eastern Asia	Southern Asia	Western Asia
Population						
Women at risk for cervical cancer (Female population aged ≥15 yrs) in millions	1673.220	25.250	666.460	242.180	650.330	88.990
Burden of cervical cancer						
Annual number of new cervical cancer cases	284,823	5,850	78,006	50,566	145,946	145,946
Standardized incidence rates per 100,000 population in cervical cancer	12.7	18.6	7.9	16.3	19.3	19.3
Annual number of cervical cancer deaths	144,434	2,286	36,320	23,989	79,958	79,958
Standardized mortality rates per 100,000 population in cervical cancer	6.4	7.7	3.3	7.9	11.0	11.0
Burden of cervical HPV infection						
HPV prevalence (%) in the general population (women with normal cytology)	9.9	-	10.5	7.3	7.8	7.8
Prevalence (%) of HPV 16 and/or HPV 18 among women with:						
Normal cytology	3.4	-	3.2	3.0	4.4	4.4
Low-grade cervical lesions (LSIL/CIN-1)	21.2	-	20.3	27.4	30.2	30.2
High-grade cervical lesions (HSIL/ CIN-2 / CIN-3 / CIS)	42.1	-	41.0	33.4	63.4	63.4
Cervical cancer	68.9	-	65.0	70.4	80.3	80.3

LSIL, low-grade intraepithelial lesions; HSIL, high-grade intraepithelial lesions; CIN, cervical intraepithelial neoplasia; CIS, carcinoma in-situ. Please see the specific sections for more information.

Contents

Abbreviations	iii
Executive summary	iv
1 Introduction	1
2 Demographic and socioeconomic factors	3
3 Burden of HPV-related cancers	6
3.1 Cervical cancer	6
3.1.1 Incidence	6
3.1.2 Mortality	20
3.1.3 Comparison of incidence and mortality	31
3.2 Anogenital cancers other than the cervix	32
3.2.1 Anal cancer	34
3.2.2 Vulvar cancer	44
3.2.3 Vaginal cancer	49
3.2.4 Penile cancer	54
3.3 Head and neck cancers	59
3.3.1 Pharyngeal cancer (excluding nasopharynx)	61
4 HPV-related statistics	68
4.1 HPV burden in women with normal cervical cytology, cervical precancerous lesions or invasive cervical cancer	68
4.1.1 HPV prevalence in women with normal cervical cytology	69
4.1.2 HPV type distribution among women with normal cervical cytology, precancerous cervical lesions and cervical cancer	82
4.1.3 HPV type distribution among HIV+ women with normal cervical cytology	99
4.1.4 Terminology	100
4.2 HPV burden in anogenital cancers other than the cervix	101
4.2.1 Anal cancer and precancerous anal lesions	101
4.2.2 Vulvar cancer and precancerous vulvar lesions	104
4.2.3 Vaginal cancer and precancerous vaginal lesions	106
4.2.4 Penile cancer and precancerous penile lesions	108
4.3 HPV burden in men	110
4.4 HPV burden in the head and neck	112
4.4.1 Burden of oral HPV infection in healthy population	112
4.4.2 HPV burden in head and neck cancers	113
5 Factors contributing to cervical cancer	120
6 Sexual behaviour and reproductive health indicators	124
7 HPV preventive strategies	125
7.1 Cervical cancer screening practices	125
7.2 HPV vaccination	128
7.2.1 HPV vaccine licensure and introduction	128
8 Protective factors for cervical cancer	130
9 References	133
10 Glossary	144

List of Figures

1	Asian regions	1
2	Population pyramid of Asia	4
3	Population trends in four selected age groups in Asia for 2017	4
4	Age-standardised incidence rates (ASR) of cervical cancer in regions of Asia (estimates for 2012)	6
5	Age-standardised incidence rates of cervical cancer in Asia (estimates for 2012)	7
6	Age-standardised incidence rate of cervical cancer cases attributable to HPV by country in Asia (estimates for 2012)	8
7	Ranking of cervical cancer versus other cancers among all women and women aged 15-44 years, according to incidence rates in Asia (estimates for 2012)	10
8	Comparison of the ten most frequent cancers in all women in Asia and its regions (estimates for 2012)	11
9	Comparison of the ten most frequent cancers in women aged 15-44 years by Asia and its regions (estimates for 2012)	12
10	Age-specific incidence of cervical cancer in Asia and its regions (estimates for 2012)	13
11	Annual number of new cases of cervical cancer by age group in Asian regions (estimates for 2012)	14
12	Annual number of cases and age-specific incidence rates of cervical cancer in Asia and its regions (estimates for 2012)	15
13	Annual number of cases and age-specific incidence rates of cervical cancer in Asia and its regions (estimates for 2012) (Continued)	16
14	Time trends in cervical cancer incidence type in India (cancer registry data)	18
15	Time trends in cervical cancer incidence type in Japan (cancer registry data)	18
16	Time trends in cervical cancer incidence type in Philippines (cancer registry data)	19
17	Time trends in cervical cancer incidence type in Thailand (cancer registry data)	19
18	Age-standardised mortality rates (ASR) of cervical cancer in Asian regions (estimates for 2012)	20
19	Age-standardised mortality rates of cervical cancer in Asia (estimates for 2012)	21
20	Ranking of cervical cancer versus other cancers among all women and women aged 15-44 years, according to mortality rates in Asia (estimates for 2012)	23
21	Comparison of the ten most frequent cancer deaths in women aged 15-44 years in Asia and its regions (estimates for 2012)	24
22	Comparison of the ten most frequent cancer deaths in women of all ages in Asia and its regions (estimates for 2012)	25
23	Age-specific mortality of cervical cancer in Asia and its regions (estimates for 2012)	26
24	Annual number of deaths of cervical cancer by age group in Asian regions (estimates for 2012)	27
25	Annual number of deaths and age-specific mortality rates of cervical cancer in Asia and its regions (estimates for 2012)	28
26	Annual number of deaths and age-specific mortality rates of cervical cancer in Asia and its regions (estimates for 2012) (Continued)	29
27	Age-specific incidence and mortality rates of cervical cancer in Asia and its regions (estimates for 2012)	31
28	Age-standardised incidence rates of anogenital cancers other than the cervix in Asia (estimates for 2012)	32
29	Age-standardised incidence rate of other anogenital cancer cases attributable to HPV by country in Asia (estimates for 2012)	33
30	Time trends in anal cancer incidence in India (cancer registry data)	38
31	Time trends in anal cancer incidence in Israel (cancer registry data)	39
32	Time trends in anal cancer incidence in Japan (cancer registry data)	40
33	Time trends in anal cancer incidence in Philippines (cancer registry data)	41
34	Time trends in anal cancer incidence in Singapore (cancer registry data)	42
35	Time trends in anal cancer incidence in Thailand (cancer registry data)	43
36	Time trends in vulvar cancer incidence in India (cancer registry data)	46
37	Time trends in vulvar cancer incidence in Israel (cancer registry data)	46
38	Time trends in vulvar cancer incidence in Japan (cancer registry data)	47
39	Time trends in vulvar cancer incidence in Philippines (cancer registry data)	47
40	Time trends in vulvar cancer incidence in Singapore (cancer registry data)	47
41	Time trends in vulvar cancer incidence in Thailand (cancer registry data)	48
42	Time trends in vaginal cancer incidence in India (cancer registry data)	51
43	Time trends in vaginal cancer incidence in Israel (cancer registry data)	51
44	Time trends in vaginal cancer incidence in Japan (cancer registry data)	52
45	Time trends in vaginal cancer incidence in Philippines (cancer registry data)	52
46	Time trends in vaginal cancer incidence in Singapore (cancer registry data)	52
47	Time trends in vaginal cancer incidence in Thailand (cancer registry data)	53
48	Time trends in penile cancer incidence in India (cancer registry data)	56
49	Time trends in penile cancer incidence in Israel (cancer registry data)	57
50	Time trends in penile cancer incidence in Japan (cancer registry data)	57
51	Time trends in penile cancer incidence in Philippines (cancer registry data)	57
52	Time trends in penile cancer incidence in Singapore (cancer registry data)	58

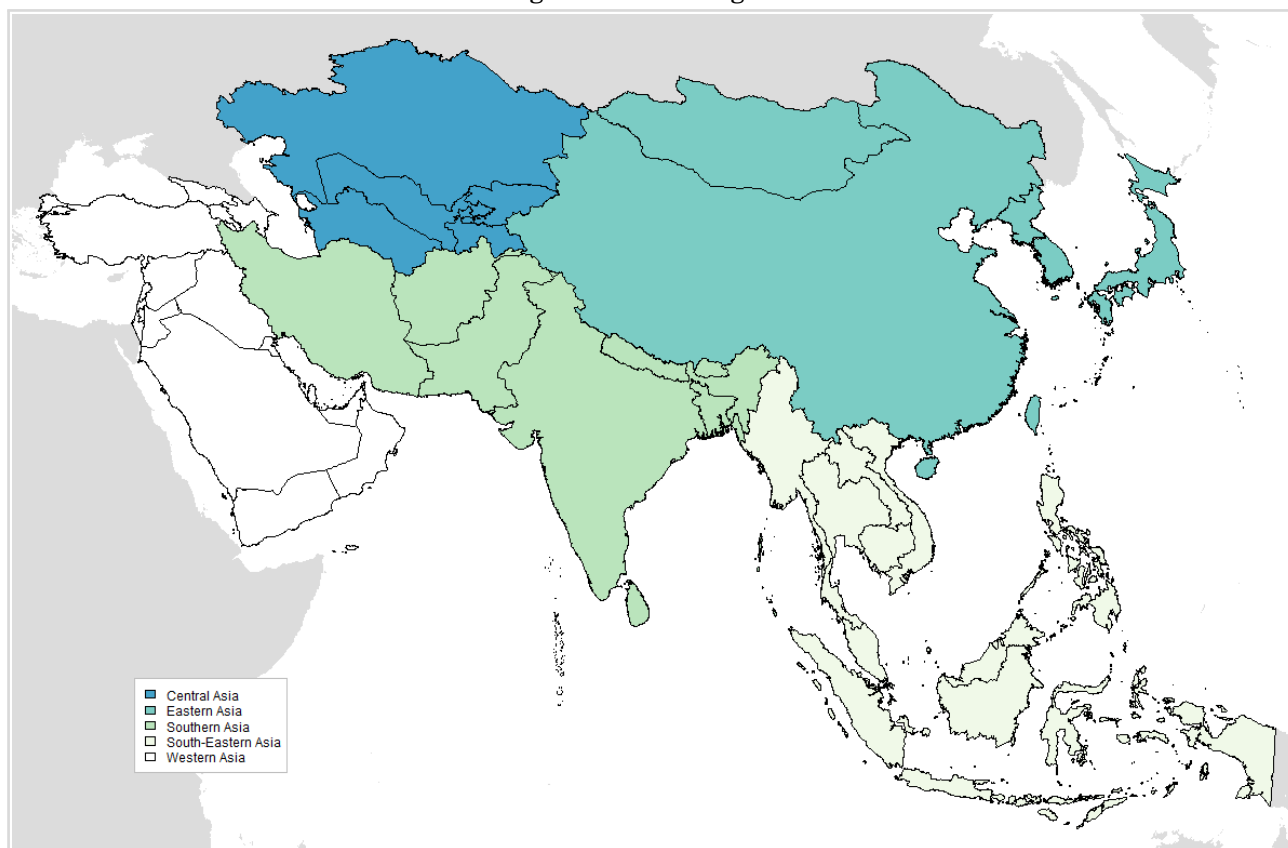
53	Time trends in penile cancer incidence in Thailand (cancer registry data)	58
54	Age-standardised incidence rates of head and neck cancer in Asia (estimates for 2012)	59
55	Age-standardised incidence rate of head and neck cancer cases attributable to HPV by country in Asia (estimates for 2012)	60
56	Comparison of cancer incidence and mortality of pharynx (excluding nasopharynx) in males by age group in Asia and its regions. Includes ICD-10 codes: C09-10,C12-14 (estimates for 2012).	64
57	Comparison of cancer incidence and mortality of pharynx (excluding nasopharynx) in females by age group in Asia and its regions. Includes ICD-10 codes: C09-10,C12-14 (estimates for 2012).	66
58	Prevalence of HPV among women with normal cervical cytology in Asia	69
59	Crude age-specific HPV prevalence (%) and 95% confidence interval in women with normal cervical cytology in Asia and its regions	70
60	Prevalence of HPV among women with normal cervical cytology in Asia by country and study	71
61	Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)	73
62	Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)	75
63	Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)	77
64	Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)	79
65	Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)	81
66	Prevalence of HPV 16 among women with normal cervical cytology in Asia by country and study	83
67	Prevalence of HPV 16 among women with normal cervical cytology in Asia by country and study (continued)	84
68	Prevalence of HPV 16 among women with low-grade cervical lesions in Asia by country and study	85
69	Prevalence of HPV 16 among women with low-grade cervical lesions in Asia by country and study (continued)	86
70	Prevalence of HPV 16 among women with high-grade cervical lesions in Asia by country and study	87
71	Prevalence of HPV 16 among women with high-grade cervical lesions in Asia by country and study (continued)	88
72	Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study	89
73	Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study (continued)	90
74	Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study (continued)	91
75	Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study (continued)	92
76	Comparison of the ten most frequent HPV oncogenic types among women with and without cervical lesions in Asia and its regions	93
77	Comparison of the ten most frequent HPV oncogenic types among women with and without cervical lesions in Asia and its regions (continued)	94
78	Comparison of the ten most frequent HPV oncogenic types among women with invasive cervical cancer by histology in Asia and its regions	95
79	Comparison of the ten most frequent HPV oncogenic types among women with invasive cervical cancer by histology in Asia and its regions (continued)	96
80	Comparison of the ten most frequent HPV types in anal cancer cases in Asia and the World	102
81	Comparison of the ten most frequent HPV types in AIN 2/3 cases in Asia and the World	103
82	Comparison of the ten most frequent HPV types in cases of vulvar cancer in Asia and the World	105
83	Comparison of the ten most frequent HPV types in VIN 2/3 cases in Asia and the World	105
84	Comparison of the ten most frequent HPV types in vaginal cancer cases in Asia and the World	107
85	Comparison of the ten most frequent HPV types in VaIN 2/3 cases in Asia and the World	107
86	Comparison of the ten most frequent HPV types in penile cancer cases in Asia and the World	109
87	Comparison of the ten most frequent HPV types in PeIN 2/3 cases in Asia and the World	109
88	Prevalence of female tobacco smoking in Asia	120
89	Total fertility rates in Asia	121
90	Prevalence of hormonal contraceptive use in Asia	122
91	Prevalence of HIV in Asia	123
92	Percentage of 15-year-old girls who report sexual intercourse in Asia	124
93	Status of HPV vaccination programmes in Asia	128
94	Prevalence of male circumcision in Asia	130
95	Prevalence of condom use in Asia	131

List of Tables

1	Abbreviations	iii
2	Key statistics on Asia and its regions Asia	iv
3	Population (in millions) estimates in Asia for 2017	3
4	Sociodemographic indicators in Asia	5
5	Incidence of cervical cancer in Asia (estimates for 2012)	9
6	Cervical cancer mortality in Asia (estimates for 2012)	21
7	Incidence of anal cancer in Asia by cancer registry and sex	34
8	Incidence of vulvar cancer in Asia by cancer registry	44
9	Incidence of vaginal cancer in Asia by cancer registry	49
10	Incidence of penile cancer in Asia by cancer registry	54
11	Cancer incidence of pharynx (excluding nasopharynx) in Asia and its regions by sex. Includes ICD-10 codes: C09-10, C12-14 (estimates for 2012).	61
12	Cancer mortality of pharynx (excluding nasopharynx) in Asia and its regions by sex. Includes ICD-10 codes: C09-10, C12-14 (estimates for 2012).	62
13	Prevalence of HPV 16/18 in women with normal cytology, precancerous cervical lesions and invasive cervical cancer in Asia	82
14	Type-specific HPV prevalence in women with normal cervical cytology, precancerous cervical lesions and invasive cervical cancer in Asia	97
15	Type-specific HPV prevalence among invasive cervical cancer cases in Asia by histology	98
16	Asian studies on HPV prevalence among HIV women with normal cytology	99
17	Asian studies on HPV prevalence among anal cancer cases (male and female)	101
18	Asian studies on HPV prevalence among AIN 2/3 cases (male and female)	102
19	Asian studies on HPV prevalence among vulvar cancer cases	104
20	Asian studies on HPV prevalence among VIN 2/3 cases	104
21	Asian studies on HPV prevalence among vaginal cancer cases	106
22	Asian studies on HPV prevalence among VaIN 2/3 cases	106
23	Asian studies on HPV prevalence among penile cancer cases	108
24	Asian studies on HPV prevalence among PeIN 2/3 cases	108
25	Asian studies on anogenital HPV prevalence among men	110
26	Asian studies on anogenital HPV prevalence among men from special subgroups	111
27	Asian studies on oral HPV prevalence among healthy population	113
28	Asian studies on HPV prevalence among cases of oral cavity cancer	113
29	Asian studies on HPV prevalence in cases of oropharyngeal cancer	116
30	Asian studies on HPV prevalence in cases of hypopharyngeal or laryngeal cancer	118
31	Cervical cancer screening policies in Asia	125
32	HPV vaccination policies for the female population in Asia	129
33	References of studies included	133
34	Glossary	144

1 Introduction

Figure 1: Asian regions



The HPV Information Centre aims to compile and centralise updated data and statistics on human papillomavirus (HPV) and HPV-related cancers. This report aims to summarise the data available to fully evaluate the burden of disease in Asia and to facilitate stakeholders and relevant bodies of decision makers to formulate recommendations on the prevention of cervical cancer and other HPV-related cancers. Data include relevant cancer statistic estimates, epidemiological determinants of cervical cancer such as demographics, socioeconomic factors, risk factors, burden of HPV infection in women and men, and cervical screening and immunisation practises. The report is structured into the following sections:

Section 2, Demographic and socioeconomic factors. This section summarises the sociodemographic profile of Asia. For analytical purposes, Asia is divided into five regions: Central Asia, Eastern Asia, South-Eastern Asia, Southern Asia, Western Asia (Figure 1).

Section 3, Burden of HPV-related cancers. This section describes the current burden of invasive cervical cancer and other HPV-related cancers in Asia with estimates of prevalence, incidence and mortality rates.

Section 4, HPV-related statistics. This section summarises reports on prevalence of HPV and HPV type-specific distribution in women with normal cytology, women with precancerous lesions and invasive cervical cancer. In addition, the burden of HPV in other anogenital cancers (anus, vulva, vagina, and penis) is presented.

Section 5, Factors contributing to cervical cancer. This section describes factors that can modify the natural history of HPV and cervical carcinogenesis such as the use of smoking, parity, oral contraceptive use and co-infection with HIV.

Section 6, Sexual behaviour and reproductive health indicators. This section presents sexual and reproductive behaviour indicators that may be used as proxy measures of risk for HPV infection and anogenital cancers.

Section 7, HPV preventive strategies. This section presents preventive strategies that include basic characteristics and performance of cervical cancer screening status, status of HPV vaccine licensure introduction, and recommendations in national immunisation programmes.

Section 8, Protective factors for cervical cancer. This section presents the prevalence of male circumcision and condom use.

2 Demographic and socioeconomic factors

Table 3: Population (in millions) estimates in Asia for 2017

Region / Country	Male			Female		
	10-14 years	15+ years	Total	10-14 years	15+ years	Total
Asia[±]	184.06	1724.83	2290.13	167.41	1673.22	2188.18
Central Asia[±]	2.93	23.59	34.04	2.80	25.25	35.20
Kazakhstan [±]	0.67	6.15	8.73	0.63	6.90	9.34
Kyrgyzstan [±]	0.26	2.02	3.03	0.25	2.13	3.09
Tajikistan [±]	0.44	2.88	4.48	0.41	2.87	4.38
Turkmenistan [±]	0.25	1.92	2.70	0.24	2.04	2.80
Uzbekistan [±]	1.31	10.62	15.10	1.26	11.30	15.59
Eastern Asia[±]	46.74	685.40	831.25	40.71	666.46	793.61
China ^{a,±}	40.95	586.60	715.39	35.24	561.82	672.84
DPR Korea [±]	0.92	9.73	12.43	0.88	10.40	12.98
Japan [±]	2.82	53.02	61.26	2.69	56.95	64.78
Mongolia [±]	0.12	1.06	1.51	0.12	1.11	1.54
Rep. Korea [±]	1.21	21.63	25.19	1.13	22.18	25.51
Taiwan [±]	0.56	10.09	11.65	0.53	10.39	11.86
South-Eastern Asia[±]	28.15	236.41	323.07	26.76	242.18	324.52
Brunei [±]	0.02	0.17	0.22	0.02	0.16	0.21
Cambodia [±]	0.78	5.28	7.84	0.76	5.76	8.23
Indonesia [±]	11.94	95.83	132.61	11.24	95.91	130.90
Laos [±]	0.38	2.28	3.51	0.37	2.35	3.53
Malaysia ^{b,±}	1.21	11.71	15.43	1.29	12.02	15.73
Myanmar [±]	2.63	19.50	26.80	2.60	20.83	28.03
Philippines [±]	5.37	35.52	52.32	4.99	35.62	51.48
Singapore [±]	0.16	2.41	2.85	0.15	2.51	2.93
Thailand [±]	2.09	27.63	33.63	2.00	28.95	34.67
Timor-Leste [±]	0.07	0.36	0.63	0.07	0.35	0.61
Viet Nam [±]	3.51	35.71	47.22	3.27	37.70	48.20
Southern Asia[±]	93.75	681.16	963.08	85.21	650.33	907.38
Afghanistan	2.40	10.14	17.62	2.27	9.46	16.55
Bangladesh [±]	8.22	59.27	83.17	7.88	58.75	81.66
Bhutan [±]	0.04	0.32	0.43	0.04	0.27	0.37
India [±]	67.07	497.74	695.68	60.02	469.14	646.83
Iran [±]	2.95	30.97	40.73	2.82	30.82	40.21
Maldives [±]	0.02	0.14	0.19	0.01	0.14	0.19
Nepal [±]	1.69	9.50	14.15	1.60	10.63	15.03
Pakistan [±]	10.50	65.56	101.06	9.71	62.76	95.68
Sri Lanka [±]	0.86	7.52	10.05	0.86	8.37	10.86
Western Asia[±]	12.49	98.27	138.70	11.91	88.99	127.47
Armenia [±]	0.09	1.10	1.39	0.08	1.36	1.64
Azerbaijan ^{c,±}	0.30	3.75	4.97	0.27	3.95	5.01
Bahrain [±]	0.05	0.73	0.88	0.05	0.39	0.54
Georgia ^{d,±}	0.10	1.52	1.90	0.09	1.74	2.07
Iraq [±]	2.31	11.47	19.57	2.18	11.42	19.08
Israel [±]	0.36	2.94	4.13	0.34	3.06	4.19
Jordan [±]	0.43	2.63	4.03	0.41	2.50	3.85
Kuwait [±]	0.13	1.83	2.30	0.12	1.34	1.80
Lebanon [±]	0.23	2.33	3.03	0.24	2.32	3.01
Oman [±]	0.13	2.61	3.14	0.13	1.10	1.60
Palestine ^{e,±}	0.29	1.50	2.50	0.28	1.47	2.43
Qatar [±]	0.05	1.49	1.68	0.05	0.48	0.66
Saudi Arabia [±]	1.49	13.79	18.48	1.41	9.77	14.26
Syria [±]	1.17	6.15	9.54	1.12	6.13	9.36
Turkey [±]	3.40	29.27	39.54	3.26	31.06	40.88
UAE	0.20	6.14	6.82	0.18	1.93	2.58
Yemen [±]	1.73	8.52	14.20	1.66	8.47	13.92

Data accessed on 27 Mar 2017.

Please refer to original source for methods of estimation.

^aFor statistical purposes, the data for China do not include Hong Kong and Macao, Special Administrative Regions (SAR) of China, and Taiwan Province of China.

^bIncluding Sabah and Sarawak.

^cIncluding Nagorno-Karabakh.

^dIncluding Abkhazia and South Ossetia.

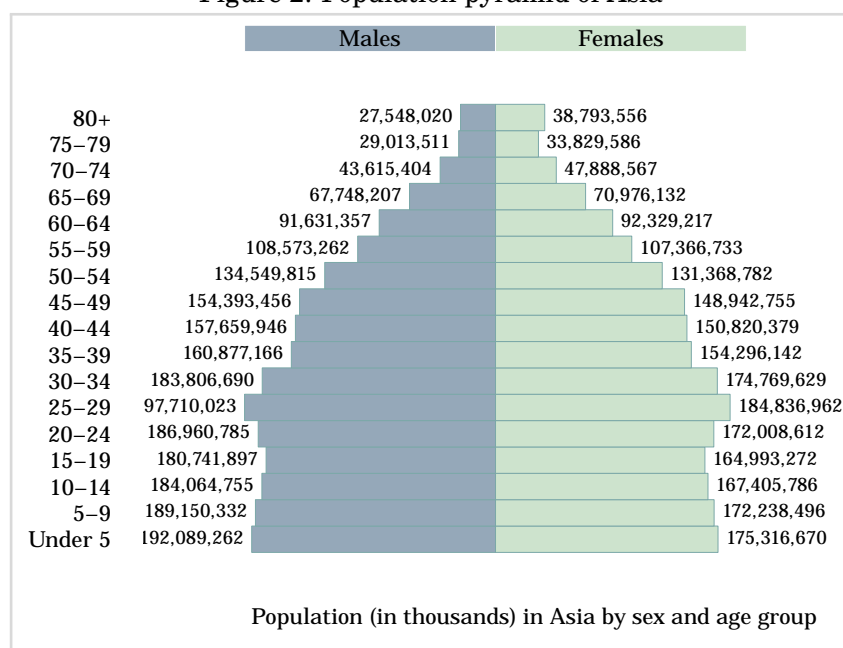
^eIncluding East Jerusalem.

Year of estimate: [±] 2017;

Data sources:

United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, DVD Edition. Available at: <https://esa.un.org/unpd/wpp/Download/Standard/Population/>. [Accessed on March 21, 2017].

Figure 2: Population pyramid of Asia



Data accessed on 27 Mar 2017.

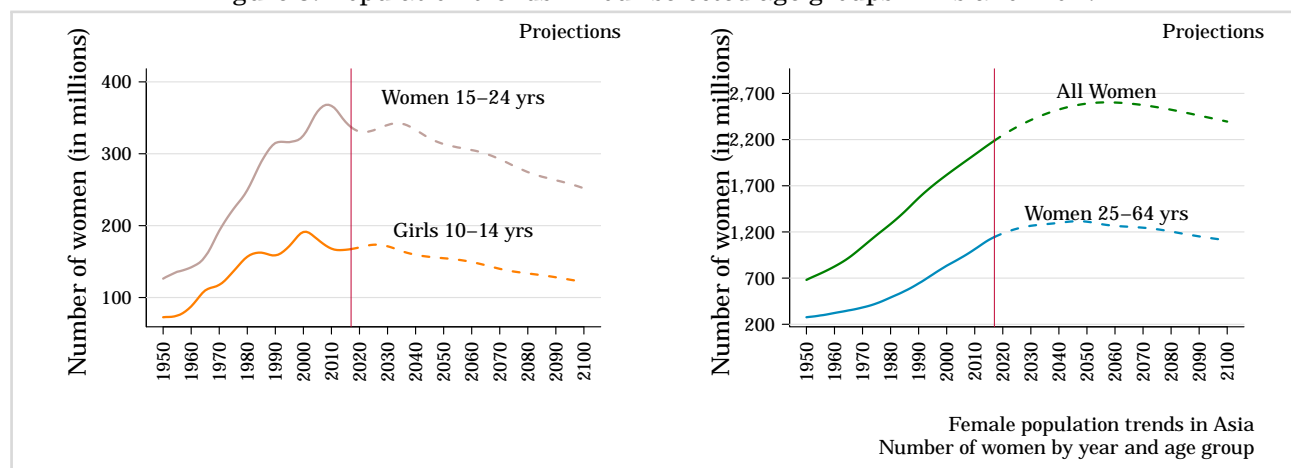
Please refer to original source for methods of estimation.

Year of estimate: 2017;

Data sources:

United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, DVD Edition. Available at: <https://esa.un.org/unpd/wpp/Download/Standard/Population/>. [Accessed on March 21, 2017].

Figure 3: Population trends in four selected age groups in Asia for 2017



Data accessed on 27 Mar 2017.

Please refer to original source for methods of estimation.

Year of estimate: 2017;

Data sources:

United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, DVD Edition. Available at: <https://esa.un.org/unpd/wpp/Download/Standard/Population/>. [Accessed on March 21, 2017].

Table 4: Sociodemographic indicators in Asia

Indicator	Male	Female	Total
Population in thousands ^{1,±}	2,290,134.3	2,188,181.2	4,478,315.5
Population growth rate (%) ^{1,∓}	-	-	1
Median age of the population (in years) ^{1,*}	-	-	30.3
Population living in urban areas (%) ^{2,*}	-	-	48.2
Crude birth rate (births per 1,000) ^{1,∓}	-	-	17.8
Crude death rate (deaths per 1,000) ^{1,∓}	-	-	7
Life expectancy at birth (in years) ^{3,a,b}	-	-	-
Adult mortality rate (probability of dying between 15 and 60 years old per 1,000) ⁴	-	-	-
Under age five mortality rate (per 1,000 live births) ^{3,c}	-	-	-
Density of physicians (per 1,000 population) ^{5,d}	-	-	-
Gross national income per capita (PPP current international \$) ^{6,e}	-	-	-
Adult literacy rate (%) (aged 15 and older) ^{7,*}	89.2	79.6	84.4
Youth literacy rate (%) (aged 15-24 years) ^{7,*}	94.1	90.5	92.3
Net primary school enrollment ratio ^{7,f,*}	92.7	91.7	92.2
Net secondary school enrollment ratio ^{7,f,*}	67	67.7	67.4

Data accessed on 27 Mar 2017.

Please refer to original source for methods of estimation.

^a World Population Prospects, the 2015 revision (WPP2015). New York (NY): United Nations DESA, Population Division.^b WHO annual life tables for 1985–2015 based on the WPP2015, on the data held in the WHO Mortality Database and on HIV mortality estimates prepared by UNAIDS. WHO Member States with a population of less than 90 000 in 2015 were not included in the analysis.^c Levels & Trends in Child Mortality. Report 2015. Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation. New York (NY), Geneva and Washington (DC): United Nations Children's Fund, World Health Organization, World Bank and United Nations; 2015 (http://www.unicef.org/publications/files/Child_Mortality_Report_2015_Web_9_Sept_15.pdf, accessed 26 March 2016).^d Number of medical doctors (physicians), including generalist and specialist medical practitioners, per 1 000 population.^e GNI per capita based on purchasing power parity (PPP). PPP GNI is gross national income (GNI) converted to international dollars using purchasing power parity rates. An international dollar has the same purchasing power over GNI as a U.S. dollar has in the United States. GNI is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad. Data are in current international dollars based on the 2011 ICP round.^f UIS Estimation

Year of estimate: ± 2017; ∓ 2010–2015; * 2015; * 2014;

Data sources:

¹ United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision, DVD Edition. Available at: <https://esa.un.org/unpd/wpp/Download/Standard/Population/>. [Accessed on March 21, 2017].² United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision, CD-ROM Edition. Available at: <https://esa.un.org/unpd/wup/CD-ROM/>. [Accessed on March 21, 2017].³ World Health Statistics 2016. Geneva, World Health Organization, 2016. Available at: http://who.int/entity/gho/publications/world_health_statistics/2016/en/index.html. [Accessed on March 21, 2017].⁴ World Health Organization. Global Health Observatory data repository. Available at: <http://apps.who.int/gho/data/view.main.1360?lang=en>. [Accessed on March 21, 2017].⁵ The 2016 update, Global Health Workforce Statistics, World Health Organization, Geneva (<http://www.who.int/hrh/statistics/hvfstats/>). [Accessed on March 21, 2017].⁶ World Bank, World Development Indicators Database. Washington, DC. International Comparison Program database. Available at: <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#>. [Accessed on March 21, 2017].⁷ UNESCO Institute for Statistics Data Centre [online database]. Montreal, UNESCO Institute for Statistics. Available at: <http://stats.uis.unesco.org> [Accessed on March 21, 2017].

3 Burden of HPV-related cancers

3.1 Cervical cancer

Cancer of the cervix uteri is the 4th most common cancer among women worldwide, with an estimated 527,624 new cases and 265,672 deaths in 2012 (GLOBOCAN). The majority of cases are squamous cell carcinoma followed by adenocarcinomas. (*Vaccine 2006, Vol. 24, Suppl 3; Vaccine 2008, Vol. 26, Suppl 10; Vaccine 2012, Vol. 30, Suppl 5; IARC Monographs 2007, Vol. 90*)

This section describes the current burden of invasive cervical cancer in Asia and its regions with estimates of the annual number of new cases, deaths, incidence and mortality.

3.1.1 Incidence

KEY STATS

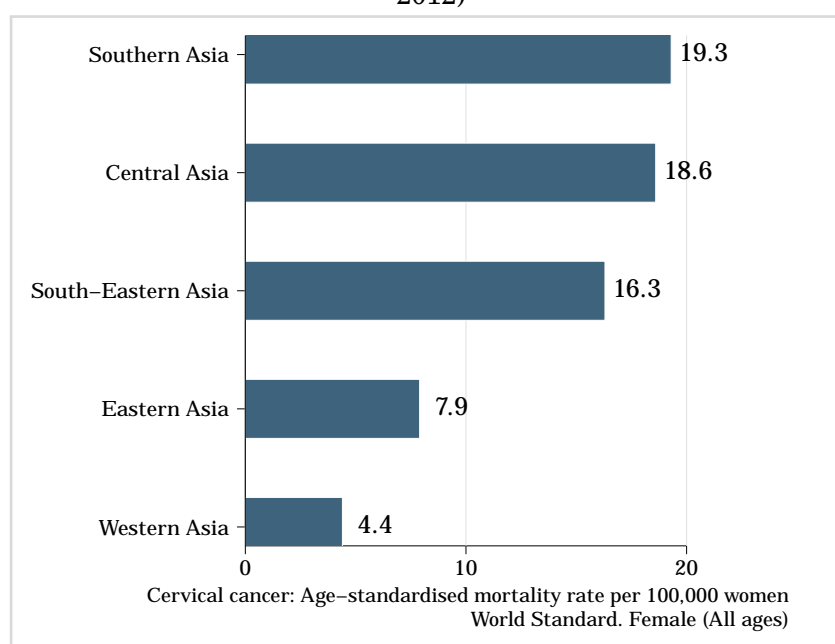
About 284,823 new cervical cancer cases are diagnosed annually in Asia (estimates for 2012).

Cervical cancer ranks* as the 3rd leading cause of female cancer in Asia.

Cervical cancer is the 2nd most common female cancer in women aged 15 to 44 years in Asia.

* Ranking of cervical cancer incidence to other cancers among all women according to highest incidence rates (ranking 1st). Ranking is based on crude incidence rates (actual number of cervical cancer cases). Ranking using age-standardized rate (ASR) may differ.

Figure 4: Age-standardised incidence rates (ASR) of cervical cancer in regions of Asia (estimates for 2012)



Data accessed on 15 Nov 2015.

(Continued on next page)

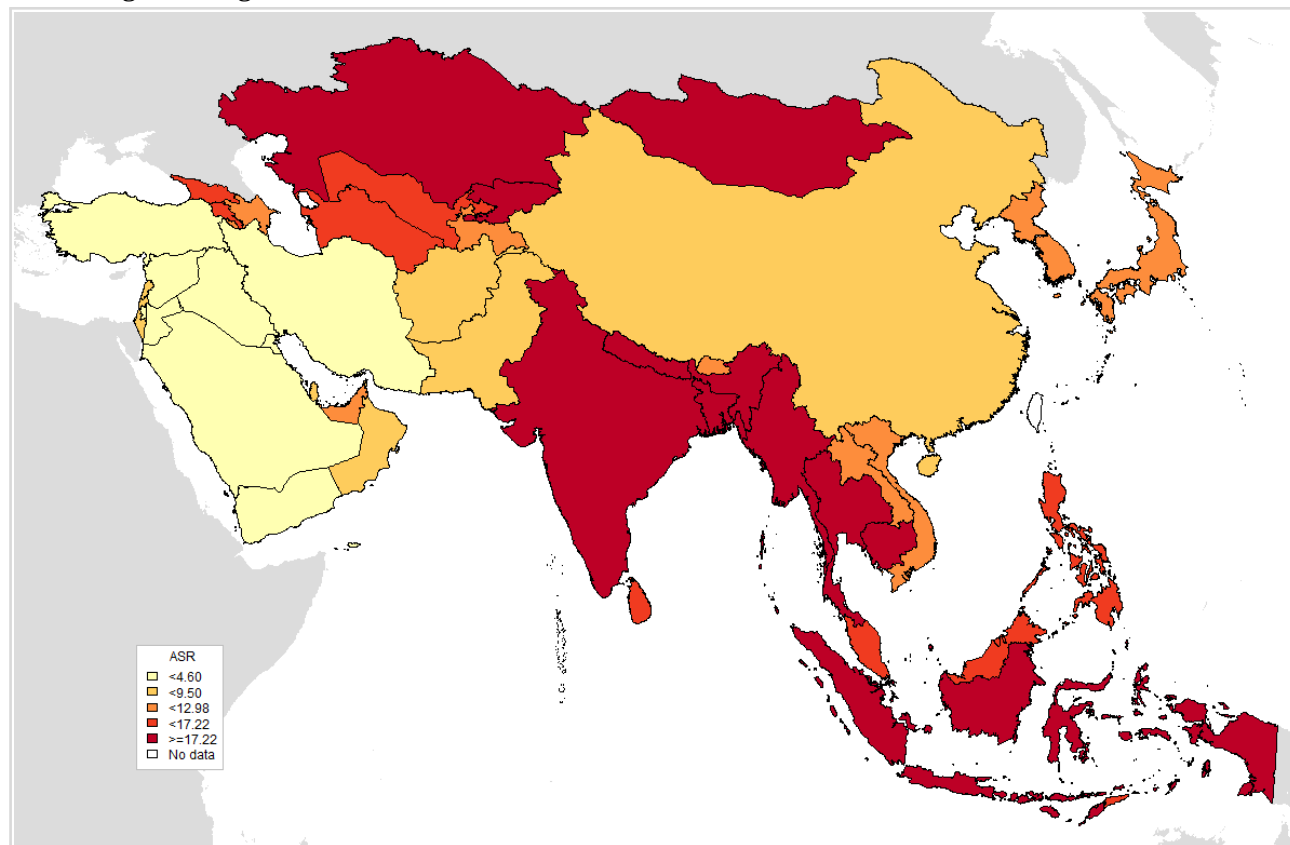
(Figure 4 – continued from previous page)

Rates per 100,000 women per year.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

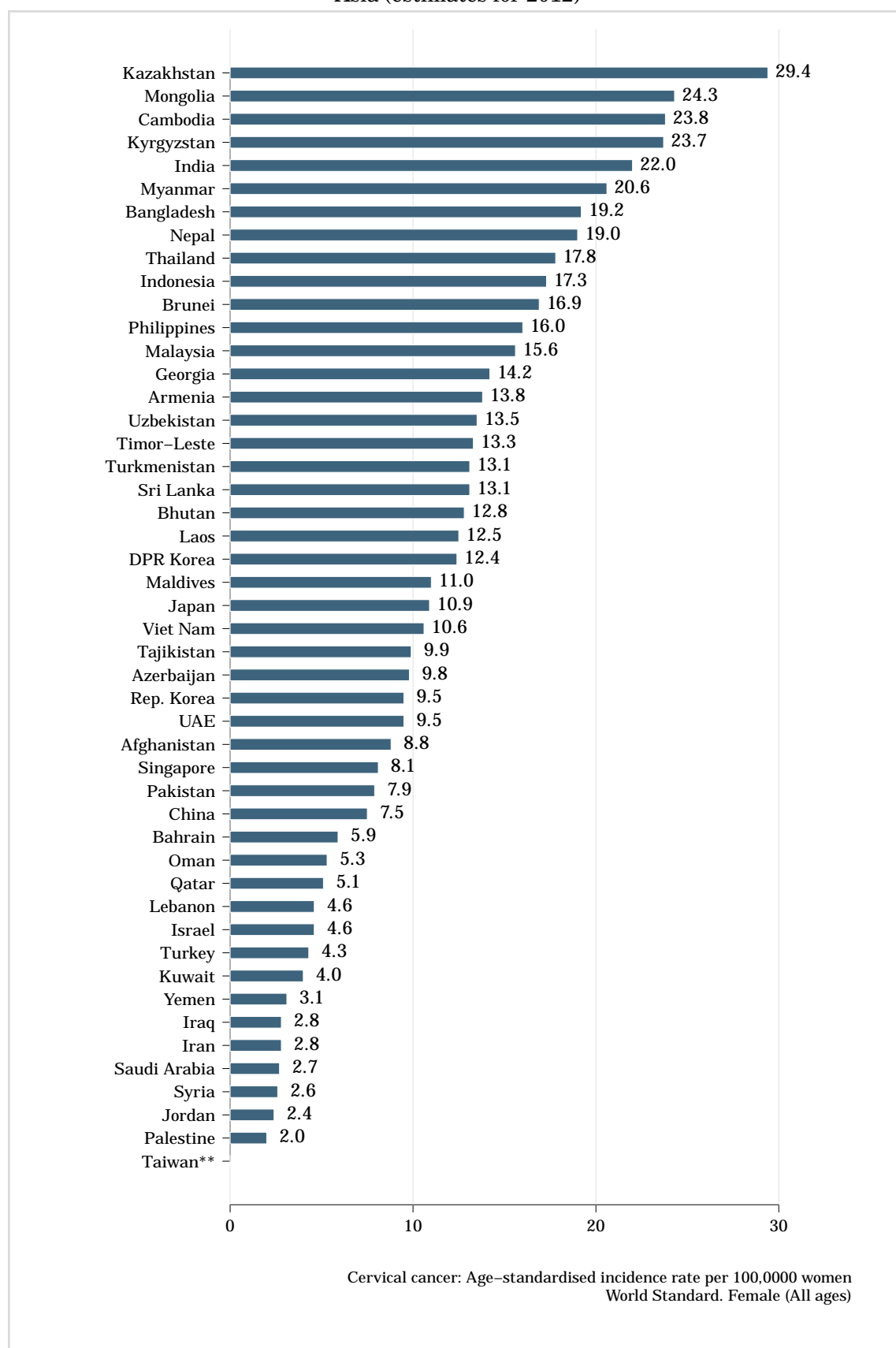
Figure 5: Age-standardised incidence rates of cervical cancer in Asia (estimates for 2012)

**Data accessed on 15 Nov 2015.**

Rates per 100,000 women per year.

Data sources: Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 6: Age-standardised incidence rate of cervical cancer cases attributable to HPV by country in Asia (estimates for 2012)



** No rates are available.

Data accessed on 15 Nov 2015.

Rates per 100,000 women per year.

Data sources: Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Table 5: Incidence of cervical cancer in Asia (estimates for 2012)

Area	N cases	Crude rate ^a	ASR ^a	Cumulative risk (%) ages 0-74 years ^b	Ranking of CC	
					All women	Women 15-44 years
Asia	284,823	13.7	12.7	1.3	3	2
Central Asia	5,850	18.5	18.6	1.8	2	1
Kazakhstan	2,789	32.8	29.4	2.6	2	1
Kyrgyzstan	641	23.2	23.7	2.2	2	1
Tajikistan	301	8.4	9.9	0.9	4	1
Turkmenistan	324	12.3	13.1	1.3	3	2
Uzbekistan	1,795	12.7	13.5	1.3	2	2
Eastern Asia	78,006	10.1	7.9	0.7	7	2
China	61,691	9.4	7.5	0.7	8	2
DPR Korea	1,881	15.0	12.4	1.2	4	2
Japan	9,390	14.5	10.9	1.0	10	2
Mongolia	320	22.2	24.3	2.5	2	1
Republic of Korea	3,299	13.5	9.5	0.9	7	4
South-Eastern Asia	50,566	16.6	16.3	1.7	2	2
Brunei	35	17.1	16.9	1.7	2	4
Cambodia	1,512	20.5	23.8	2.5	1	1
Indonesia	20,928	17.0	17.3	1.9	2	2
Laos	314	9.8	12.5	1.3	3	2
Malaysia	2,145	14.8	15.6	1.7	2	2
Myanmar	5,286	21.4	20.6	2.1	2	1
Philippines	6,670	13.9	16.0	1.6	2	2
Singapore	300	11.5	8.1	0.8	6	4
Thailand	8,184	23.0	17.8	1.8	2	2
Timor-Leste	46	7.9	13.3	1.3	3	2
Viet Nam	5,146	11.3	10.6	1.1	4	2
Southern Asia	145,946	17.1	19.3	2.1	2	2
Afghanistan	862	5.3	8.8	0.9	2	2
Bangladesh	11,956	15.9	19.2	2.1	2	2
Bhutan	37	10.5	12.8	1.3	1	1
India	122,844	20.2	22.0	2.4	2	2
Iran	947	2.5	2.8	0.3	12	9
Maldives	14	8.7	11.0	1.2	2	4
Nepal	2,332	14.9	19.0	2.0	1	1
Pakistan	5,233	5.9	7.9	0.8	3	2
Sri Lanka	1,721	16.0	13.1	1.4	2	3
Western Asia	4,455	3.8	4.4	0.5	11	4
Armenia	272	16.4	13.8	1.2	5	2
Azerbaijan	546	11.5	9.8	1.0	2	2
Bahrain	22	4.3	5.9	0.6	3	4
Georgia	425	18.7	14.2	1.3	3	2
Iraq	291	1.7	2.8	0.3	12	10
Israel	203	5.2	4.6	0.5	15	6
Jordan	50	1.6	2.4	0.2	15	10
Kuwait	30	2.6	4.0	0.5	7	6
Lebanon	113	5.1	4.6	0.5	11	6
Oman	38	3.2	5.3	0.6	6	6
Qatar	15	3.2	5.1	0.5	5	6
Saudi Arabia	241	1.9	2.7	0.3	8	8
Syria	210	2.0	2.6	0.3	13	10
Turkey	1,686	4.5	4.3	0.4	11	5
United Arab Emirates	93	3.7	9.5	1.2	3	3
Yemen	198	1.6	3.1	0.3	9	10

Data accessed on 15 Nov 2015.

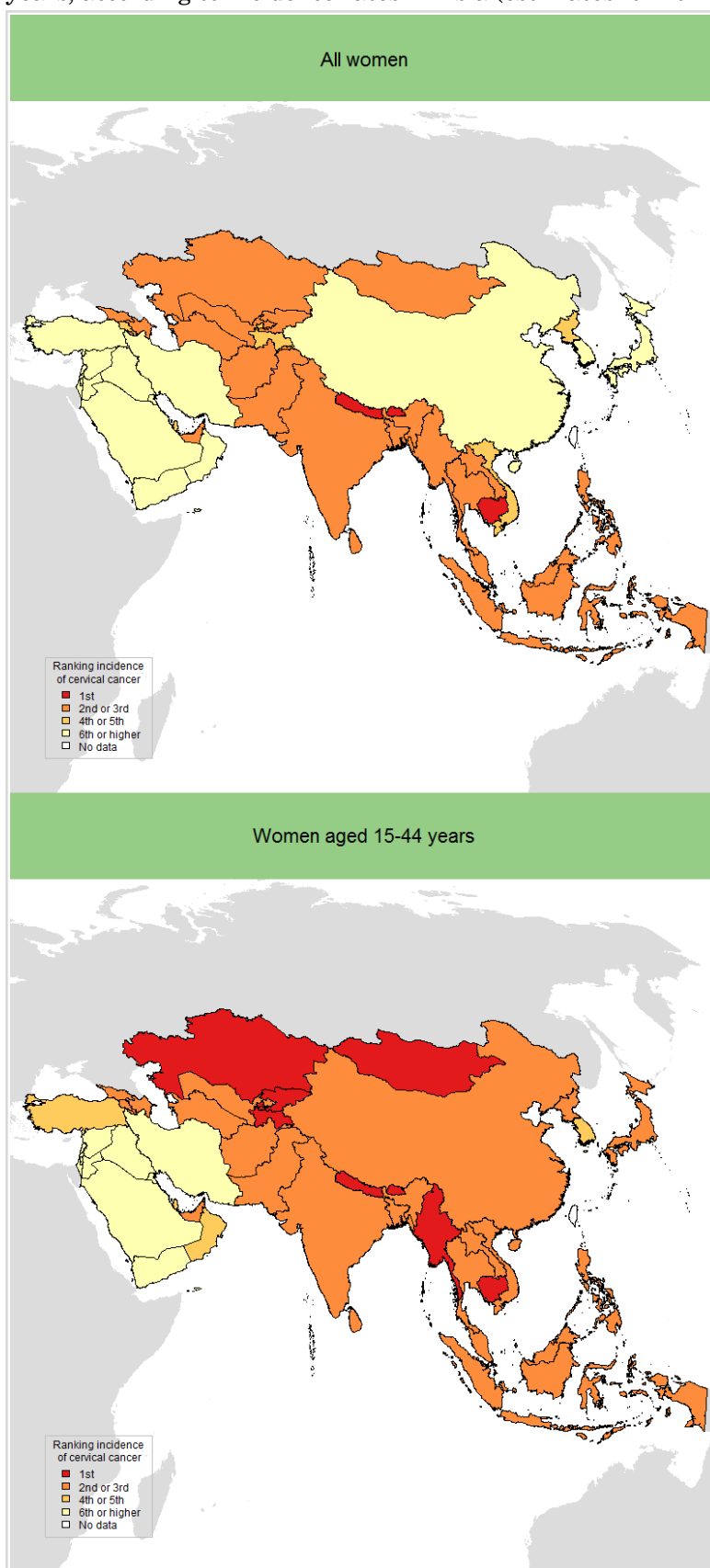
ASR: Age-standardized rate. Standardized rates have been estimated using the direct method and the World population as the reference;

Standardised rates have been estimated using the direct method and the World population as the reference.

Ranking of cervical cancer incidence to other cancers among all women ages 15-44 years according to highest incidence rates (ranking 1st). Ranking is based on crude incidence rates (actual number of cervical cancer cases). Ranking using ASR may differ.

^a Rates per 100,000 women per year.^b Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.**Data sources:**Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

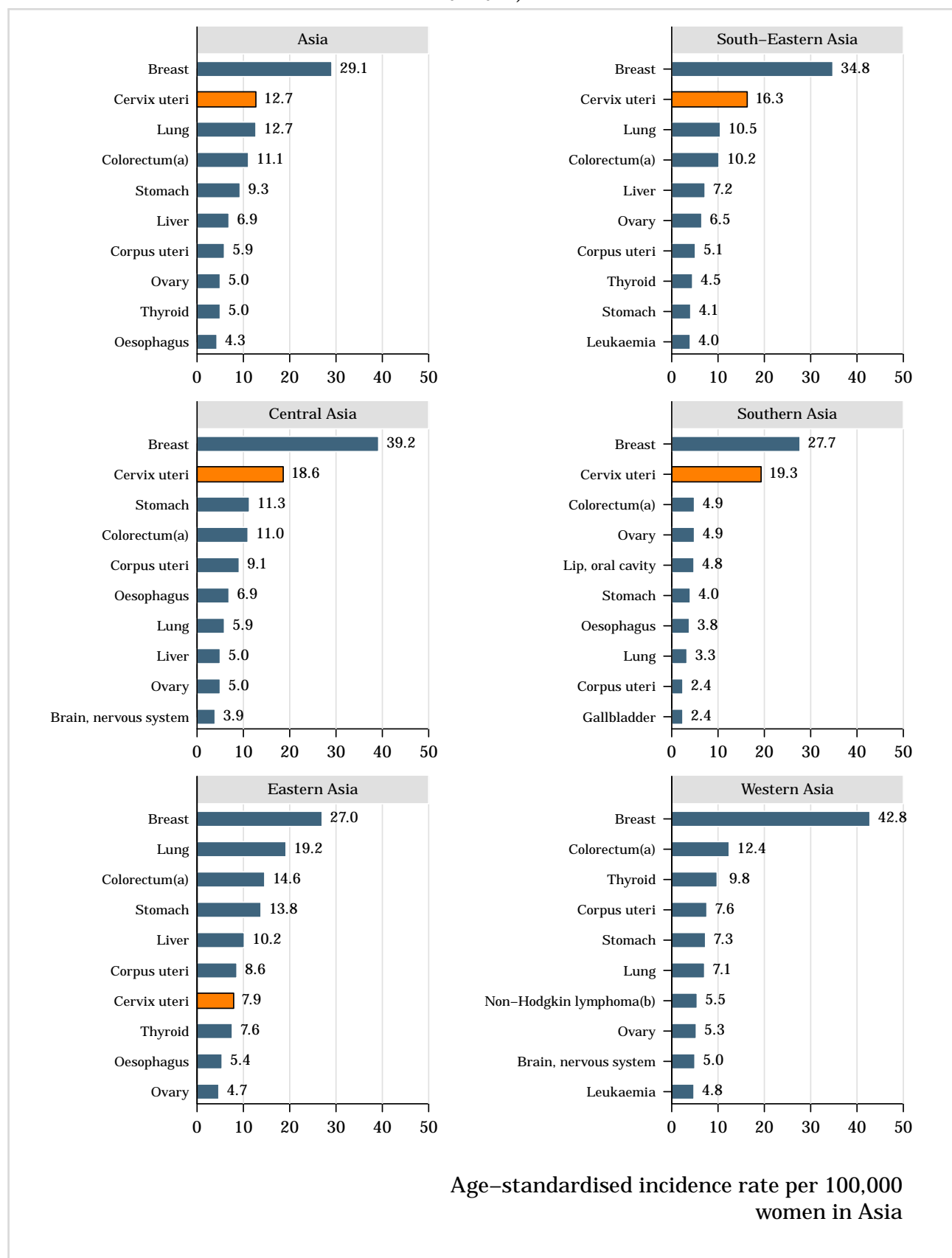
Figure 7: Ranking of cervical cancer versus other cancers among all women and women aged 15-44 years, according to incidence rates in Asia (estimates for 2012)



Data accessed on 15 Nov 2015.

Data sources: Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 8: Comparison of the ten most frequent cancers in all women in Asia and its regions (estimates for 2012)



Data accessed on 15 Nov 2015.

^a Includes anal cancer (C21).

^b Includes HIV disease resulting in malignant neoplasms (B21).

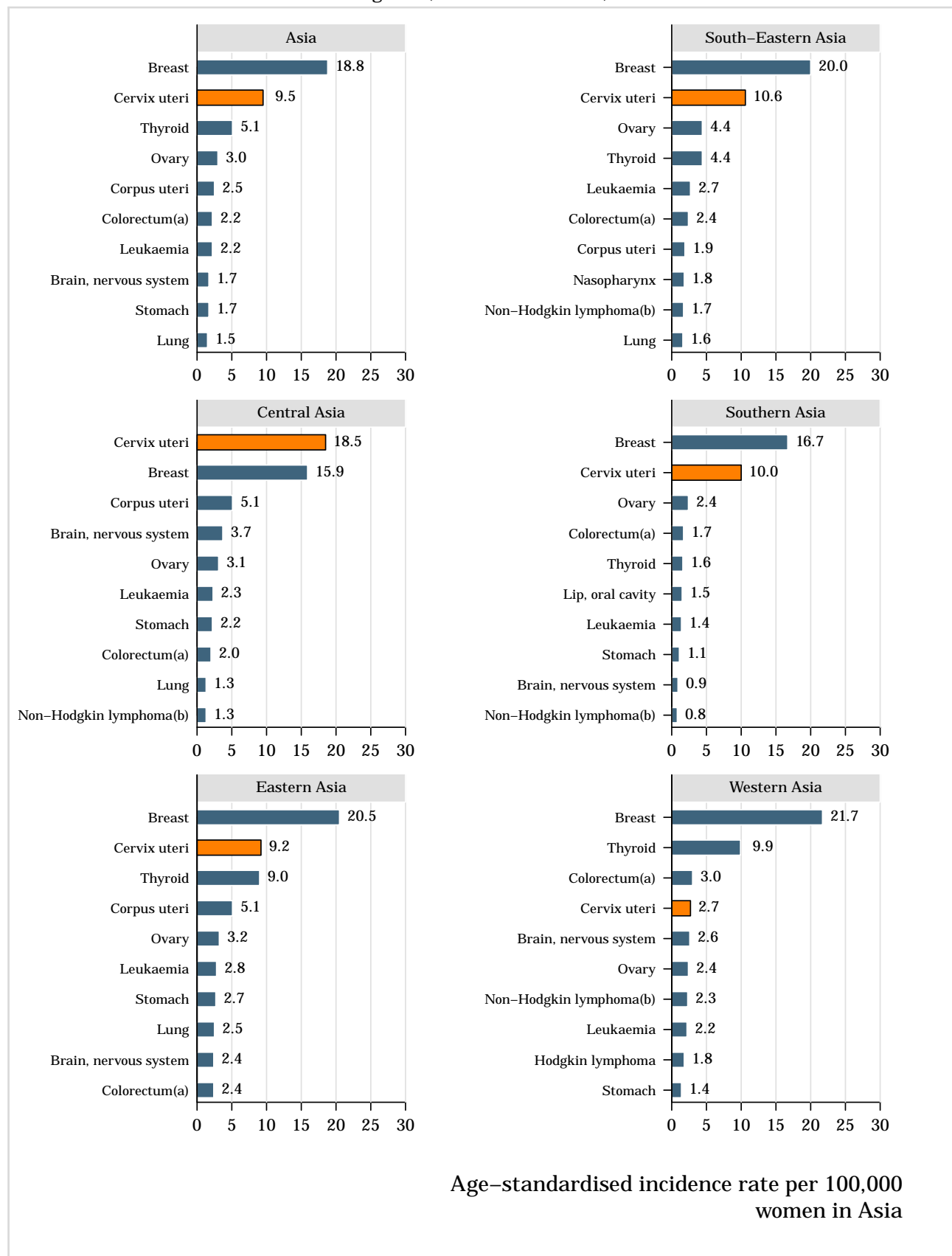
Data sources:

(Continued on next page)

(Figure 8 – continued from previous page)

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 9: Comparison of the ten most frequent cancers in women aged 15-44 years by Asia and its regions (estimates for 2012)



Data accessed on 15 Nov 2015.

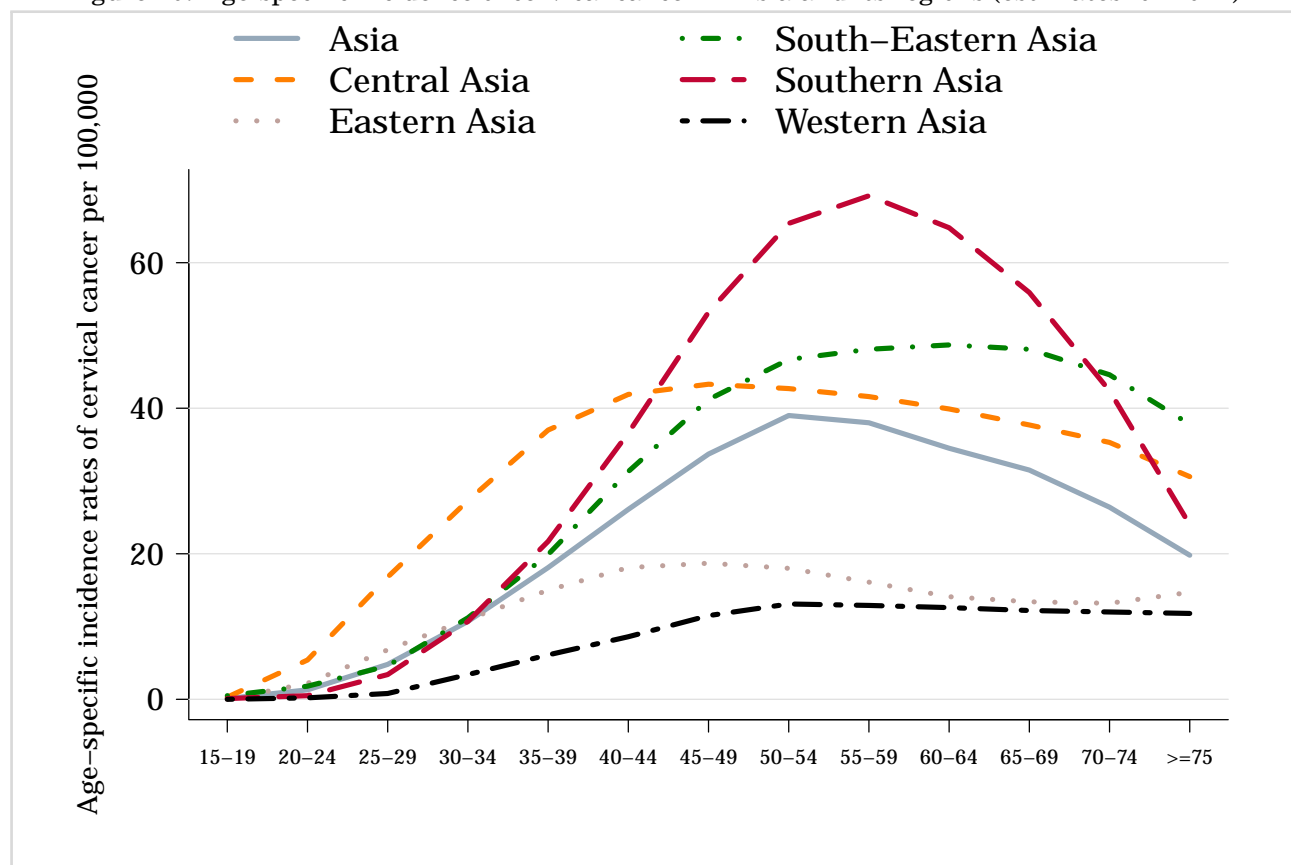
^a Includes anal cancer (C21).

^b Includes HIV disease resulting in malignant neoplasms (B21).

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 10: Age-specific incidence of cervical cancer in Asia and its regions (estimates for 2012)

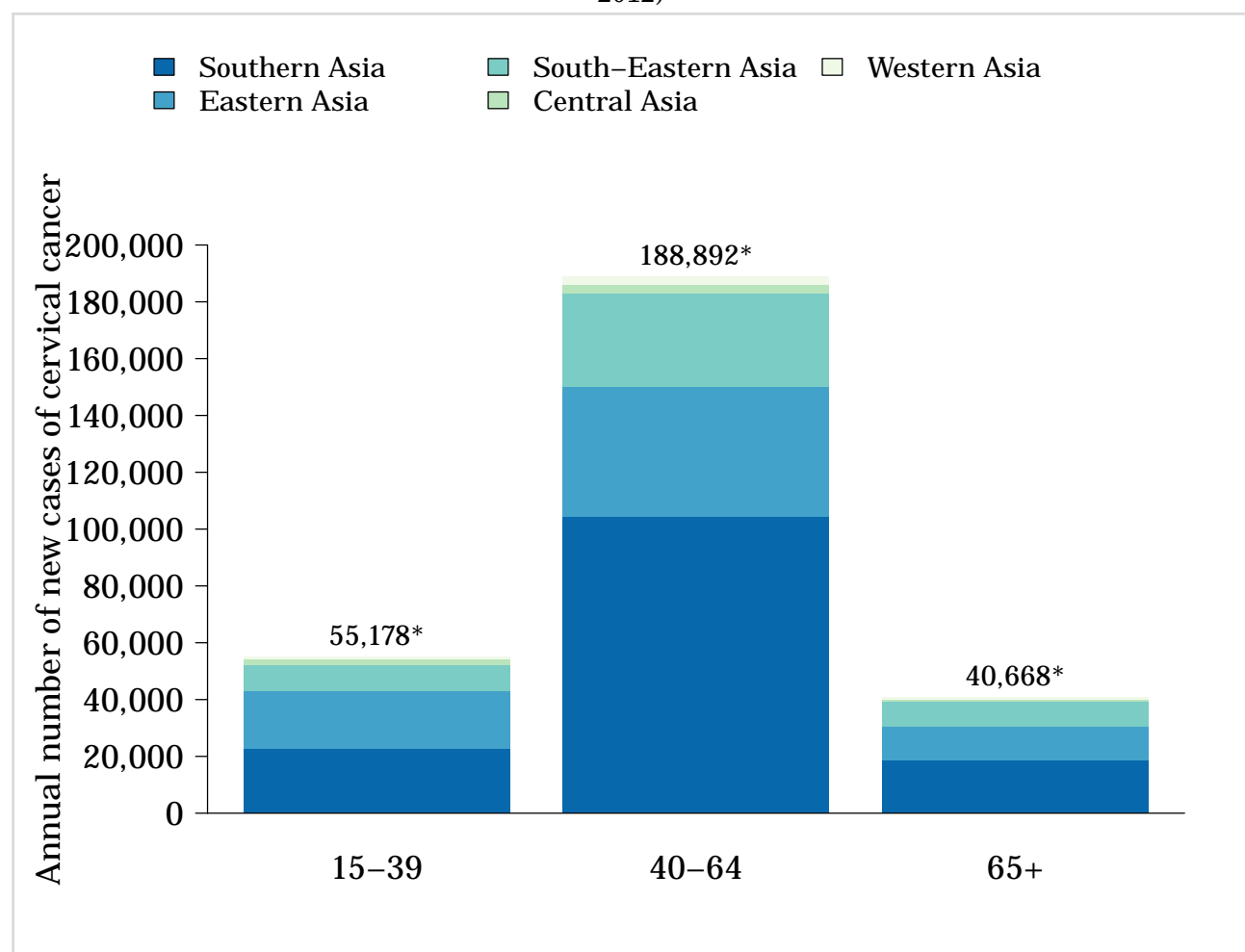


Data accessed on 15 Nov 2015.

Rates per 100,000 women per year.

Data sources: Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 11: Annual number of new cases of cervical cancer by age group in Asian regions (estimates for 2012)



* Southern Asia 15-39 years: 22,677 cases. 40-64 years: 104,433 cases. 65+ years: 18,830 cases.

* Eastern Asia 15-39 years: 20,452 cases. 40-64 years: 45,614 cases. 65+ years: 11,873 cases.

* South-Eastern Asia 15-39 years: 9,082 cases. 40-64 years: 32,892 cases. 65+ years: 8,581 cases.

* Central Asia 15-39 years: 2,068 cases. 40-64 years: 3,159 cases. 65+ years: 622 cases.

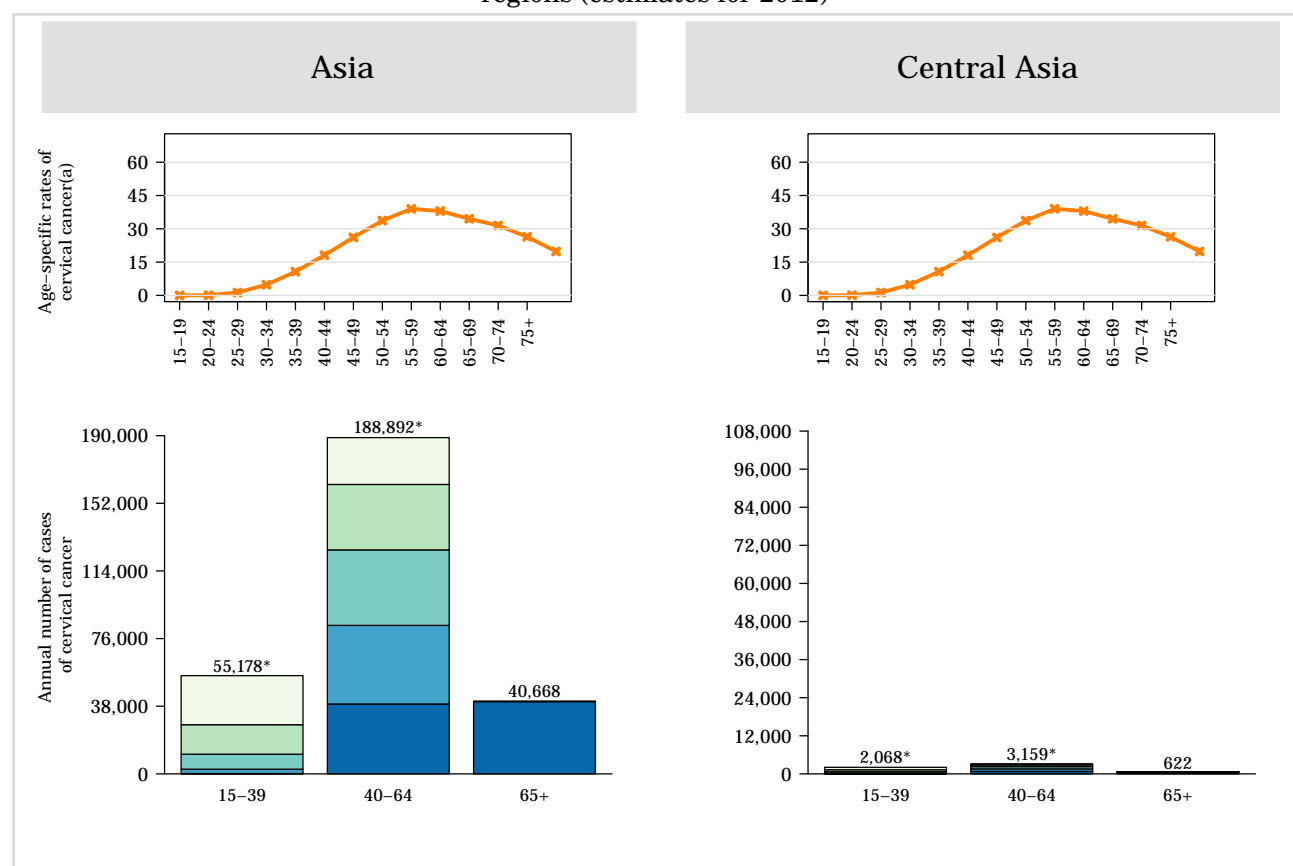
* Western Asia 15-39 years: 899 cases. 40-64 years: 2,794 cases. 65+ years: 762 cases.

Data accessed on 15 Nov 2015.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 12: Annual number of cases and age-specific incidence rates of cervical cancer in Asia and its regions (estimates for 2012)



* Asia 15-19 yrs: 195 cases. 20-24 yrs: 2,443 cases. 25-29 yrs: 8,394 cases. 30-34 yrs: 16,585 cases. 35-39 yrs: 27,561 cases. 40-44 yrs: 39,251 cases. 45-49 yrs: 44,160 cases. 50-54 yrs: 42,416 cases. 55-59 yrs: 36,759 cases. 60-64 yrs: 26,306 cases.

* Central Asia 15-19 yrs: 10 cases. 20-24 yrs: 178 cases. 25-29 yrs: 483 cases. 30-34 yrs: 633 cases. 35-39 yrs: 764 cases. 40-44 yrs: 779 cases. 45-49 yrs: 793 cases. 50-54 yrs: 714 cases. 55-59 yrs: 532 cases. 60-64 yrs: 341 cases.

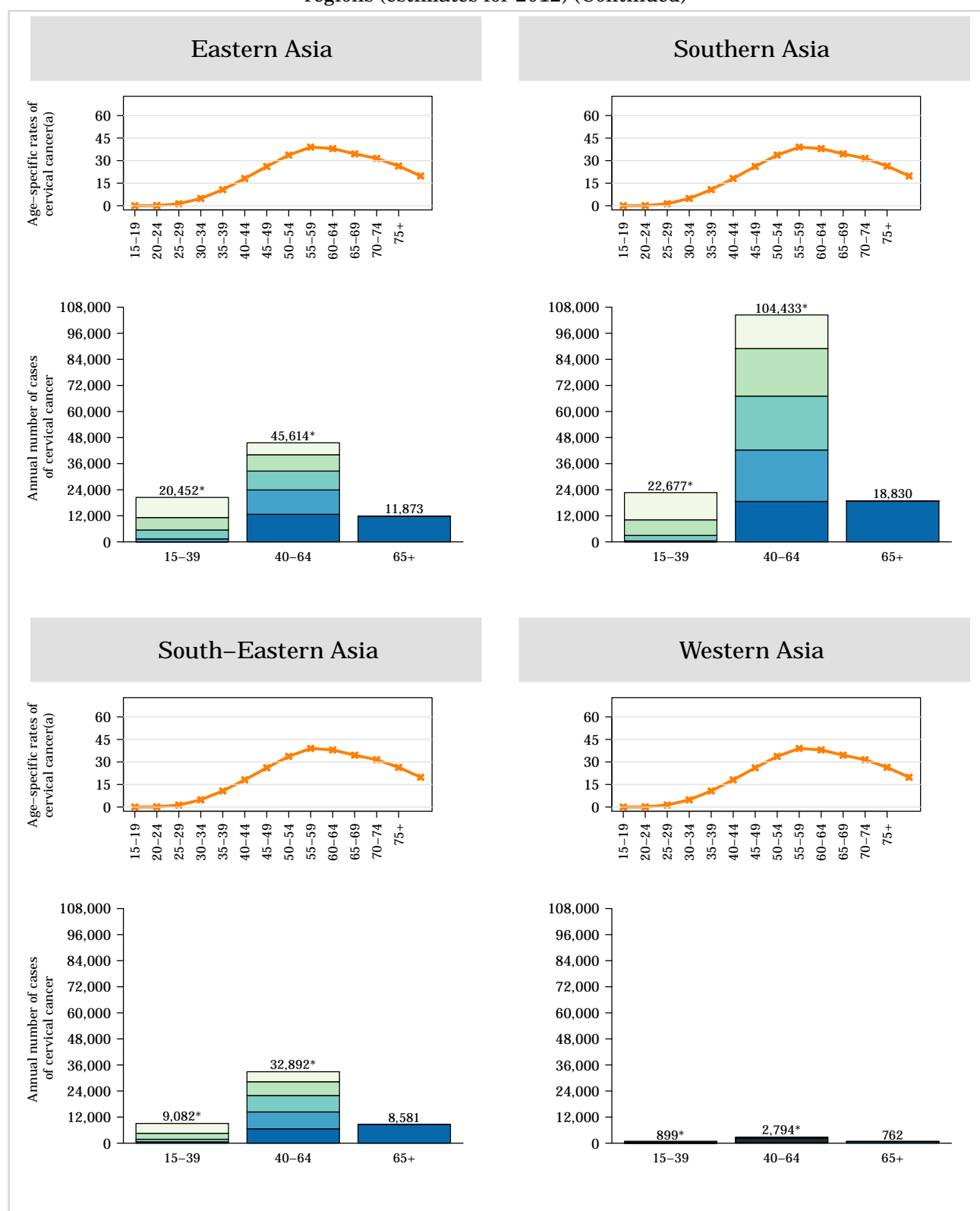
Data accessed on 15 Nov 2015.

^a Rates per 100,000 women per year.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 13: Annual number of cases and age-specific incidence rates of cervical cancer in Asia and its regions (estimates for 2012) (Continued)



* Eastern Asia 15-19 yrs: 13 cases. 20-24 yrs: 1,352 cases. 25-29 yrs: 4,103 cases. 30-34 yrs: 5,730 cases. 35-39 yrs: 9,254 cases. 40-44 yrs: 12,689 cases. 45-49 yrs: 11,213 cases. 50-54 yrs: 8,691 cases. 55-59 yrs: 7,499 cases. 60-64 yrs: 5,522 cases.

* South-Eastern Asia 15-19 yrs: 122 cases. 20-24 yrs: 484 cases. 25-29 yrs: 1,210 cases. 30-34 yrs: 2,742 cases. 35-39 yrs: 4,524 cases. 40-44 yrs: 6,616 cases. 45-49 yrs: 7,774 cases. 50-54 yrs: 7,576 cases. 55-59 yrs: 6,309 cases. 60-64 yrs: 4,617 cases.

* Southern Asia 15-19 yrs: 48 cases. 20-24 yrs: 412 cases. 25-29 yrs: 2,514 cases. 30-34 yrs: 7,165 cases. 35-39 yrs: 12,538 cases. 40-44 yrs: 18,592 cases. 45-49 yrs: 23,712 cases. 50-54 yrs: 24,794 cases. 55-59 yrs: 21,894 cases. 60-64 yrs: 15,441 cases.

* Western Asia 15-19 yrs: 2 cases. 20-24 yrs: 17 cases. 25-29 yrs: 84 cases. 30-34 yrs: 315 cases. 35-39 yrs: 481 cases. 40-44 yrs: 575 cases. 45-49 yrs: 668 cases. 50-54 yrs: 641 cases. 55-59 yrs: 525 cases. 60-64 yrs: 385 cases.

Data accessed on 15 Nov 2015.

(Continued on next page)

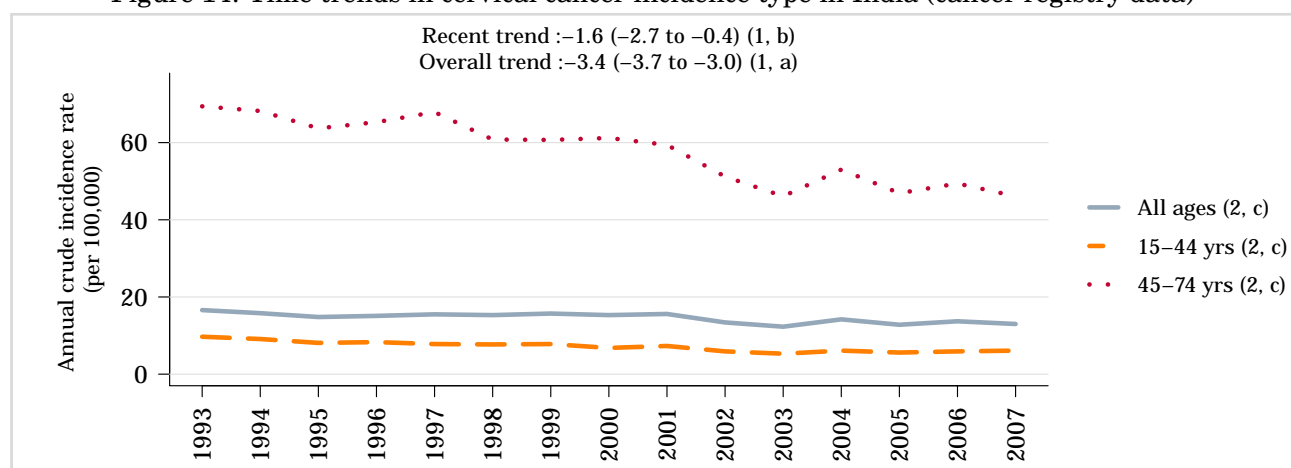
(Figure 13 – continued from previous page)

^a Rates per 100,000 women per year.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 14: Time trends in cervical cancer incidence type in India (cancer registry data)



Data accessed on 27 Apr 2015.

^a Estimated annual percentage change based on the trend variable from the net drift for the most recent two 5-year periods.

^b Estimated annual percentage change based on the trend variable from the net drift for 20 years, from 1983-2002.

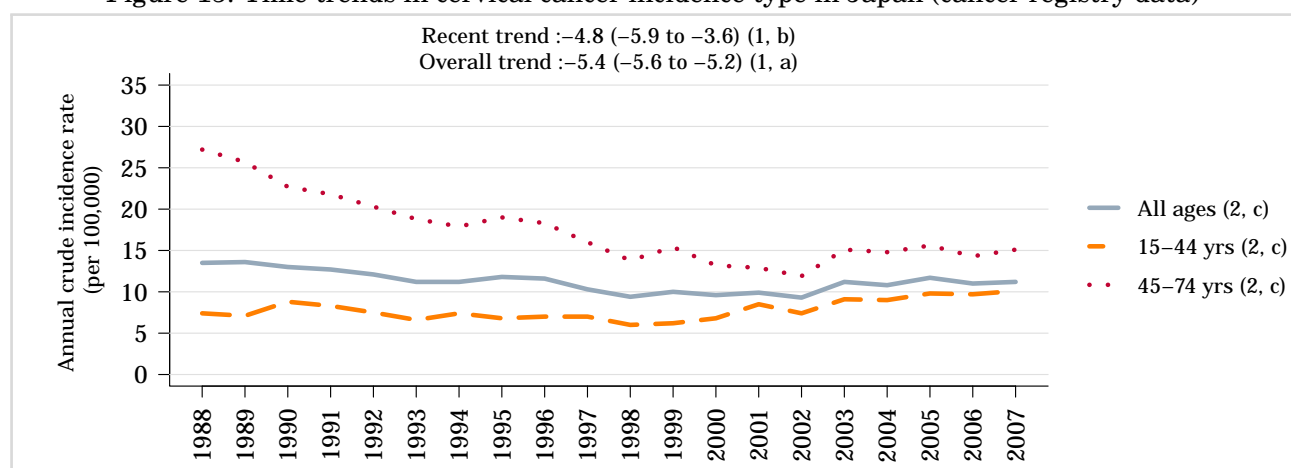
^c The following regional cancer registries provided data and contributed to their national estimate: Chennai (Madras), Mumbai (Bombay), Poona.

Data sources:

¹ Vaccarella S, Lortet-Tieulent J, Plummer M, Franceschi S, Bray F. Worldwide trends in cervical cancer incidence: Impact of screening against changes in disease risk factors. *eur J Cancer* 2013;49:3262-73.

² Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 15: Time trends in cervical cancer incidence type in Japan (cancer registry data)



Data accessed on 27 Apr 2015.

^a Estimated annual percentage change based on the trend variable from the net drift for the most recent two 5-year periods.

^b Estimated annual percentage change based on the trend variable from the net drift for 25 years, from 1978-2002.

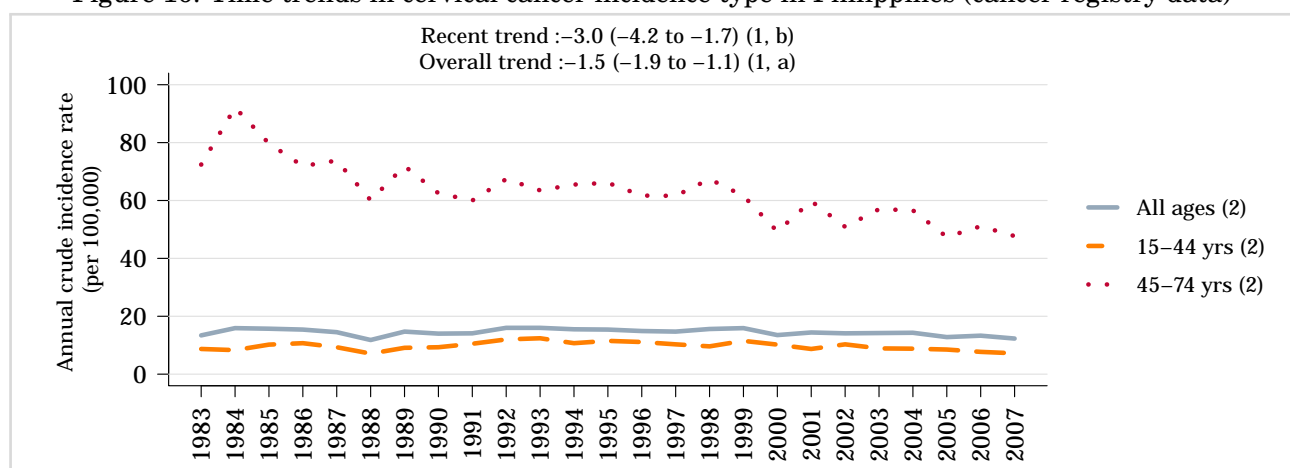
^c The following regional cancer registries provided data and contributed to their national estimate: Miyagi Prefecture, Nagasaki Prefecture, Osaka Prefecture.

Data sources:

¹ Vaccarella S, Lortet-Tieulent J, Plummer M, Franceschi S, Bray F. Worldwide trends in cervical cancer incidence: Impact of screening against changes in disease risk factors. *eur J Cancer* 2013;49:3262-73.

² Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 16: Time trends in cervical cancer incidence type in Philippines (cancer registry data)



Data accessed on 27 Apr 2015.

^a Estimated annual percentage change based on the trend variable from the net drift for the most recent two 5-year periods.

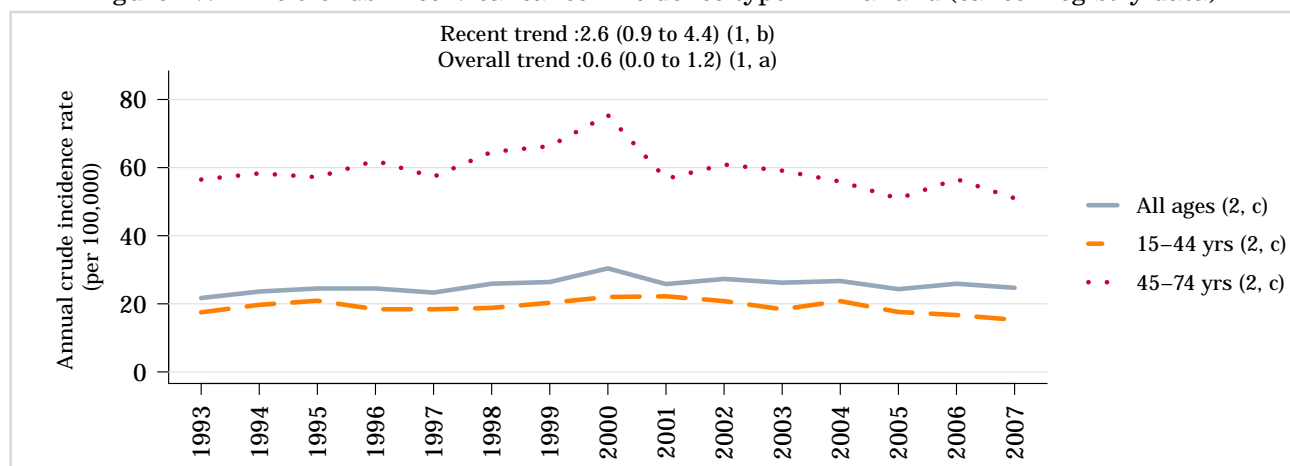
^b Estimated annual percentage change based on the trend variable from the net drift for 20 years, from 1983-2002.

Data sources:

¹ Vaccarella S, Lortet-Tieulent J, Plummer M, Franceschi S, Bray F. Worldwide trends in cervical cancer incidence: Impact of screening against changes in disease risk factors. *eur J Cancer* 2013;49:3262-73.

² Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 17: Time trends in cervical cancer incidence type in Thailand (cancer registry data)



Data accessed on 27 Apr 2015.

^a Estimated annual percentage change based on the trend variable from the net drift for the most recent two 5-year periods.

^b Estimated annual percentage change based on the trend variable from the net drift for 20 years, from 1983-2002.

^c The following regional cancer registries provided data and contributed to their national estimate: Chiang Mai, Lampang and Songkhla.

Data sources:

¹ Vaccarella S, Lortet-Tieulent J, Plummer M, Franceschi S, Bray F. Worldwide trends in cervical cancer incidence: Impact of screening against changes in disease risk factors. *eur J Cancer* 2013;49:3262-73.

² Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

3.1.2 Mortality

KEY STATS

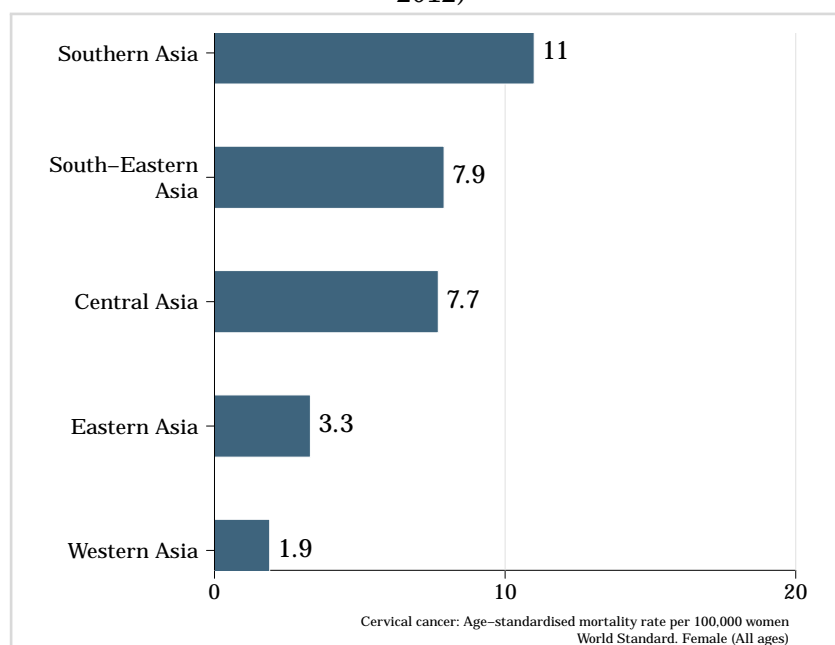
About **144,434 new cervical cancer deaths** occur **annually** in **Asia** (estimates for 2012).

Cervical cancer **ranks* as the 6th leading cause** of female cancer deaths in **Asia**.

Cervical cancer is the **2nd most common** female cancer deaths in **women aged 15 to 44 years** in **Asia**.

* Ranking of cervical cancer incidence to other cancers among all women according to highest incidence rates (ranking 1st). Ranking is based on crude incidence rates (actual number of cervical cancer cases). Ranking using age-standardized rate (ASR) may differ.

Figure 18: Age-standardised mortality rates (ASR) of cervical cancer in Asian regions (estimates for 2012)



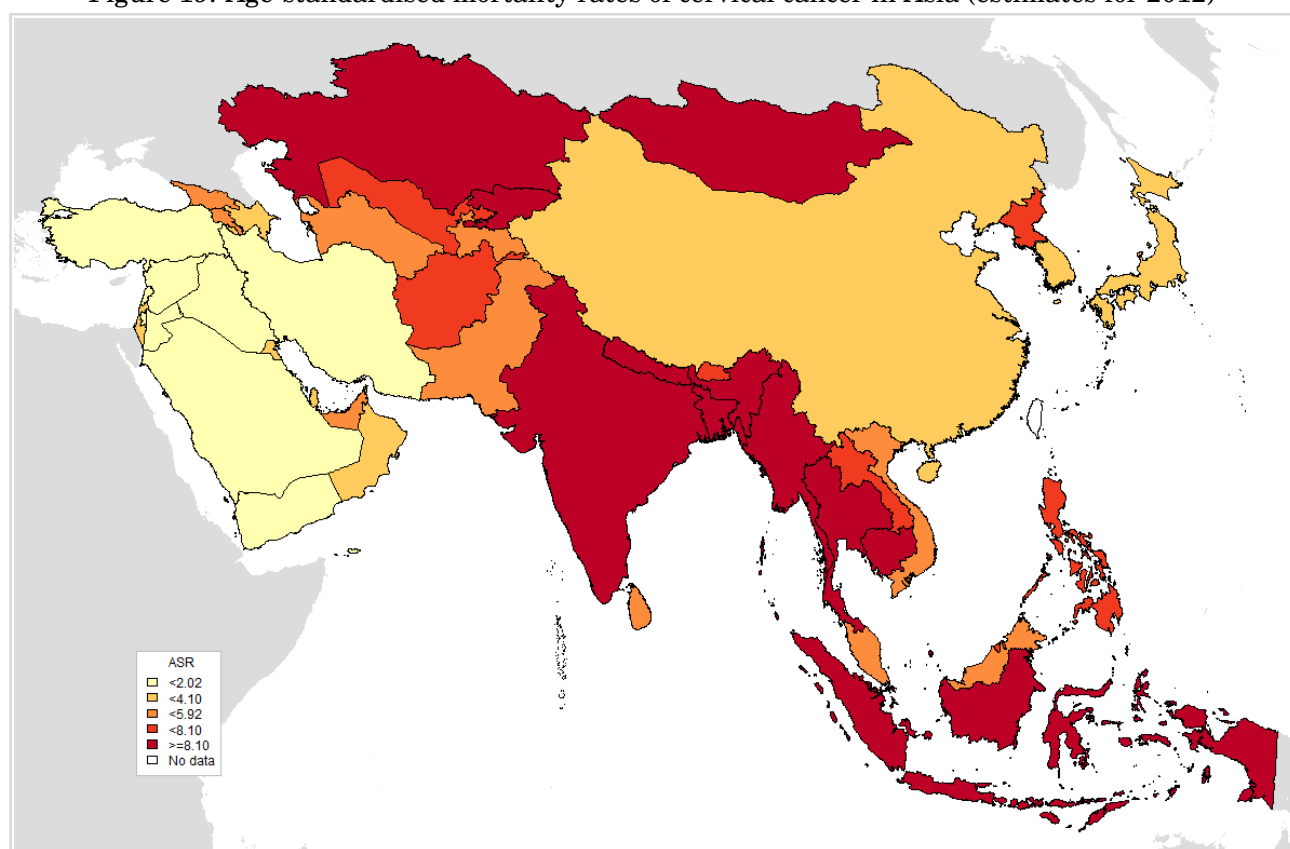
Data accessed on 15 Nov 2015.

Rates per 100,000 women per year.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 19: Age-standardised mortality rates of cervical cancer in Asia (estimates for 2012)



Data accessed on 15 Nov 2015.

ASR: Age-standardized rate, Standardized rates have been estimated using the direct method and the World population as the reference;

Rates per 100,000 women per year.

Data sources: Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Table 6: Cervical cancer mortality in Asia (estimates for 2012)

Area	N cases	Crude rate ^a	ASR ^a	Cumulative risk (%) ages 0-74 years ^b	Ranking of CC	
					All women	Women 15-44 years
Asia	144,434	7.0	6.4	0.7	6	2
Central Asia	2,286	7.2	7.7	0.8	3	2
Kazakhstan	982	11.5	9.8	1.0	4	1
Kyrgyzstan	275	10.0	11.2	1.2	1	1
Tajikistan	132	3.7	4.9	0.5	4	2
Turkmenistan	129	4.9	5.8	0.6	4	5
Uzbekistan	768	5.4	6.4	0.7	3	2
Eastern Asia	36,320	4.7	3.3	0.3	8	2
China	29,526	4.5	3.4	0.3	7	3
DPR Korea	1,119	9.0	7.2	0.7	6	1
Japan	3,645	5.6	2.8	0.3	10	2
Mongolia	108	7.5	9.3	1.1	4	1
Republic of Korea	1,113	4.6	2.6	0.2	8	3
South-Eastern Asia	23,989	7.9	7.9	0.9	3	2
Brunei	11	5.4	6.0	0.7	4	6
Cambodia	795	10.8	13.4	1.5	1	2
Indonesia	9,498	7.7	8.1	1.0	2	2
Laos	168	5.3	7.4	0.8	3	3
Malaysia	621	4.3	4.7	0.5	5	4
Myanmar	2,998	12.1	12.3	1.4	2	2
Philippines	2,832	5.9	7.5	0.8	2	2
Singapore	106	4.1	2.6	0.3	8	3

(Continued on next page)

(Table 6 – continued from previous page)

Area	N cases	Crude rate ^a	ASR ^a	Cumulative risk (%) ages 0-74 years ^b	Ranking of CC	
					All women	Women 15-44 years
Thailand	4,513	12.7	9.7	1.0	4	2
Timor-Leste	24	4.1	8.1	0.8	3	8
Viet Nam	2,423	5.3	5.2	0.6	6	6
Southern Asia	79,958	9.4	11.0	1.2	2	2
Afghanistan	570	3.5	6.9	0.8	3	2
Bangladesh	6,582	8.7	11.5	1.3	2	2
Bhutan	19	5.4	7.0	0.8	2	1
India	67,477	11.1	12.4	1.4	2	2
Iran	370	1.0	1.2	0.1	16	12
Maldives	7	4.3	6.3	0.8	2	23
Nepal	1,367	8.7	12.0	1.4	1	2
Pakistan	2,876	3.2	4.7	0.5	3	5
Sri Lanka	690	6.4	5.0	0.6	2	3
Western Asia	1,881	1.6	1.9	0.2	11	9
Armenia	115	6.9	5.2	0.5	9	2
Azerbaijan	214	4.5	3.9	0.4	4	2
Bahrain	5	1.0	1.9	0.3	9	23
Georgia	200	8.8	5.7	0.6	3	2
Iraq	142	0.8	1.5	0.2	13	11
Israel	121	3.1	2.3	0.2	12	4
Jordan	19	0.6	1.0	0.1	17	13
Kuwait	12	1.0	2.1	0.3	11	5
Lebanon	42	1.9	1.7	0.2	12	10
Oman	15	1.3	2.5	0.3	10	7
Qatar	4	0.9	2.4	0.3	11	23
Saudi Arabia	84	0.7	1.1	0.1	16	12
Syria	92	0.9	1.2	0.1	16	11
Turkey	663	1.8	1.7	0.2	15	10
United Arab Emi- rates	28	1.1	4.4	0.5	7	7
Yemen	117	0.9	2.0	0.2	12	13

Data accessed on 15 Nov 2015.

ASR: Age-standardized rate, Standardized rates have been estimated using the direct method and the World population as the reference;

Standardised rates have been estimated using the direct method and the World population as the reference.

Ranking of cervical cancer mortality to other cancers among all women ages 15-44 years according to highest mortality rates (ranking 1st). Ranking is based on crude mortality rates (actual number of cervical cancer deaths). Ranking using AST may differ.

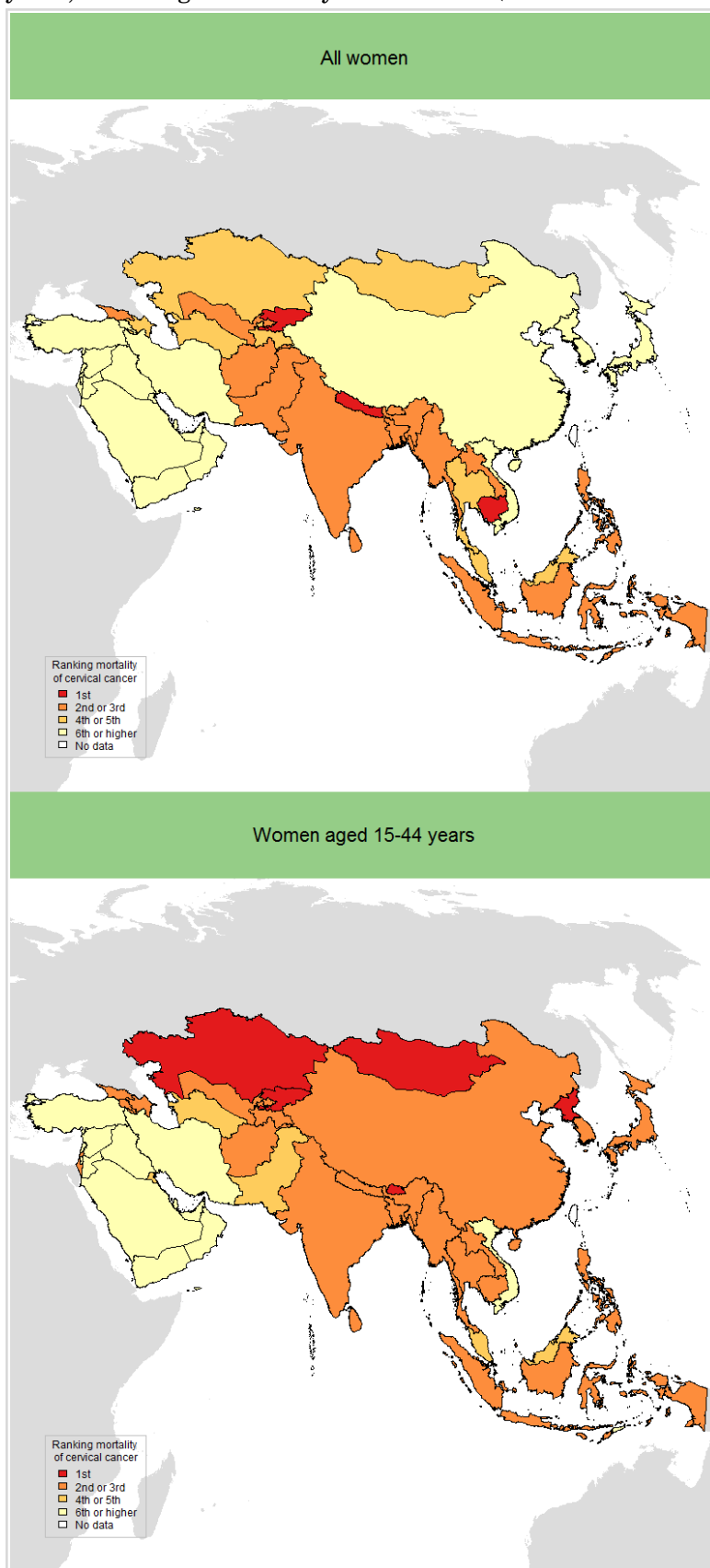
^a Rates per 100,000 women per year.

^b Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

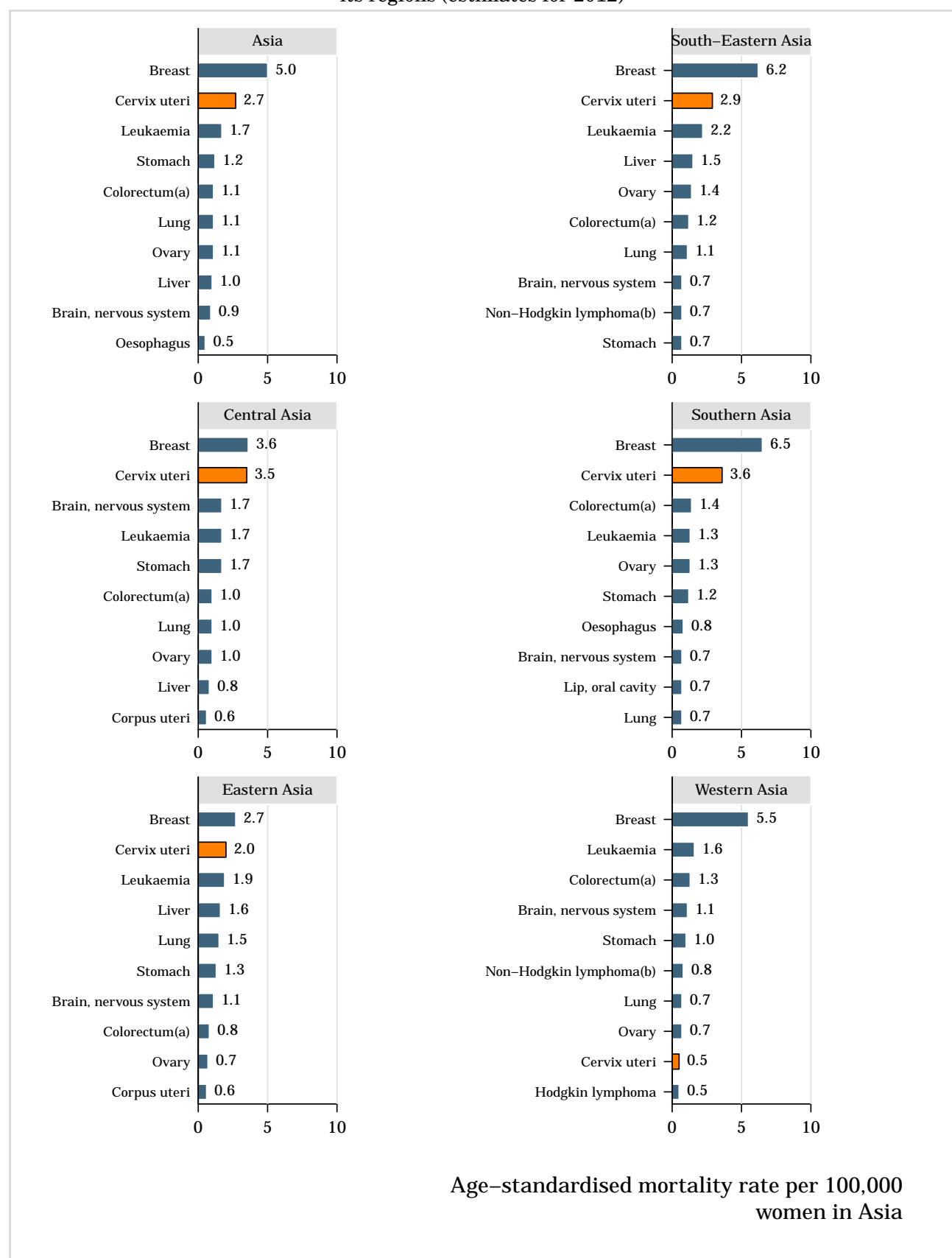
Figure 20: Ranking of cervical cancer versus other cancers among all women and women aged 15-44 years, according to mortality rates in Asia (estimates for 2012)



Data accessed on 15 Nov 2015.

Data sources: Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 21: Comparison of the ten most frequent cancer deaths in women aged 15-44 years in Asia and its regions (estimates for 2012)



Data accessed on 15 Nov 2015.

^a Includes anal cancer (C21).

^b Includes HIV disease resulting in malignant neoplasms (B21).

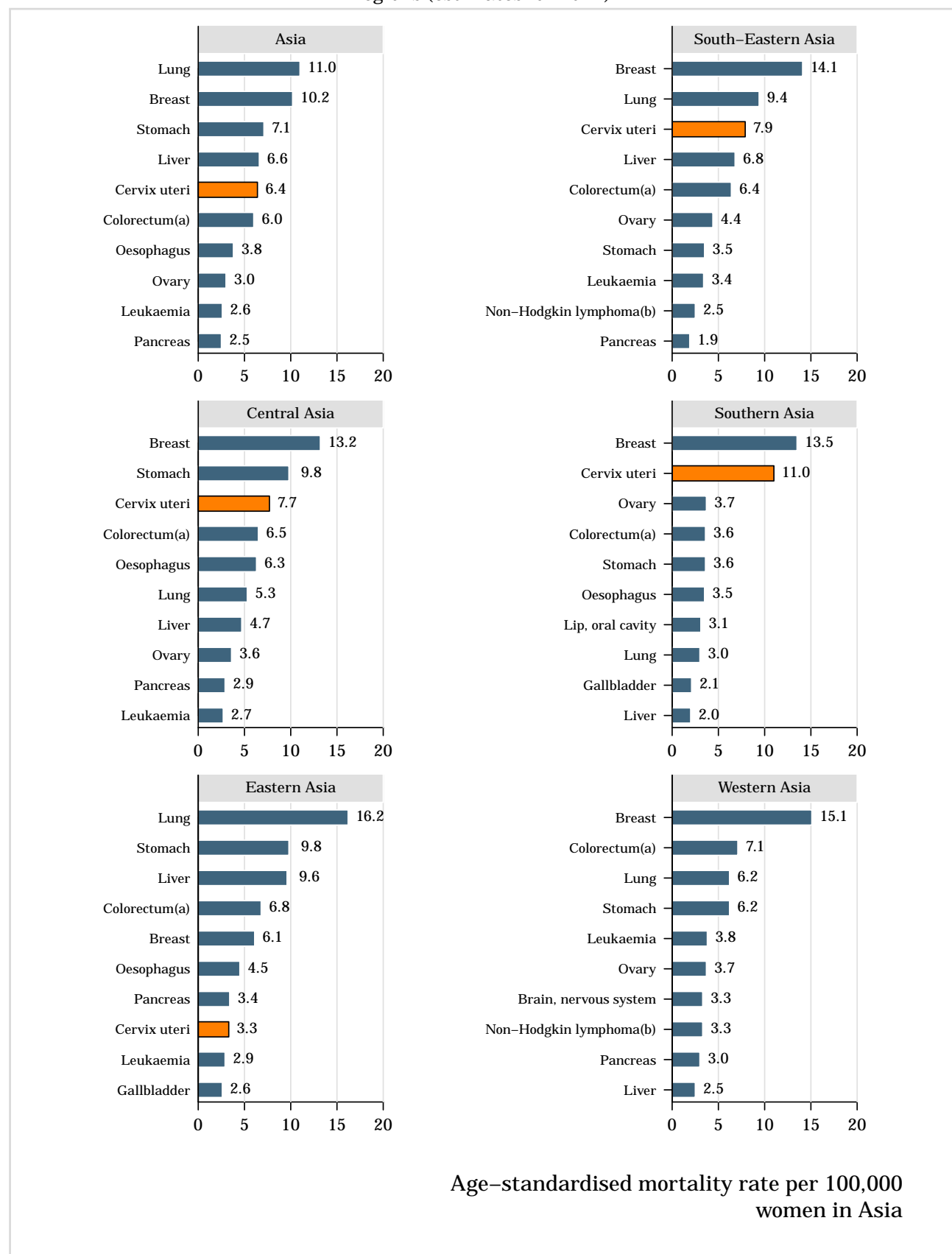
Data sources:

(Continued on next page)

(Figure 21 – continued from previous page)

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 22: Comparison of the ten most frequent cancer deaths in women of all ages in Asia and its regions (estimates for 2012)



Data accessed on 15 Nov 2015.

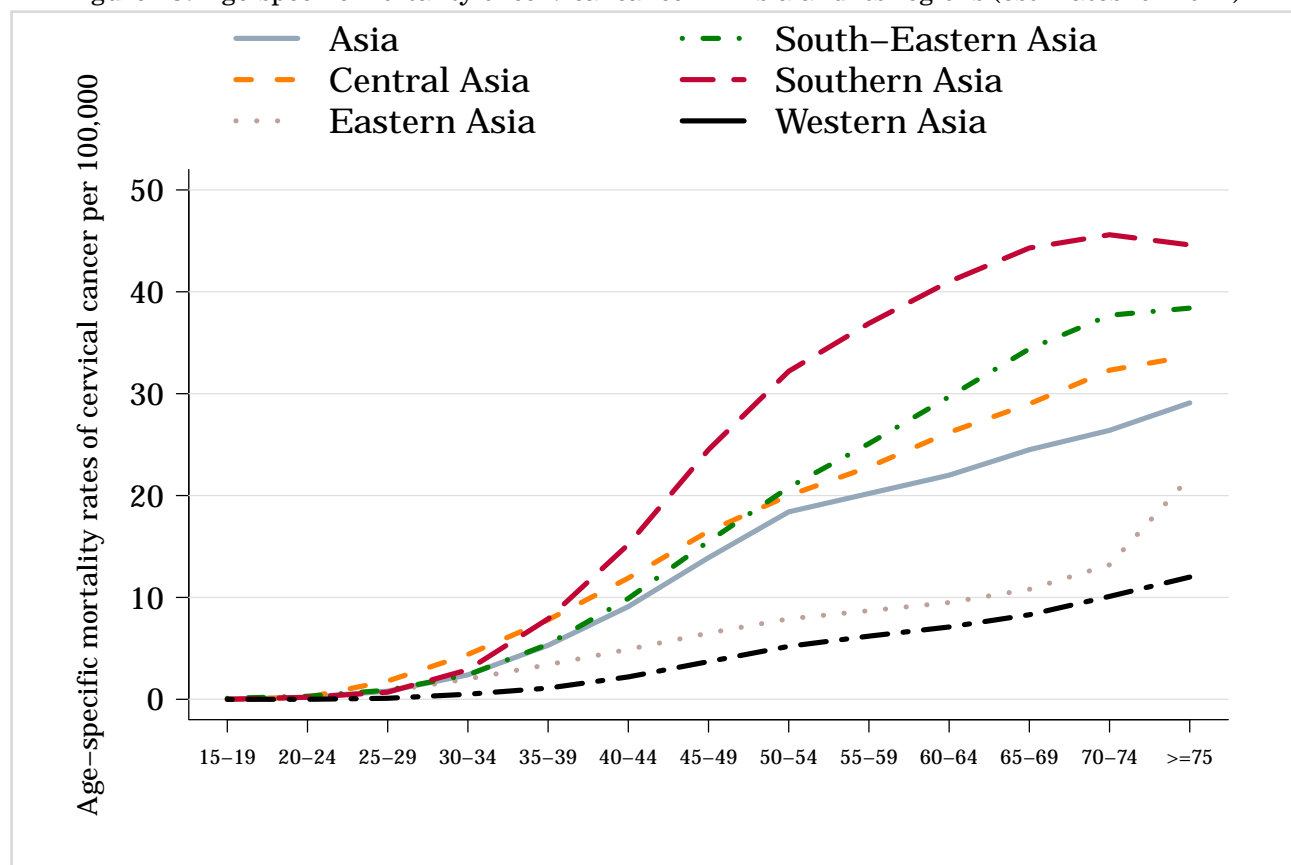
^a Includes anal cancer (C21).

^b Includes HIV disease resulting in malignant neoplasms (B21).

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 23: Age-specific mortality of cervical cancer in Asia and its regions (estimates for 2012)

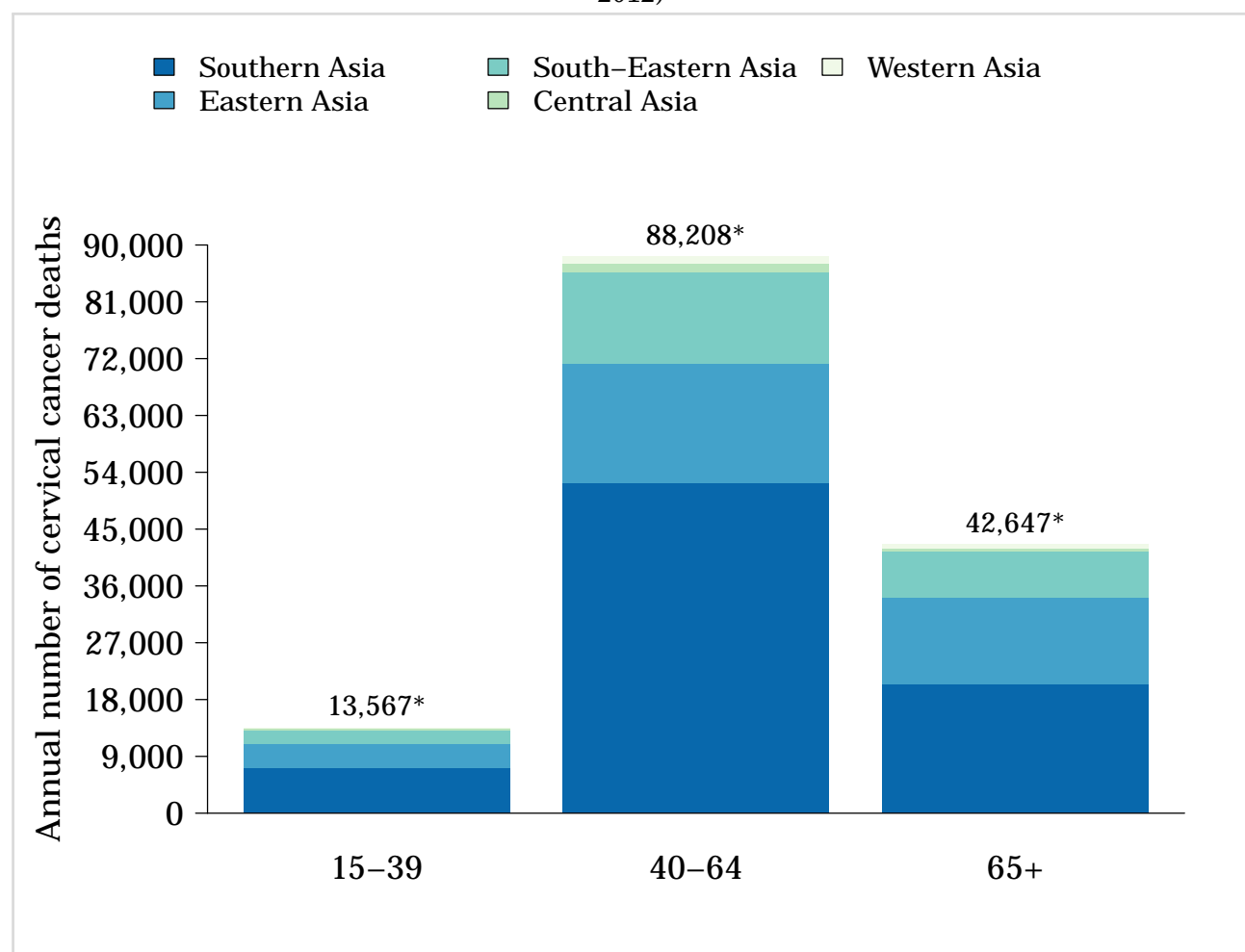


Data accessed on 15 Nov 2015.

Rates per 100,000 women per year.

Data sources: Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 24: Annual number of deaths of cervical cancer by age group in Asian regions (estimates for 2012)



* Southern Asia 15-39 years: 7,242 cases. 40-64 years: 52,317 cases. 65+ years: 20,399 cases.

* Eastern Asia 15-39 years: 3,687 cases. 40-64 years: 18,910 cases. 65+ years: 13,714 cases.

* South-Eastern Asia 15-39 years: 2,173 cases. 40-64 years: 14,521 cases. 65+ years: 7,294 cases.

* Central Asia 15-39 years: 323 cases. 40-64 years: 1,372 cases. 65+ years: 589 cases.

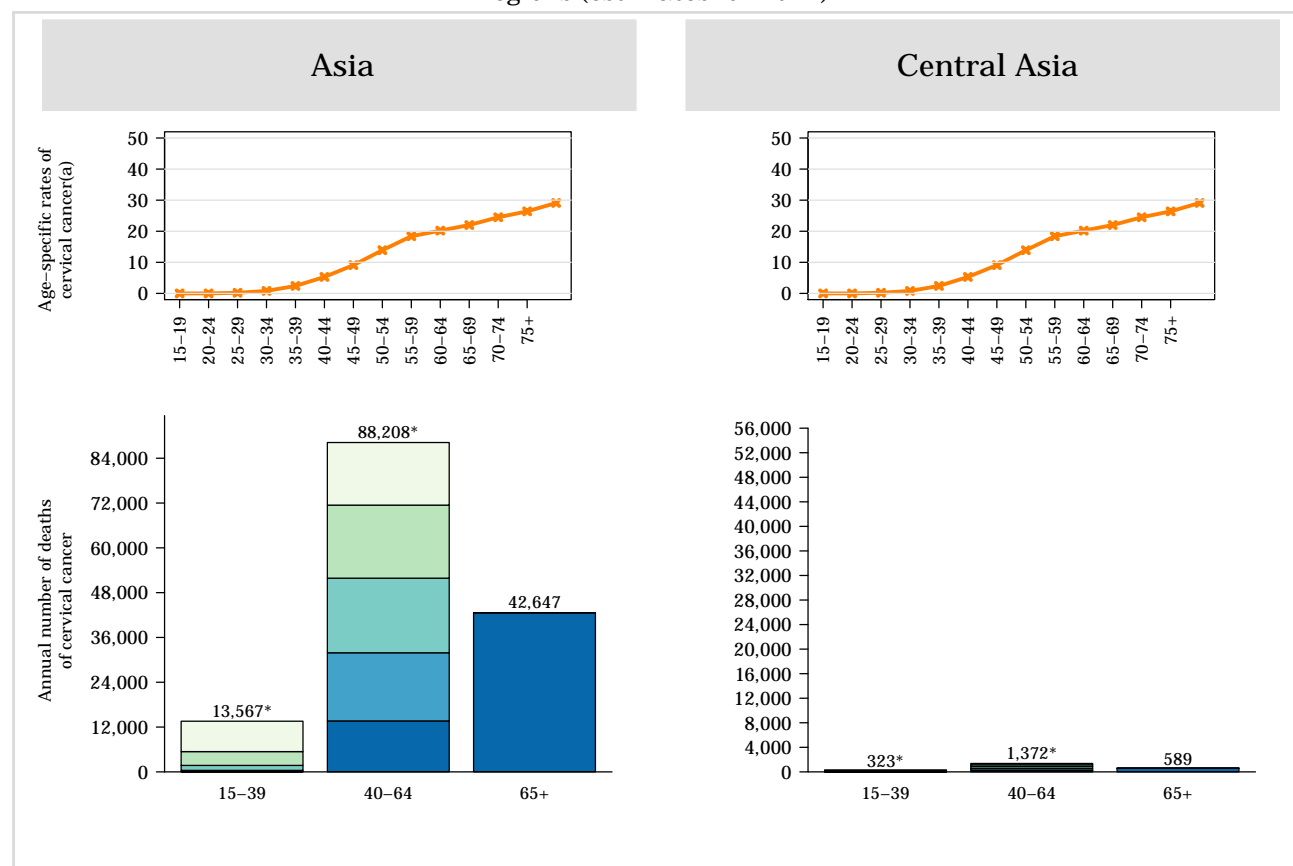
* Western Asia 15-39 years: 142 cases. 40-64 years: 1,088 cases. 65+ years: 651 cases.

Data accessed on 15 Nov 2015.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 25: Annual number of deaths and age-specific mortality rates of cervical cancer in Asia and its regions (estimates for 2012)



* Asia 15-19 yrs: 34 cases. 20-24 yrs: 363 cases. 25-29 yrs: 1,333 cases. 30-34 yrs: 3,699 cases. 35-39 yrs: 8,138 cases. 40-44 yrs: 13,641 cases. 45-49 yrs: 18,256 cases. 50-54 yrs: 19,983 cases. 55-59 yrs: 19,563 cases. 60-64 yrs: 16,765 cases.

* Central Asia 15-19 yrs: 1 cases. 20-24 yrs: 7 cases. 25-29 yrs: 51 cases. 30-34 yrs: 103 cases. 35-39 yrs: 161 cases. 40-44 yrs: 221 cases. 45-49 yrs: 302 cases. 50-54 yrs: 334 cases. 55-59 yrs: 291 cases. 60-64 yrs: 224 cases.

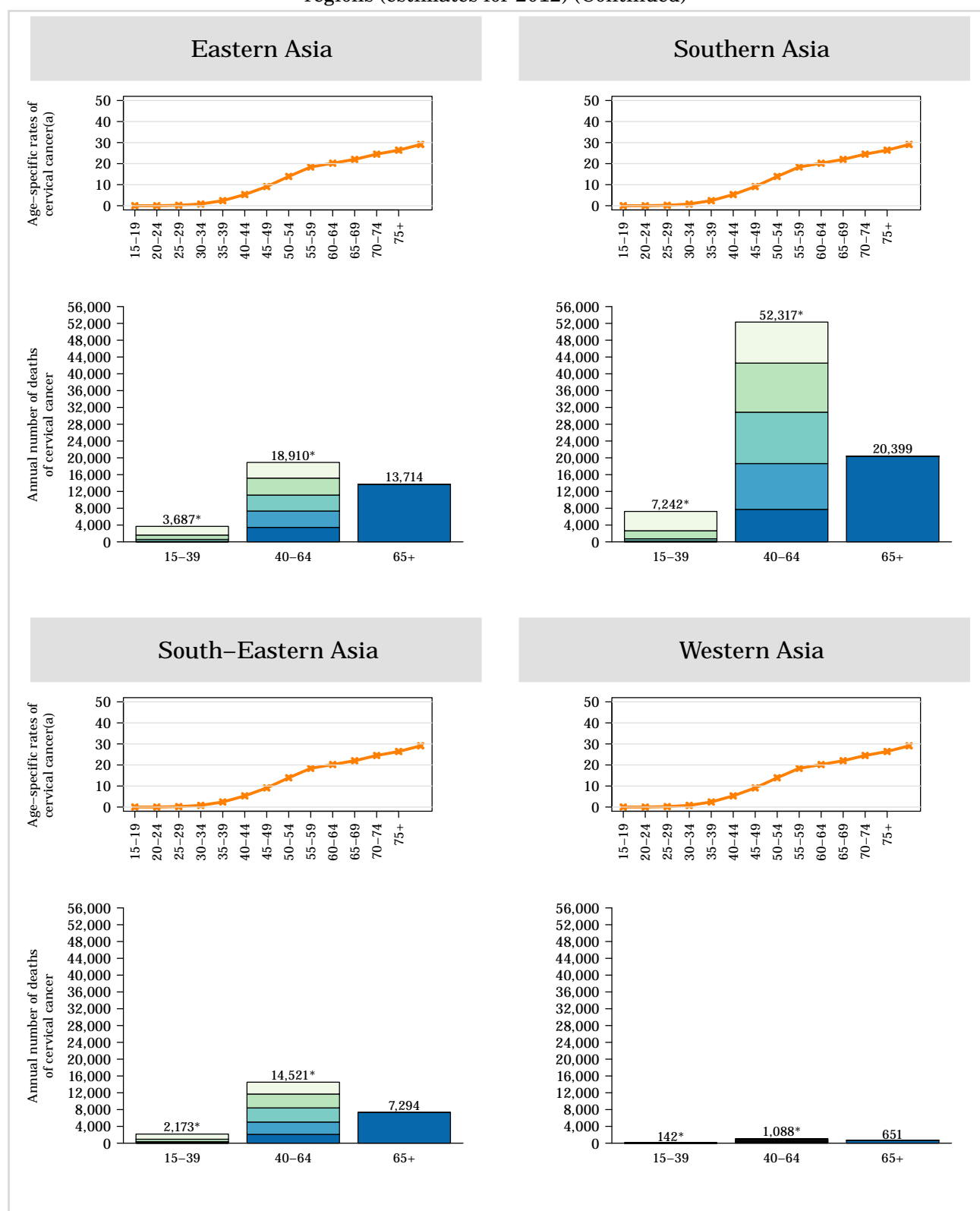
Data accessed on 15 Nov 2015.

^a Rates per 100,000 women per year.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 26: Annual number of deaths and age-specific mortality rates of cervical cancer in Asia and its regions (estimates for 2012) (Continued)



* Eastern Asia 15-19 yrs: 12 cases. 20-24 yrs: 90 cases. 25-29 yrs: 480 cases. 30-34 yrs: 1,037 cases. 35-39 yrs: 2,068 cases. 40-44 yrs: 3,444 cases. 45-49 yrs: 3,897 cases. 50-54 yrs: 3,801 cases. 55-59 yrs: 4,032 cases. 60-64 yrs: 3,736 cases.

* South-Eastern Asia 15-19 yrs: 20 cases. 20-24 yrs: 89 cases. 25-29 yrs: 243 cases. 30-34 yrs: 594 cases. 35-39 yrs: 1,227 cases. 40-44 yrs: 2,099 cases. 45-49 yrs: 2,933 cases. 50-54 yrs: 3,369 cases. 55-59 yrs: 3,300 cases. 60-64 yrs: 2,820 cases.

* Southern Asia 15-19 yrs: 1 cases. 20-24 yrs: 176 cases. 25-29 yrs: 550 cases. 30-34 yrs: 1,922 cases. 35-39 yrs: 4,593 cases. 40-44 yrs: 7,729 cases. 45-49 yrs: 10,911 cases. 50-54 yrs: 12,224 cases. 55-59 yrs: 11,686 cases. 60-64 yrs: 9,767 cases.

* Western Asia 15-19 yrs: 0 cases. 20-24 yrs: 1 cases. 25-29 yrs: 9 cases. 30-34 yrs: 43 cases. 35-39 yrs: 89 cases. 40-44 yrs: 148 cases. 45-49 yrs: 213 cases. 50-54 yrs: 255 cases. 55-59 yrs: 254 cases. 60-64 yrs: 218 cases.

Data accessed on 15 Nov 2015.

(Continued on next page)

(Figure 26 – continued from previous page)

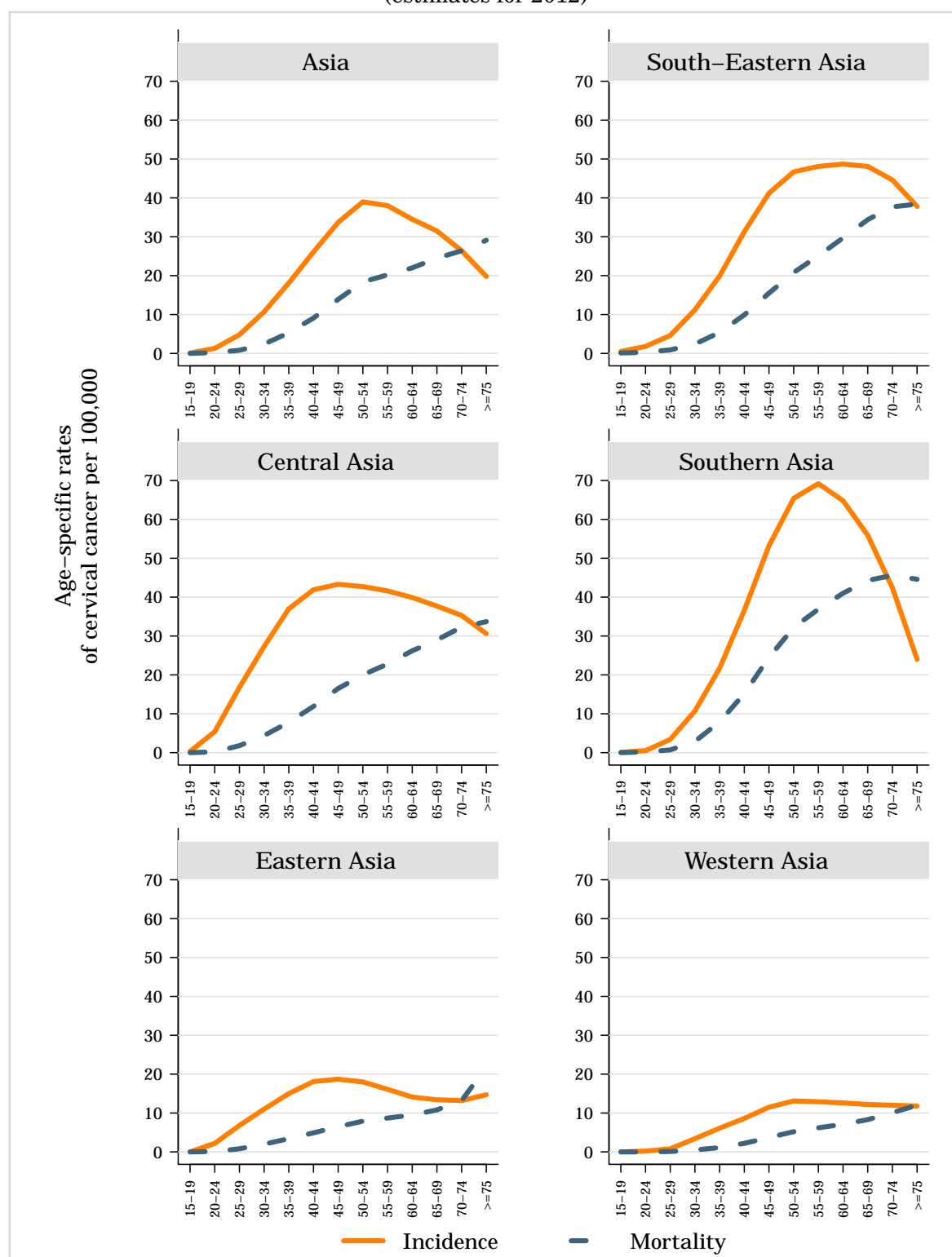
^a Rates per 100,000 women per year.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

3.1.3 Comparison of incidence and mortality

Figure 27: Age-specific incidence and mortality rates of cervical cancer in Asia and its regions (estimates for 2012)



Data accessed on 15 Nov 2015.

Rates per 100,000 women per year.

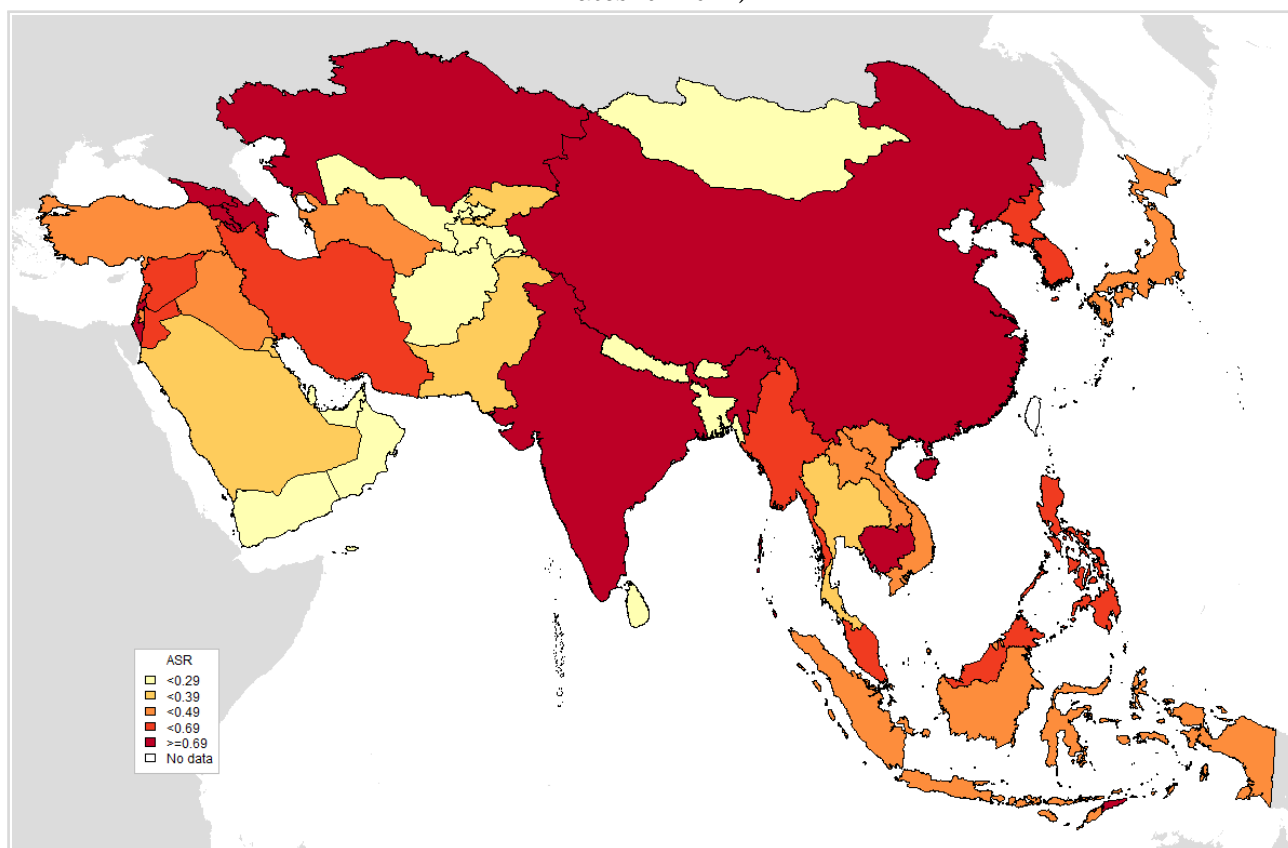
Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

3.2 Anogenital cancers other than the cervix

Data on the role of HPV in anogenital cancers other than the cervix are limited, but there is an increasing body of evidence strongly linking HPV DNA with cancers of the anus, vulva, vagina, and penis. Although these cancers are much less frequent compared to cancer of the cervix, their association with HPV make them potentially preventable and subject to similar preventative strategies as those for cervical cancer. (*Vaccine 2006, Vol. 24, Suppl 3; Vaccine 2008, Vol. 26, Suppl 10; Vaccine 2012, Vol. 30, Suppl 5; IARC Monographs 2007, Vol. 90*)

Figure 28: Age-standardised incidence rates of anogenital cancers other than the cervix in Asia (estimates for 2012)



Data accessed on 08 May 2017.

ASR: Age-standardized rate, rates per 100,000 per year.

Please refer to original source for methods.

Other anogenital cancer cases (vulvar, vaginal, anal, and penile).

GLOBOCAN quality index for availability of incidence data:

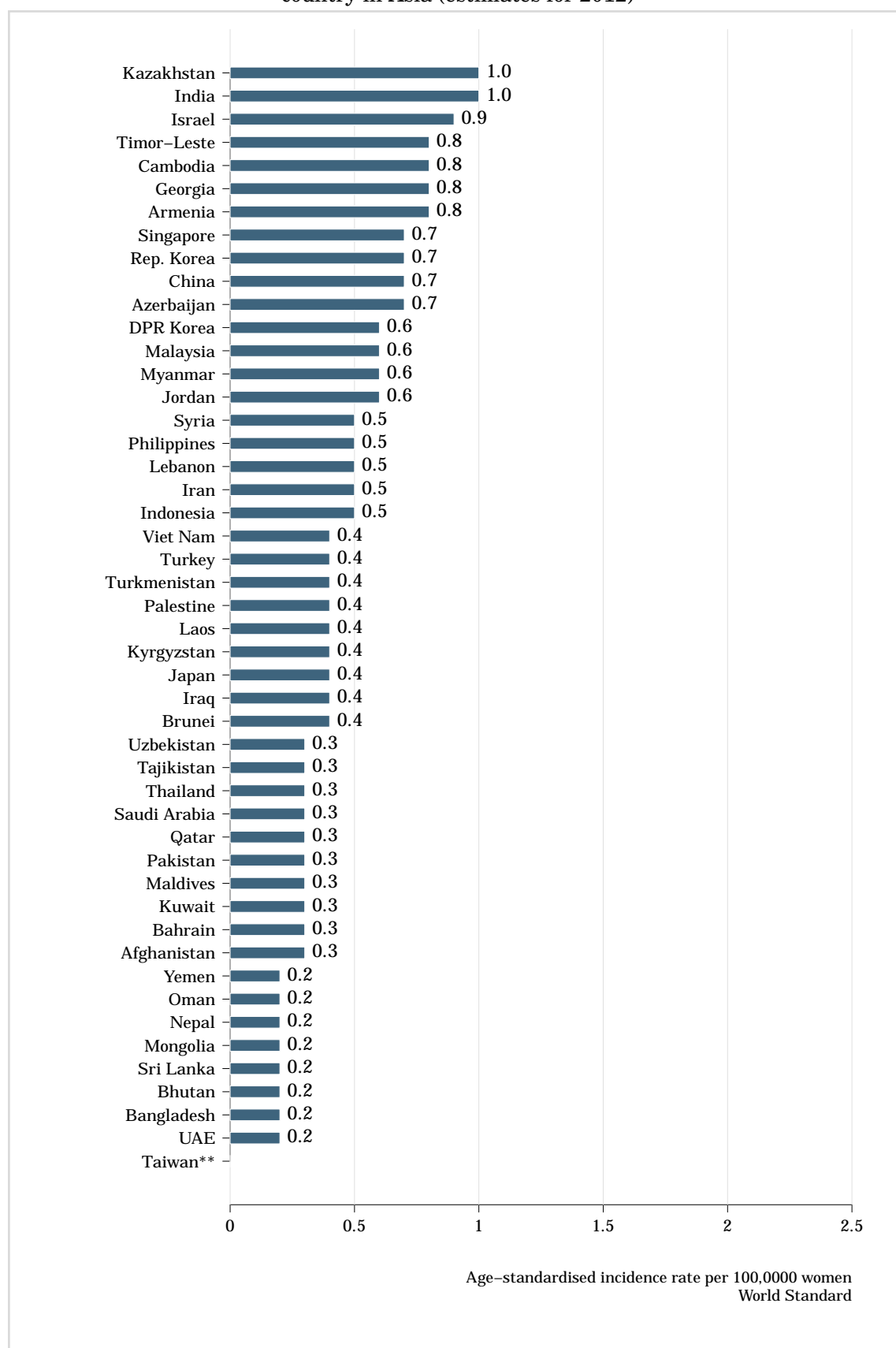
- For Afghanistan, Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Cambodia, Laos, Maldives, Myanmar, Nepal, DPR Korea, Syria, Tajikistan, Turkmenistan, Timor-Leste, Uzbekistan: No data.
- For United Arab Emirates, Bhutan, Jordan, Lebanon, Sri Lanka, Mongolia, Saudi Arabia: National data (rates).
- For Bangladesh, Brunei, Indonesia, Iraq, Palestine: Frequency data.
- For Bahrain, Israel, Republic of Korea, Kuwait, Oman, Qatar, Singapore: High quality national data or high quality regional (coverage greater than 50%).
- For China, India, Iran, Malaysia, Turkey: High quality regional (coverage lower than 10%).
- For Japan, Philippines, Thailand: High quality regional (coverage between 10% and 50%).
- For Pakistan, Viet Nam, Yemen: Regional data (rates).

GLOBOCAN quality index of methods for calculating incidence: Methods to estimate the sex- and age-specific incidence rates of cancer for a specific country:

- For Afghanistan, Cambodia, Laos, Maldives, Myanmar, Nepal, DPR Korea, Syria, Timor-Leste: The rates are those of neighbouring countries or registries in the same area
- For United Arab Emirates, Bhutan, Lebanon, Sri Lanka, Mongolia, Oman, Qatar: Most recent rates applied to 2012 population
- For Armenia, Azerbaijan, Brunei, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Viet Nam: Estimated from national mortality estimates using modelled survival
- For Bangladesh, Iraq, Palestine: Age/sex specific rates for "all cancers" were partitioned using data on relative frequency of different cancers (by age and sex)
- For Bahrain, Israel, Jordan, Republic of Korea, Kuwait, Saudi Arabia, Singapore: Rates projected to 2012
- For China, Japan: Estimated from national mortality by modelling using incidence mortality ratios derived from recorded data in country-specific cancer registries
- For Indonesia, India, Iran, Malaysia, Pakistan, Philippines, Thailand, Turkey: Estimated as the weighted average of the local rates
- For Yemen: One cancer registry covering part of a country is used as representative of the country profile

Data sources: Worldwide burden of cancer attributable to HPV by site, country and HPV type. de Martel C, Plummer M, Vignat J, Franceschi S. *Int J Cancer*. 2017 Apr 1. doi: 10.1002/ijc.30716. [Epub ahead of print]. PMID:28369882.

Figure 29: Age-standardised incidence rate of other anogenital cancer cases attributable to HPV by country in Asia (estimates for 2012)



** No rates are available.

Data accessed on 08 May 2017.

ASR: Age-standardized rate, rates per 100,000 per year.

Please refer to original source for methods.

(Continued on next page)

(Figure 29 – continued from previous page)

Other anogenital cancer cases (vulvar, vaginal, anal, and penile).

GLOBOCAN quality index for availability of incidence data:

- For United Arab Emirates, Bhutan, Sri Lanka, Mongolia, Saudi Arabia, Lebanon, Jordan: National data (rates).
- For Bangladesh, Brunei, Iraq, Palestine, Indonesia: Frequency data.
- For Nepal, Afghanistan, Maldives, Tajikistan, Uzbekistan, Kyrgyzstan, Laos, Turkmenistan, Syria, Myanmar, DPR Korea, Azerbaijan, Armenia, Georgia, Cambodia, Timor-Leste, Kazakhstan: No data.
- For Oman, Bahrain, Kuwait, Qatar, Republic of Korea, Singapore, Israel: High quality national data or high quality regional (coverage greater than 50%).
- For Yemen, Pakistan, Viet Nam: Regional data (rates).
- For Thailand, Japan, Philippines: High quality regional (coverage between 10% and 50%).
- For Turkey, Iran, Malaysia, China, India: High quality regional (coverage lower than 10%).

GLOBOCAN quality index of methods for calculating incidence: Methods to estimate the sex- and age-specific incidence rates of cancer for a specific country:

- For United Arab Emirates, Bhutan, Sri Lanka, Mongolia, Oman, Qatar, Lebanon: Most recent rates applied to 2012 population
- For Bangladesh, Iraq, Palestine: Age/sex specific rates for "all cancers" were partitioned using data on relative frequency of different cancers (by age and sex)
- For Nepal, Afghanistan, Maldives, Laos, Syria, Myanmar, DPR Korea, Cambodia, Timor-Leste: The rates are those of neighbouring countries or registries in the same area
- For Yemen: One cancer registry covering part of a country is used as representative of the country profile
- For Bahrain, Kuwait, Saudi Arabia, Jordan, Republic of Korea, Singapore, Israel: Rates projected to 2012
- For Pakistan, Thailand, Turkey, Indonesia, Iran, Philippines, Malaysia, India: Estimated as the weighted average of the local rates
- For Tajikistan, Uzbekistan, Brunei, Kyrgyzstan, Turkmenistan, Viet Nam, Azerbaijan, Armenia, Georgia, Kazakhstan: Estimated from national mortality estimates using modelled survival
- For Japan, China: Estimated from national mortality by modelling using incidence mortality ratios derived from recorded data in country-specific cancer registries

Data sources: de Martel C, Plummer M, Vignat J, Franceschi S. Worldwide burden of cancer attributable to HPV by site, country and HPV type. Int J Cancer. 2017

3.2.1 Anal cancer

Anal cancer is rare in the general population with an average worldwide incidence of 1 per 100,000, but is reported to be increasing in more developed regions. Globally, there are an estimated 27,000 new cases every year (*de Martel C et al. Lancet Oncol 2012;13(6):607-15*). Women have higher incidences of anal cancer than men. Incidence is particularly high among populations of men who have sex with men (MSM), women with history of cervical or vulvar cancer, and immunosuppressed populations, including those who are HIV-infected and patients with a history of organ transplantation. These cancers are predominantly squamous cell carcinoma, adenocarcinomas, or basaloid and cloacogenic carcinomas.

Table 7: Incidence of anal cancer in Asia by cancer registry and sex

Country / Registry	Period	Male			Female		
		N cases ^a	Crude rate ^b	ASR ^b	N cases ^a	Crude rate ^c	ASR ^c
Central Asia							
Kazakhstan	-	-	-	-	-	-	-
Kyrgyzstan	-	-	-	-	-	-	-
Tajikistan	-	-	-	-	-	-	-
Turkmenistan	-	-	-	-	-	-	-
Uzbekistan	-	-	-	-	-	-	-
Eastern Asia							
China ¹							
Beijing City	2003-2007	35	0.2	0.1	25	0.1	0.1
Cixian County	2003-2007	4	0.3	0.3	2	0.1	0.2
Haining County	2003-2007	6	0.4	0.3	2	0.1	0.1
Harbin City, Nangang District	2003-2007	7	0.3	0.2	2	0.1	0.1
Hong Kong	2003-2007	108	0.7	0.4	88	0.5	0.3
Jiashan County	2003-2007	3	0.3	0.2	1	0.1	0.0
Jiaxing City	2005-2007	1	0.1	0.1	2	0.3	0.1
Macao	2003-2007	5	0.4	0.3	7	0.6	0.4
Qidong County	2003-2007	5	0.2	0.1	7	0.2	0.1
Shanghai City	2003-2007	70	0.4	0.2	67	0.4	0.2
Wuhan City	2003-2007	40	0.3	0.3	39	0.3	0.3
Yangcheng County	2003-2007	2	0.2	0.2	0	0.0	0.0
Yanting County	2003-2007	0	0.0	0.0	0	0.0	0.0

(Continued on next page)

(Table 7 – continued from previous page)

Country / Registry	Period	Male			Female		
		N cases ^a	Crude rate ^b	ASR ^b	N cases ^a	Crude rate ^c	ASR ^c
Zhongshan City	2004-2007	4	0.1	0.2	4	0.1	0.1
DPR Korea	-	-	-	-	-	-	-
Japan ¹	-	-	-	-	-	-	-
Aichi Prefecture	2003-2007	18	0.5	0.3	13	0.4	0.2
Fukui Prefecture	2003-2007	12	0.6	0.2	12	0.6	0.2
Hiroshima	2003-2007	15	0.5	0.3	21	0.7	0.3
Miyagi Prefecture	2003-2007	39	0.7	0.3	38	0.6	0.2
Nagasaki Prefecture	2003-2007	18	0.5	0.2	23	0.6	0.2
Niigata Prefecture	2003-2007	41	0.7	0.3	45	0.7	0.2
Osaka Prefecture	2003-2007	186	0.9	0.4	141	0.6	0.2
Saga Prefecture	2003-2007	11	0.5	0.2	9	0.4	0.1
Mongolia	-	-	-	-	-	-	-
Rep. Korea ¹	-	-	-	-	-	-	-
Busan	2003-2007	29	0.3	0.3	31	0.3	0.2
Daegu	2003-2007	24	0.4	0.4	21	0.3	0.3
Daejeon	2003-2007	13	0.4	0.4	25	0.7	0.6
Gwangju	2003-2007	10	0.3	0.3	18	0.5	0.4
Incheon	2003-2007	15	0.2	0.3	23	0.4	0.3
Jejudo	2004-2007	5	0.5	0.5	4	0.4	0.3
National	2003-2007	450	0.4	0.4	482	0.4	0.3
Seoul	2003-2007	106	0.4	0.4	91	0.4	0.3
Ulsan	2003-2007	9	0.3	0.4	5	0.2	0.2
South-Eastern Asia							
Brunei	-	-	-	-	-	-	-
Cambodia	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-
Laos	-	-	-	-	-	-	-
Malaysia ¹	-	-	-	-	-	-	-
Penang	2004-2007	6	0.2	0.3	6	0.2	0.2
Penang (Chinese)	2004-2007	2	0.2	0.2	2	0.2	0.1
Penang (Indian)	2004-2007	0	0.0	0.0	1	0.3	0.3
Penang (Malay)	2004-2007	4	0.3	0.6	3	0.2	0.4
Myanmar	-	-	-	-	-	-	-
Philippines ¹	-	-	-	-	-	-	-
Manila	2003-2007	28	0.2	0.3	28	0.2	0.3
Rizal	2003-2007	17	0.1	0.2	19	0.1	0.2
Singapore ¹	-	-	-	-	-	-	-
National	2003-2007	59	0.7	0.6	43	0.5	0.3
National (Chinese)	2003-2007	51	0.8	0.6	38	0.6	0.4
National (Indian)	2003-2007	1	0.1	0.1	2	0.3	0.2
National (Malay)	2003-2007	7	0.6	0.7	2	0.2	0.2
Thailand ¹	-	-	-	-	-	-	-
Bangkok	2003-2007	28	0.2	0.2	40	0.2	0.2
Chiang Mai	2003-2007	6	0.2	0.1	16	0.4	0.3

(Continued on next page)

(Table 7 – continued from previous page)

Country / Registry	Period	Male			Female		
		N cases ^a	Crude rate ^b	ASR ^b	N cases ^a	Crude rate ^c	ASR ^c
Chonburi	2003-2007	2	0.1	0.1	3	0.1	0.1
Khon Kaen	2003-2007	7	0.2	0.2	6	0.1	0.1
Lampang	2003-2007	1	0.1	0.0	6	0.3	0.2
Songkhla	2004-2007	7	0.3	0.3	2	0.1	0.1
Timor-Leste	-	-	-	-	-	-	-
Viet Nam ²	-	-	-	-	-	-	-
Hanoi	1993-1997	7	0.1	0.2	5	0.1	0.1
Ho Chi Minh City	1995-1998	32	0.4	0.6	36	0.4	0.4
Southern Asia							
Afghanistan	-	-	-	-	-	-	-
Bangladesh	-	-	-	-	-	-	-
Bhutan	-	-	-	-	-	-	-
India ¹	-	-	-	-	-	-	-
Bangalore	2005-2007	33	0.3	0.5	23	0.2	0.3
Barshi, Paranda and Bhum	2003-2007	3	0.2	0.2	3	0.2	0.3
Bhopal	2004-2007	10	0.3	0.4	11	0.3	0.5
Chennai	2003-2007	69	0.6	0.7	49	0.4	0.5
Dindigul, Ambilikai	2003-2007	14	0.3	0.3	9	0.2	0.2
Karunagappally	2003-2007	3	0.3	0.3	4	0.4	0.3
Mizoram	2003-2007	1	0.0	0.1	3	0.1	0.2
Mumbai	2003-2007	102	0.3	0.4	70	0.2	0.3
New Delhi	2003-2007	170	0.4	0.7	87	0.2	0.4
Poona	2003-2007	31	0.3	0.4	27	0.3	0.4
Sikkim State	2003-2007	3	0.2	0.4	3	0.2	0.4
Trivandrum	2005-2007	2	0.1	0.1	6	0.3	0.3
Iran ¹	-	-	-	-	-	-	-
Golestan Province	2005-2007	10	0.4	0.6	5	0.2	0.4
Maldives	-	-	-	-	-	-	-
Nepal	-	-	-	-	-	-	-
Pakistan ³	-	-	-	-	-	-	-
South Karachi	1998-2002	19	0.4	0.7	8	0.2	0.4
Sri Lanka	-	-	-	-	-	-	-
Western Asia							
Armenia	-	-	-	-	-	-	-
Azerbaijan	-	-	-	-	-	-	-
Bahrain ¹	-	-	-	-	-	-	-
National (Bahraini)	2003-2007	6	0.5	0.8	2	0.2	0.3
Georgia	-	-	-	-	-	-	-
Iraq	-	-	-	-	-	-	-
Israel ¹	-	-	-	-	-	-	-
National	2003-2007	57	0.3	0.3	101	0.6	0.4

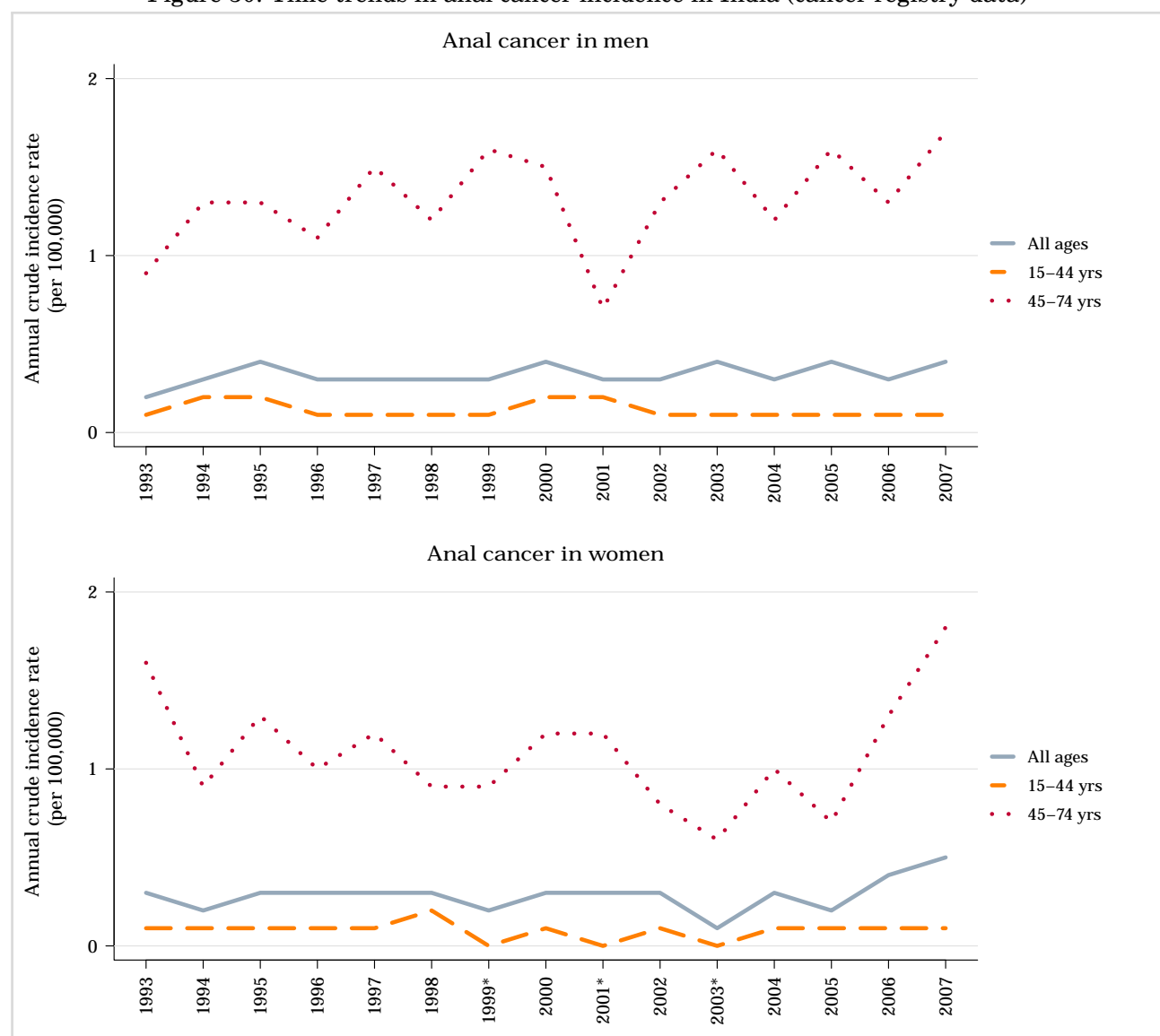
(Continued on next page)

(Table 7 – continued from previous page)

Country / Registry	Period	Male			Female		
		N cases ^a	Crude rate ^b	ASR ^b	N cases ^a	Crude rate ^c	ASR ^c
National (Jews)	2003-2007	56	0.4	0.3	99	0.7	0.5
National (Non-Jews)	2003-2007	1	0.0	0.0	2	0.1	0.1
Jordan							
-	-	-	-	-	-	-	-
Kuwait ¹							
National	2003-2007	11	0.1	0.1	9	0.2	0.3
National (Kuwaitis)	2003-2007	4	0.2	0.3	6	0.2	0.4
National (Non-Kuwaitis)	2003-2007	7	0.1	0.1	3	0.1	0.1
Lebanon							
-	-	-	-	-	-	-	-
Oman ³							
Omani	1998-2001	11	0.3	0.7	1	0.0	0.1
Qatar ¹							
National (Qatari)	2003-2007	1	0.2	0.5	0	0.0	0.0
Saudi Arabia ¹							
Riyadh (Saudi)	2003-2007	9	0.1	0.2	14	0.1	0.3
Syria							
-	-	-	-	-	-	-	-
Turkey ¹							
Antalya	2003-2007	8	0.2	0.2	15	0.4	0.4
Edirne	2004-2007	3	0.4	0.4	1	0.1	0.1
Izmir	2003-2007	33	0.4	0.3	22	0.2	0.2
Trabzon	2005-2007	0	0.0	0.0	0	0.0	0.0
UAE							
-	-	-	-	-	-	-	-
Yemen							
-	-	-	-	-	-	-	-

Data accessed on 05 May 2015.^aAccumulated number of cases during the period in the population covered by the corresponding registry.^bRates per 100,000 men per year.^cRates per 100,000 women per year.Data sources:¹Forman D, Bray F, Brewster DH, Gombe Mbalawa C, Kohler B, Piñeros M, Steliarova-Foucher E, Swaminathan R and Ferlay J eds (2013). Cancer Incidence in Five Continents, Vol. X (electronic version) Lyon, IARC. <http://ci5.iarc.fr>²Parkin, D.M., Whelan, S.L., Ferlay, J., Teppo, L., and Thomas, D.B., eds (2002). Cancer Incidence in Five Continents, Vol. VIII. IARC Scientific Publications No. 155, Lyon, IARC.³Curado. M. P., Edwards, B., Shin. H.R., Storm. H., Ferlay. J., Heanue. M. and Boyle. P., eds (2007). Cancer Incidence in Five Continents, Vol. IX. IARC Scientific Publications No. 160, Lyon, IARC.

Figure 30: Time trends in anal cancer incidence in India (cancer registry data)



*No cases were registered for this age group.

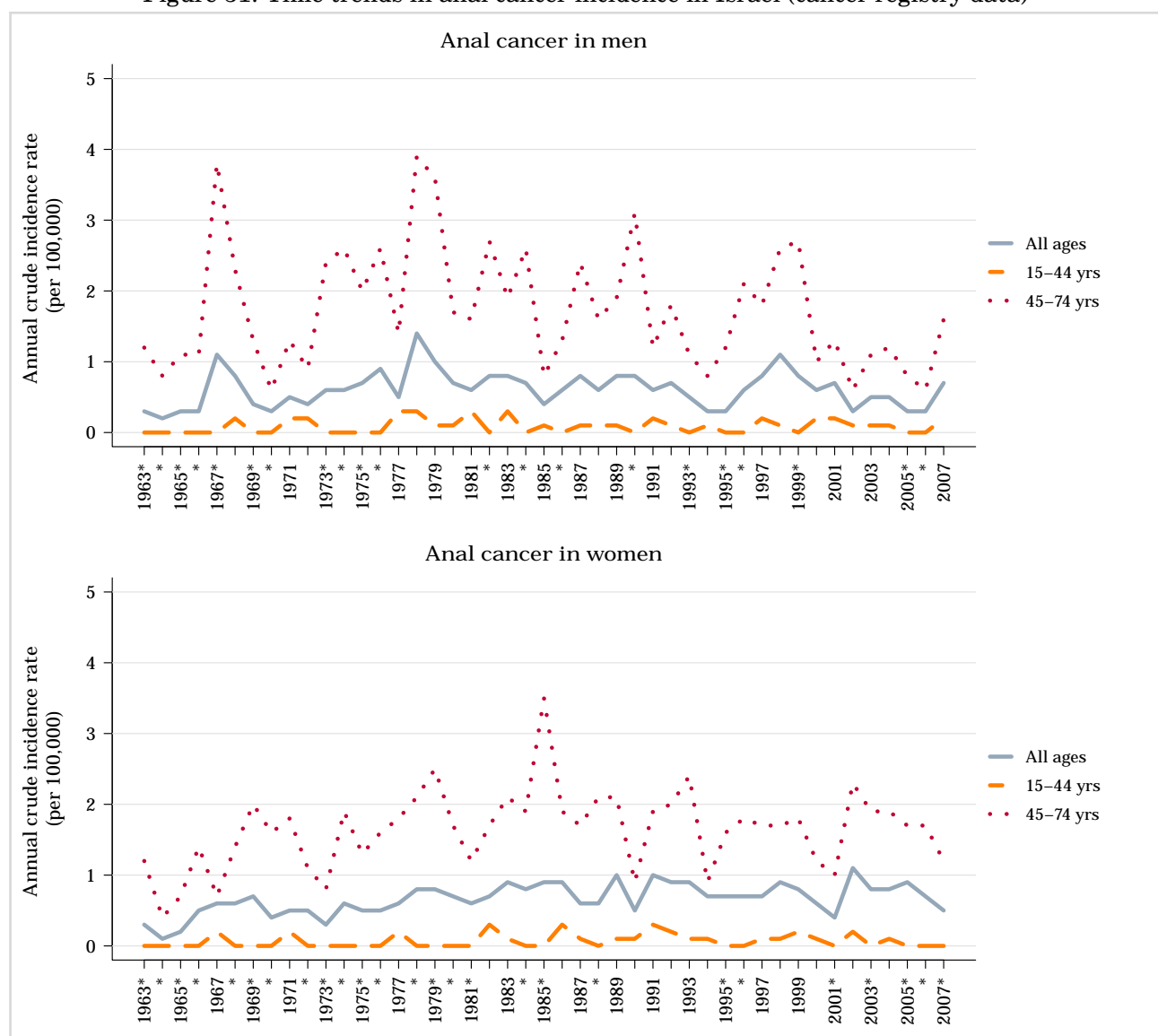
Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Chennai (Madras), Mumbai (Bombay), Poona.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 31: Time trends in anal cancer incidence in Israel (cancer registry data)



*No cases were registered for this age group.

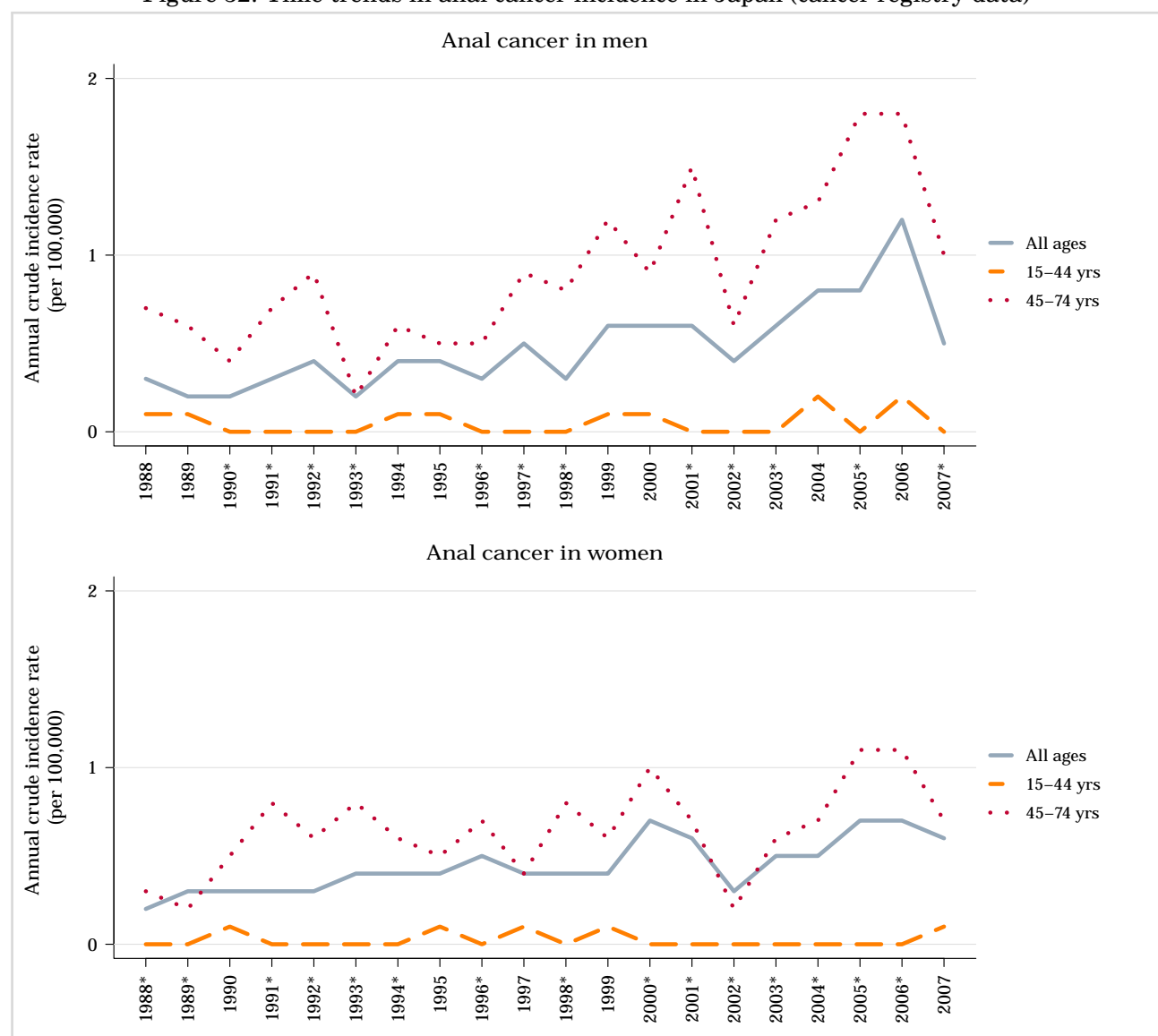
Data accessed on 27 Apr 2015.

Data was provided by the national registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 32: Time trends in anal cancer incidence in Japan (cancer registry data)



*No cases were registered for this age group.

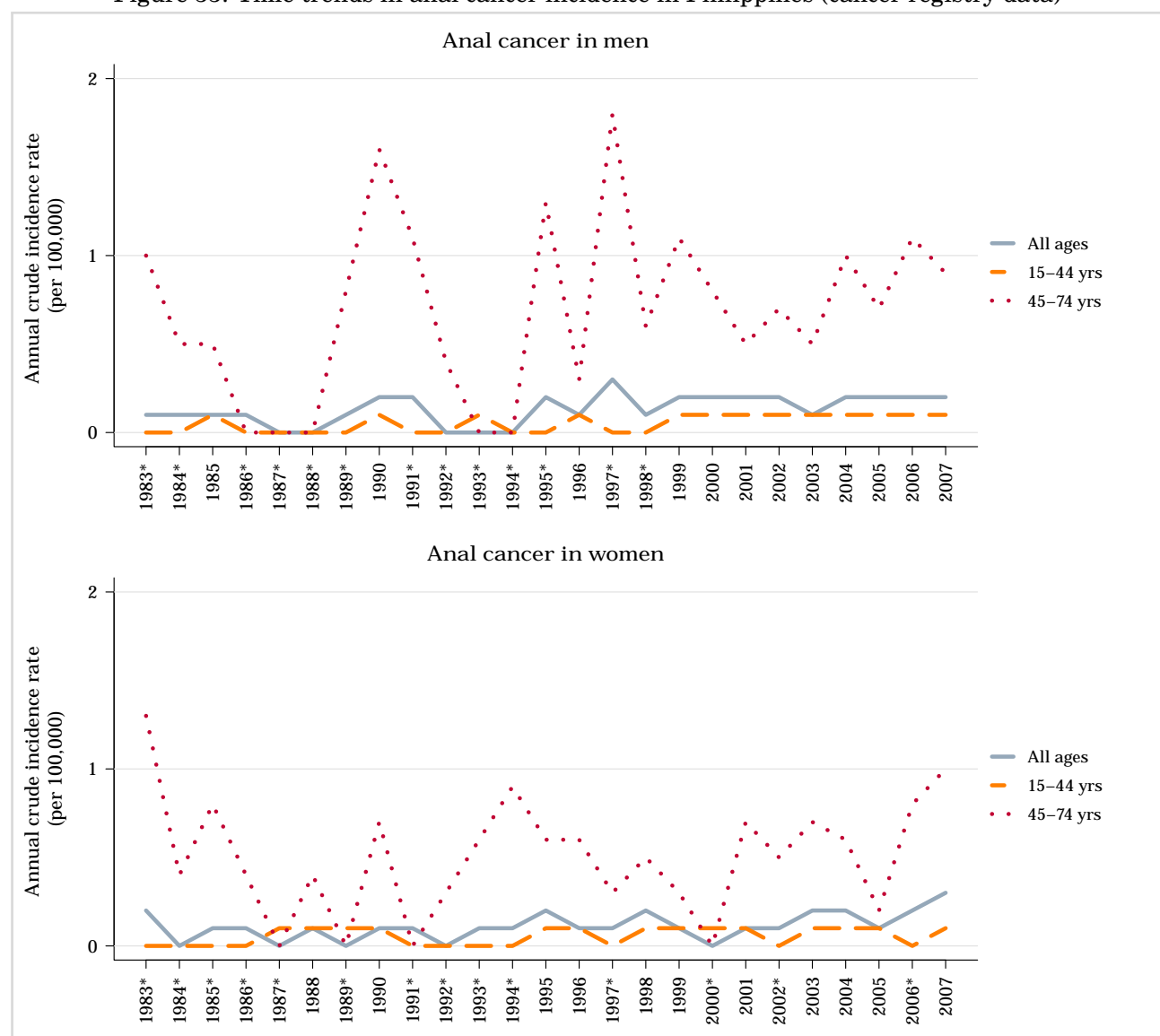
Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Miyagi Prefecture, Nagasaki Prefecture, Osaka Prefecture.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 33: Time trends in anal cancer incidence in Philippines (cancer registry data)



*No cases were registered for this age group.

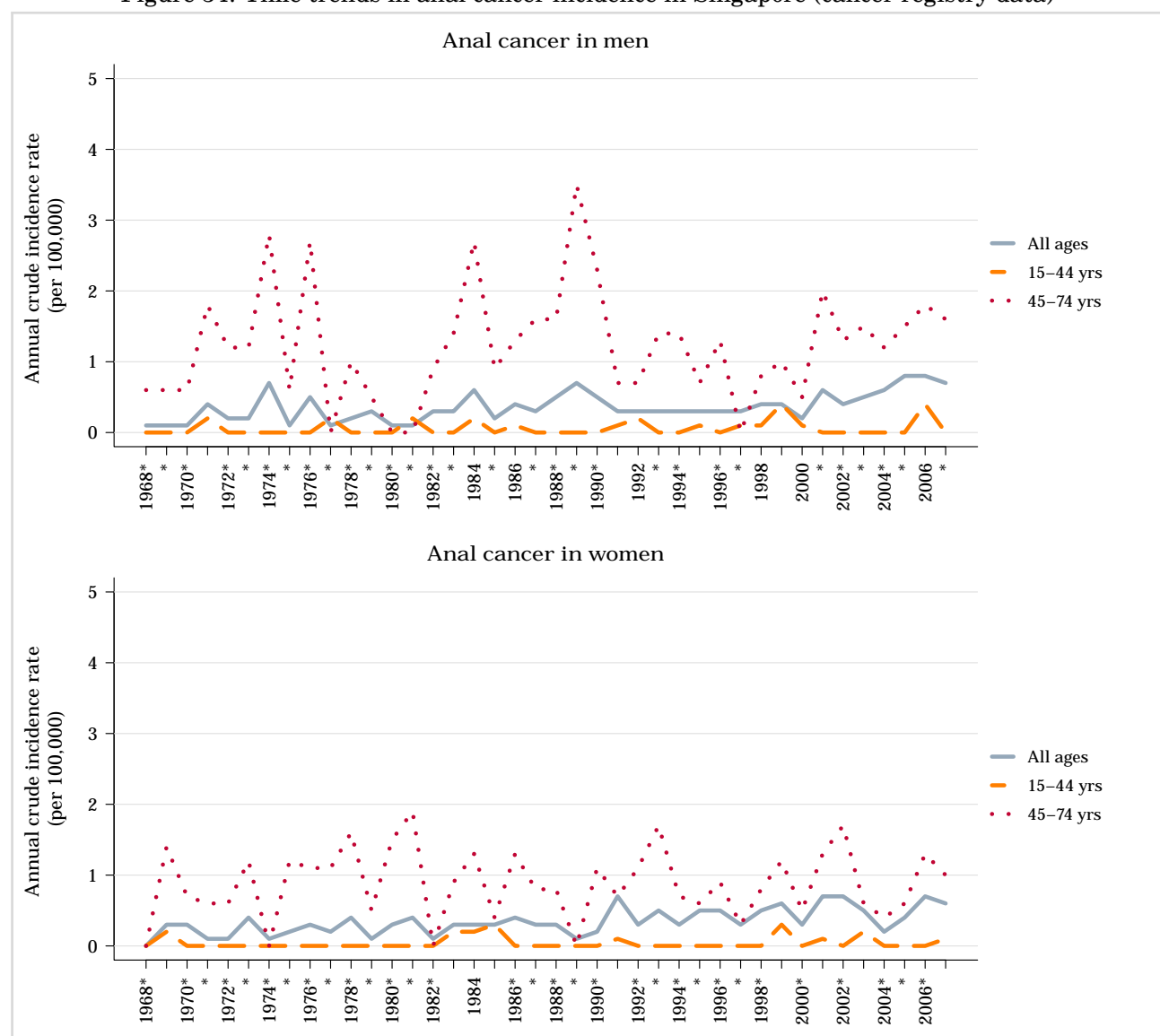
Data accessed on 27 Apr 2015.

Data was provided by the Manila registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 34: Time trends in anal cancer incidence in Singapore (cancer registry data)



*No cases were registered for this age group.

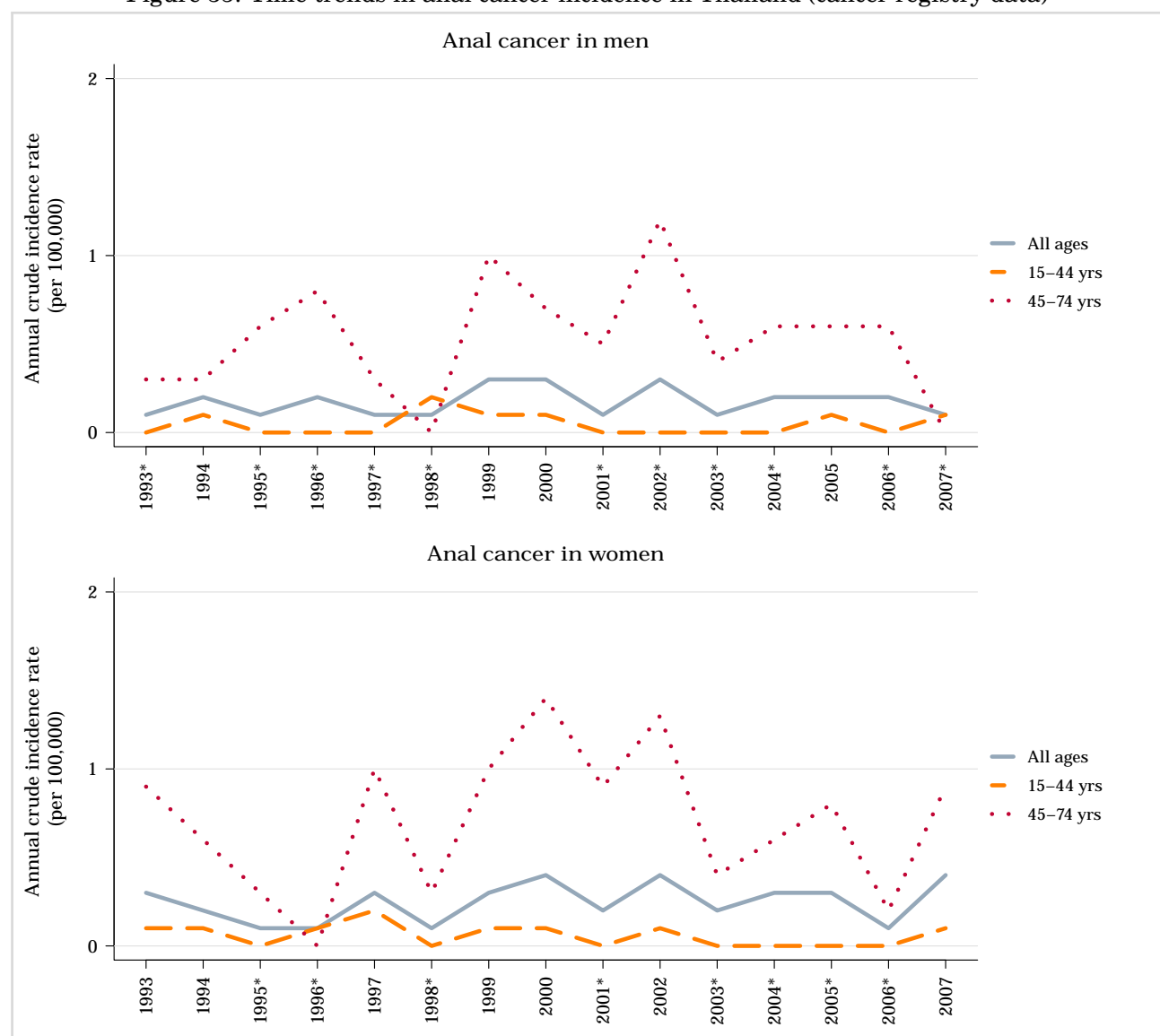
Data accessed on 27 Apr 2015.

Data was provided by the national registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 35: Time trends in anal cancer incidence in Thailand (cancer registry data)



*No cases were registered for this age group.

Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Chiang Mai, Lampang and Songkhla.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

NOTE

Time trends in cancer incidence are shown only in countries with available data.

3.2.2 Vulvar cancer

Cancer of the vulva is rare among women worldwide, with an estimated 27,000 new cases in 2008, representing 4% of all gynaecologic cancers (*de Martel C et al. Lancet Oncol 2012;13(6):607-15*). Worldwide, about 60% of all vulvar cancer cases occur in more developed countries. Vulvar cancer has two distinct histological patterns with two different risk factor profiles: (1) basaloid/warty types (2) keratinising types. Basaloid/warty lesions are more common in young women, are very often associated with HPV DNA detection (75-100%), and have a similar risk factor profile as cervical cancer. Keratinising vulvar carcinomas represent the majority of the vulvar lesions (>60%), they occur more often in older women and are more rarely associated with HPV (*IARC Monograph Vol 100B*)

Table 8: Incidence of vulvar cancer in Asia by cancer registry

Country	Cancer registry	Period	Female		
			N cases ^a	Crude rate ^b	ASR ^b
Central Asia					
Kazakhstan	-	-	-	-	-
Kyrgyzstan	-	-	-	-	-
Tajikistan	-	-	-	-	-
Turkmenistan	-	-	-	-	-
Uzbekistan	-	-	-	-	-
Eastern Asia					
China ¹	Beijing City	2003-2007	121	0.7	0.4
	Cixian County	2003-2007	5	0.3	0.4
	Haining County	2003-2007	6	0.4	0.3
	Harbin City, Nangang District	2003-2007	10	0.4	0.3
	Hong Kong	2003-2007	147	0.8	0.5
	Jiashan County	2003-2007	4	0.4	0.2
	Jiaxing City	2005-2007	6	0.8	0.5
	Macao	2003-2007	3	0.2	0.2
	Qidong County	2003-2007	3	0.1	0.0
	Shanghai City	2003-2007	98	0.6	0.3
	Wuhan City	2003-2007	27	0.2	0.2
	Yangcheng County	2003-2007	1	0.1	0.1
	Yanting County	2003-2007	5	0.3	0.3
	Zhongshan City	2004-2007	13	0.5	0.4
DPR Korea	-	-	-	-	-
Japan ¹	Aichi Prefecture	2003-2007	18	0.5	0.2
	Fukui Prefecture	2003-2007	22	1.0	0.4
	Hiroshima	2003-2007	26	0.9	0.3
	Miyagi Prefecture	2003-2007	41	0.7	0.2
	Nagasaki Prefecture	2003-2007	46	1.2	0.3
	Niigata Prefecture	2003-2007	50	0.8	0.3
	Osaka Prefecture	2003-2007	164	0.7	0.3
	Saga Prefecture	2003-2007	20	0.9	0.3
Mongolia	-	-	-	-	-
Republic of Korea ¹	Busan	2003-2007	24	0.3	0.2
	Daegu	2003-2007	17	0.3	0.2
	Daejeon	2003-2007	4	0.1	0.1
	Gwangju	2003-2007	14	0.4	0.3
	Incheon	2003-2007	18	0.3	0.2
	Jeju-do	2004-2007	2	0.2	0.1
	National	2003-2007	426	0.4	0.3
	Seoul	2003-2007	101	0.4	0.3
	Ulsan	2003-2007	8	0.3	0.3
South-Eastern Asia					
Brunei	-	-	-	-	-
Cambodia	-	-	-	-	-

(Continued on next page)

(Table 8 – continued from previous page)

Country	Cancer registry	Period	Female		
			N cases ^a	Crude rate ^b	ASR ^b
Indonesia	-	-	-	-	-
Laos	-	-	-	-	-
Malaysia ¹	Penang	2004-2007	10	0.4	0.4
	Penang (Chinese)	2004-2007	5	0.4	0.3
	Penang (Indian)	2004-2007	2	0.7	0.9
	Penang (Malay)	2004-2007	3	0.2	0.3
Myanmar	-	-	-	-	-
Philippines ¹	Manila	2003-2007	42	0.3	0.5
	Rizal	2003-2007	41	0.2	0.4
Singapore ¹	National	2003-2007	69	0.8	0.6
	National (Chinese)	2003-2007	62	0.9	0.6
	National (Indian)	2003-2007	2	0.3	0.3
	National (Malay)	2003-2007	4	0.3	0.3
Thailand ¹	Bangkok	2003-2007	34	0.2	0.2
	Chiang Mai	2003-2007	39	1.0	0.8
	Chonburi	2003-2007	15	0.5	0.4
	Khon Kaen	2003-2007	17	0.4	0.3
	Lampang	2003-2007	21	1.1	0.8
	Songkhla	2004-2007	9	0.3	0.3
Timor-Leste	-	-	-	-	-
Viet Nam ²	Hanoi	1993-1997	53	0.9	1.0
	Ho Chi Minh City	1995-1998	35	0.4	0.4
Southern Asia					
Afghanistan	-	-	-	-	-
Bangladesh	-	-	-	-	-
Bhutan	-	-	-	-	-
India ¹	Bangalore	2005-2007	43	0.4	0.7
	Barshi, Paranda and Bhum	2003-2007	2	0.2	0.1
	Bhopal	2004-2007	5	0.2	0.3
	Chennai	2003-2007	51	0.5	0.5
	Dindigul, Ambilikkai	2003-2007	20	0.4	0.5
	Karunagappally	2003-2007	3	0.3	0.2
	Mizoram	2003-2007	13	0.5	0.8
	Mumbai	2003-2007	65	0.2	0.3
	New Delhi	2003-2007	104	0.3	0.5
	Poona	2003-2007	25	0.3	0.3
	Sikkim State	2003-2007	2	0.2	0.3
	Trivandrum	2005-2007	4	0.2	0.2
Iran ¹	Golestan Province	2005-2007	1	0.0	0.1
Maldives	-	-	-	-	-
Nepal	-	-	-	-	-
Pakistan ³	South Karachi	1998-2002	3	0.1	0.1
Sri Lanka	-	-	-	-	-
Western Asia					
Armenia	-	-	-	-	-
Azerbaijan	-	-	-	-	-
Bahrain ¹	National (Bahraini)	2003-2007	0	0.0	0.0
Georgia	-	-	-	-	-
Iraq	-	-	-	-	-
Israel ¹	National	2003-2007	229	1.4	0.9
	National (Jews)	2003-2007	213	1.6	0.9
	National (Non-Jews)	2003-2007	16	0.5	0.8
Jordan	-	-	-	-	-
Kuwait ¹	National	2003-2007	10	0.2	0.3

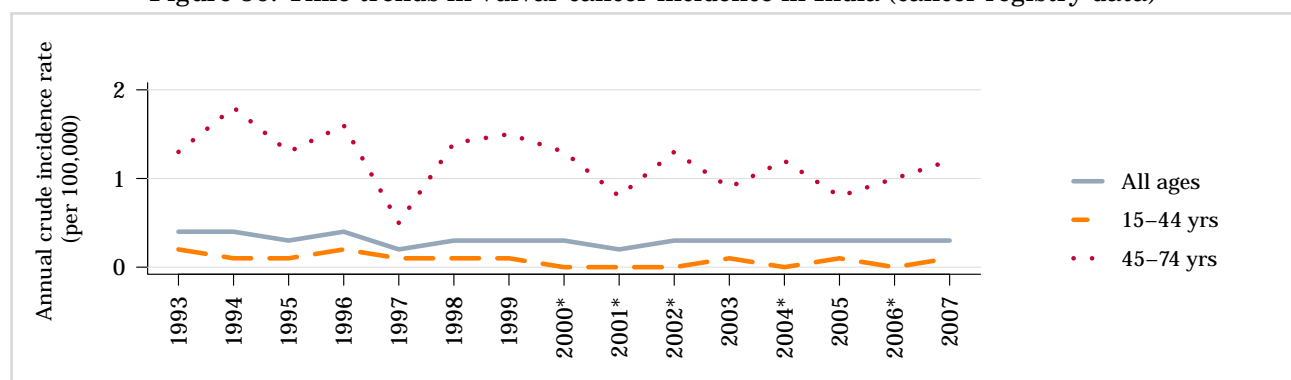
(Continued on next page)

(Table 8 – continued from previous page)

Country	Cancer registry	Period	Female		
			N cases ^a	Crude rate ^b	ASR ^b
	National (Kuwaitis)	2003-2007	6	0.2	0.4
	National (Non-Kuwaitis)	2003-2007	4	0.1	0.3
Lebanon	-	-	-	-	-
Oman ³	Omani	1998-2001	3	0.1	0.2
Qatar ¹	National (Qatari)	2003-2007	0	0.0	0.0
Saudi Arabia ¹	Riyadh (Saudi)	2003-2007	5	0.1	0.1
Syria	-	-	-	-	-
Turkey ¹	Antalya	2003-2007	15	0.4	0.4
	Edirne	2004-2007	4	0.5	0.2
	Izmir	2003-2007	66	0.7	0.6
	Trabzon	2005-2007	4	0.4	0.2
United Arab Emirates	-	-	-	-	-
Yemen	-	-	-	-	-

Data accessed on 05 May 2015.^aAccumulated number of cases during the period in the population covered by the corresponding registry.^bRates per 100,000 women per year.

Data sources:

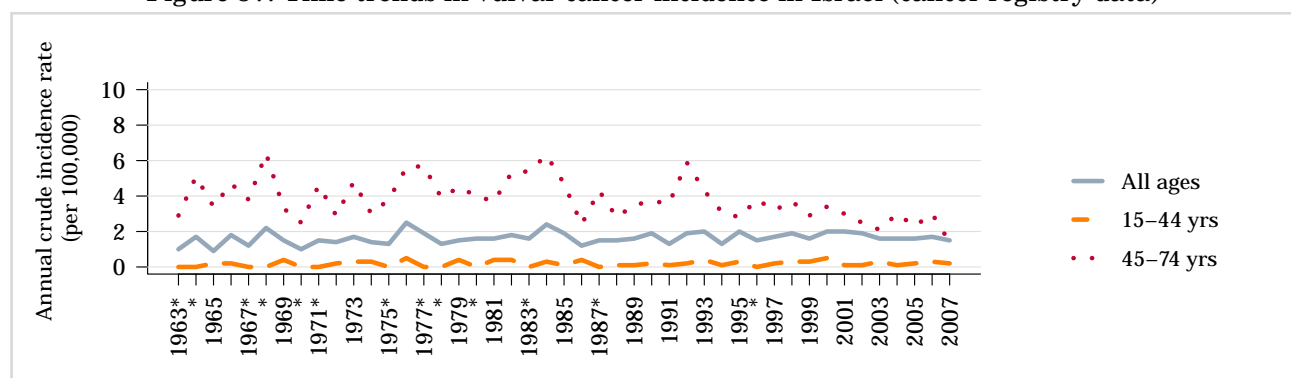
¹Forman D, Bray F, Brewster DH, Gombe Mbalawa C, Kohler B, Piñeros M, Steliarova-Foucher E, Swaminathan R and Ferlay J eds (2013). Cancer Incidence in Five Continents, Vol. X (electronic version) Lyon, IARC. <http://ci5.iarc.fr>²Parkin, D.M., Whelan, S.L., Ferlay, J., Teppo, L., and Thomas, D.B., eds (2002). Cancer Incidence in Five Continents, Vol. VIII. IARC Scientific Publications No. 155, Lyon, IARC.³Curado, M. P., Edwards, B., Shin, H.R., Storm, H., Ferlay, J., Heanue, M. and Boyle, P., eds (2007). Cancer Incidence in Five Continents, Vol. IX. IARC Scientific Publications No. 160, Lyon, IARC.**Figure 36: Time trends in vulvar cancer incidence in India (cancer registry data)**

*No cases were registered for this age group.

Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Chennai (Madras), Mumbai (Bombay), Poona.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>**Figure 37: Time trends in vulvar cancer incidence in Israel (cancer registry data)**

*No cases were registered for this age group.

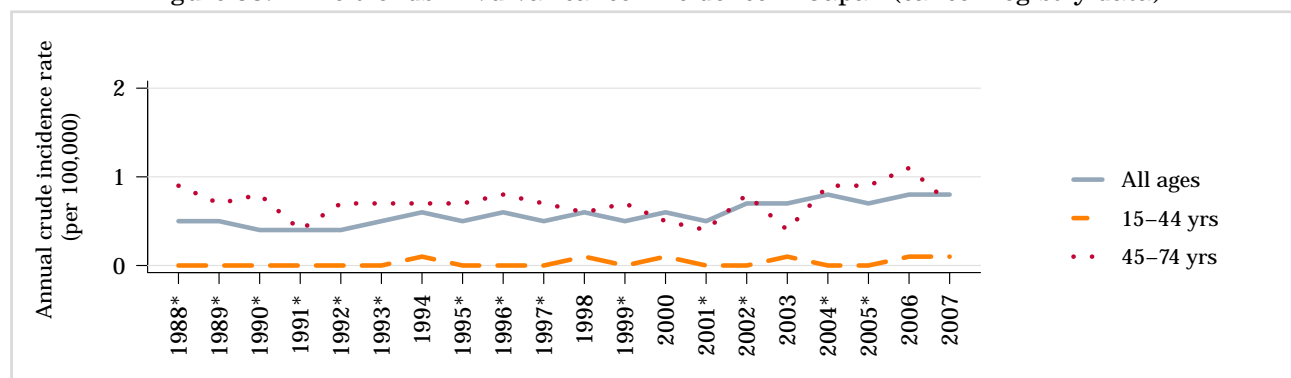
Data accessed on 27 Apr 2015.

Data was provided by the national registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 38: Time trends in vulvar cancer incidence in Japan (cancer registry data)



*No cases were registered for this age group.

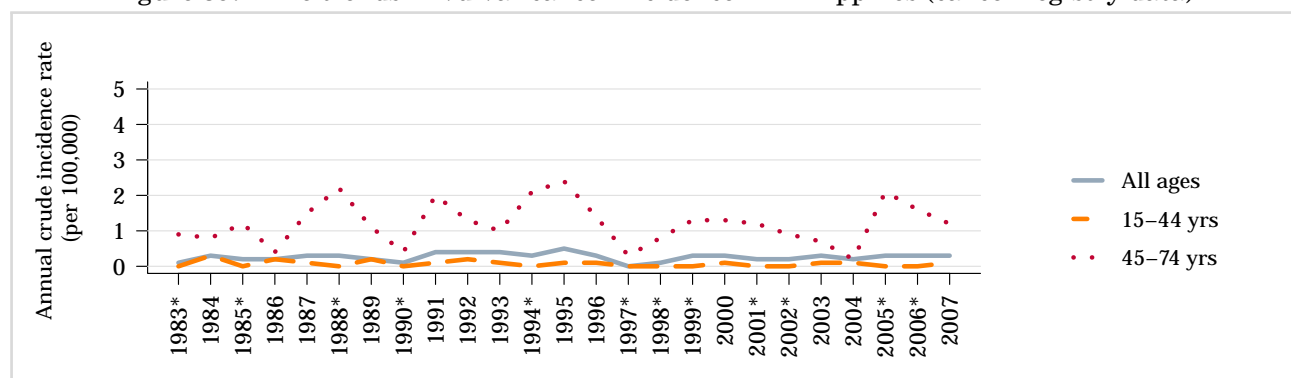
Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Miyagi Prefecture, Nagasaki Prefecture, Osaka Prefecture.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 39: Time trends in vulvar cancer incidence in Philippines (cancer registry data)



*No cases were registered for this age group.

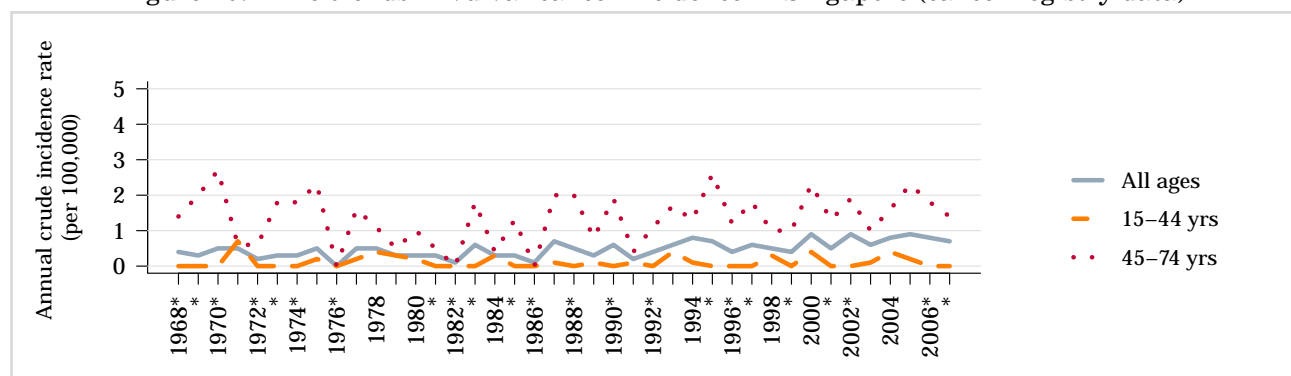
Data accessed on 27 Apr 2015.

Data was provided by the Manila registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 40: Time trends in vulvar cancer incidence in Singapore (cancer registry data)



*No cases were registered for this age group.

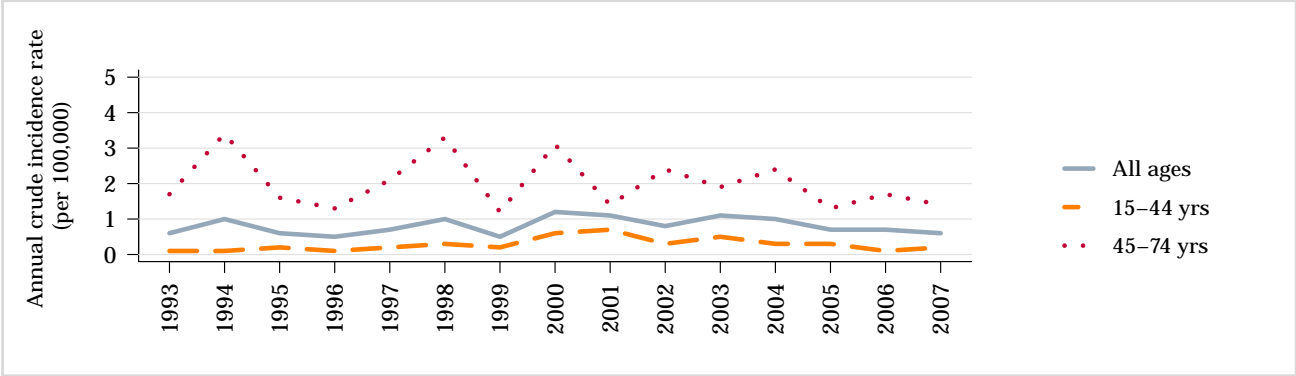
Data accessed on 27 Apr 2015.

Data was provided by the national registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 41: Time trends in vulvar cancer incidence in Thailand (cancer registry data)



Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Chiang Mai, Lampang and Songkhla.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

NOTE

Time trends in cancer incidence are shown only in countries with available data.

3.2.3 Vaginal cancer

Cancer of the vagina is a rare cancer, with an estimated 13,000 new cases in 2008, representing 2% of all gynaecologic cancers (*de Martel C et al. Lancet Oncol 2012;13(6):607-15*). Although unreported and similar to cervical cancer, the majority of vaginal cancer cases (68%) occur in less developed countries. Most vaginal cancers are squamous cell carcinoma (90%) generally attributable to HPV, followed by clear cell adenocarcinomas and melanoma. Metastatic cervical cancer can be misclassified as cancer of the vagina. Invasive vaginal cancer is diagnosed primarily in old women (≥ 65 years) and the diagnosis is rare in women under 45 years whereas the peak incidence of carcinoma in situ is observed between ages 55 and 70 (*Vaccine 2008, Vol. 26, Suppl 10*)

Table 9: Incidence of vaginal cancer in Asia by cancer registry

Country name	Cancer registry	Period	Female		
			N cases ^a	Crude rate ^b	ASR ^b
Central Asia					
Kazakhstan	-	-	-	-	-
Kyrgyzstan	-	-	-	-	-
Tajikistan	-	-	-	-	-
Turkmenistan	-	-	-	-	-
Uzbekistan	-	-	-	-	-
Eastern Asia					
China ¹	Beijing City	2003-2007	41	0.2	0.2
	Cixian County	2003-2007	2	0.1	0.1
	Haining County	2003-2007	2	0.1	0.1
	Harbin City, Nangang District	2003-2007	10	0.4	0.3
	Hong Kong	2003-2007	97	0.5	0.3
	Jiashan County	2003-2007	0	0.0	0.0
	Jiaxing City	2005-2007	1	0.1	0.1
	Macao	2003-2007	6	0.5	0.4
	Qidong County	2003-2007	2	0.1	0.1
	Shanghai City	2003-2007	39	0.3	0.1
	Wuhan City	2003-2007	29	0.3	0.2
	Yangcheng County	2003-2007	3	0.3	0.3
	Yanting County	2003-2007	1	0.1	0.1
	Zhongshan City	2004-2007	9	0.3	0.3
	DPR Korea	-	-	-	-
Japan ¹	Aichi Prefecture	2003-2007	15	0.4	0.3
	Fukui Prefecture	2003-2007	8	0.4	0.2
	Hiroshima	2003-2007	11	0.4	0.2
	Miyagi Prefecture	2003-2007	23	0.4	0.1
	Nagasaki Prefecture	2003-2007	12	0.3	0.1
	Niigata Prefecture	2003-2007	21	0.3	0.2
	Osaka Prefecture	2003-2007	75	0.3	0.1
	Saga Prefecture	2003-2007	15	0.7	0.2
Mongolia	-	-	-	-	-
Republic of Korea ¹	Busan	2003-2007	15	0.2	0.1
	Daegu	2003-2007	24	0.4	0.3
	Daejeon	2003-2007	5	0.1	0.1
	Gwangju	2003-2007	8	0.2	0.2
	Incheon	2003-2007	12	0.2	0.2
	Jeju-do	2004-2007	3	0.3	0.2
	National	2003-2007	295	0.2	0.2
	Seoul	2003-2007	67	0.3	0.2
	Ulsan	2003-2007	10	0.4	0.4
South-Eastern Asia					
Brunei	-	-	-	-	-
Cambodia	-	-	-	-	-

(Continued on next page)

(Table 9 – continued from previous page)

Country name	Cancer registry	Period	Female		
			N cases ^a	Crude rate ^b	ASR ^b
Indonesia	-	-	-	-	-
Laos	-	-	-	-	-
Malaysia ¹	Penang	2004-2007	9	0.3	0.3
	Penang (Chinese)	2004-2007	4	0.3	0.2
	Penang (Indian)	2004-2007	2	0.7	0.8
	Penang (Malay)	2004-2007	3	0.2	0.3
Myanmar	-	-	-	-	-
Philippines ¹	Manila	2003-2007	33	0.2	0.3
	Rizal	2003-2007	31	0.2	0.3
Singapore ¹	National	2003-2007	38	0.4	0.3
	National (Chinese)	2003-2007	31	0.5	0.4
	National (Indian)	2003-2007	2	0.3	0.3
	National (Malay)	2003-2007	4	0.3	0.3
Thailand ¹	Bangkok	2003-2007	47	0.3	0.3
	Chiang Mai	2003-2007	13	0.3	0.3
	Chonburi	2003-2007	5	0.2	0.2
	Khon Kaen	2003-2007	7	0.2	0.1
	Lampang	2003-2007	3	0.2	0.1
	Songkhla	2004-2007	3	0.1	0.1
Timor-Leste	-	-	-	-	-
Viet Nam ²	Hanoi	1993-1997	8	0.1	0.2
	Ho Chi Minh City	1995-1998	16	0.2	0.2
Southern Asia					
Afghanistan	-	-	-	-	-
Bangladesh	-	-	-	-	-
Bhutan	-	-	-	-	-
India ¹	Bangalore	2005-2007	54	0.6	0.8
	Barshi, Paranda and Bhum	2003-2007	6	0.5	0.5
	Bhopal	2004-2007	7	0.2	0.4
	Chennai	2003-2007	79	0.7	0.8
	Dindigul, Ambilikkai	2003-2007	39	0.8	0.8
	Karunagappally	2003-2007	2	0.2	0.2
	Mizoram	2003-2007	4	0.2	0.3
	Mumbai	2003-2007	160	0.6	0.7
	New Delhi	2003-2007	97	0.3	0.4
	Poona	2003-2007	44	0.4	0.6
	Sikkim State	2003-2007	4	0.3	0.6
	Trivandrum	2005-2007	8	0.5	0.4
Iran ¹	Golestan Province	2005-2007	3	0.1	0.2
Maldives	-	-	-	-	-
Nepal	-	-	-	-	-
Pakistan ³	South Karachi	1998-2002	6	0.2	0.3
Sri Lanka	-	-	-	-	-
Western Asia					
Armenia	-	-	-	-	-
Azerbaijan	-	-	-	-	-
Bahrain ¹	National (Bahraini)	2003-2007	0	0.0	0.0
Georgia	-	-	-	-	-
Iraq	-	-	-	-	-
Israel ¹	National	2003-2007	71	0.4	0.3
	National (Jews)	2003-2007	70	0.5	0.3
	National (Non-Jews)	2003-2007	1	0.0	0.0
Jordan	-	-	-	-	-
Kuwait ¹	National	2003-2007	1	0.0	0.1

(Continued on next page)

(Table 9 – continued from previous page)

Country name	Cancer registry	Period	Female		
			N cases ^a	Crude rate ^b	ASR ^b
	National (Kuwaitis)	2003-2007	1	0.0	0.1
	National (Non-Kuwaitis)	2003-2007	0	0.0	0.0
Lebanon	-	-	-	-	-
Oman ³	Omani	1998-2001	6	0.2	0.3
Qatar ¹	National (Qatari)	2003-2007	0	0.0	0.0
Saudi Arabia ¹	Riyadh (Saudi)	2003-2007	6	0.1	0.1
Syria	-	-	-	-	-
Turkey ¹	Antalya	2003-2007	6	0.2	0.2
	Edirne	2004-2007	1	0.1	0.1
	Izmir	2003-2007	16	0.2	0.1
	Trabzon	2005-2007	2	0.2	0.1
United Arab Emirates	-	-	-	-	-
Yemen	-	-	-	-	-

Data accessed on 05 May 2015.

Please refer to original source (available at <http://ci5.iarc.fr/CI5i-ix/ci5i-ix.htm>)

^aAccumulated number of cases during the period in the population covered by the corresponding registry.

^bRates per 100,000 women per year.

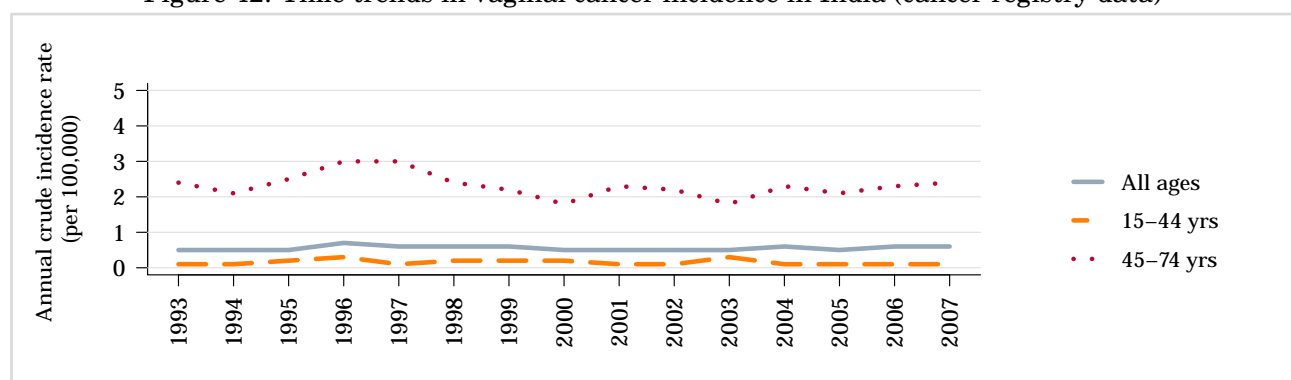
Data sources:

¹Forman D, Bray F, Brewster DH, Gombe Mbalawa C, Kohler B, Piñeros M, Steliarova-Foucher E, Swaminathan R and Ferlay J eds (2013). Cancer Incidence in Five Continents, Vol. X (electronic version) Lyon, IARC. <http://ci5.iarc.fr>

²Parkin, D.M., Whelan, S.L., Ferlay, J., Teppo, L., and Thomas, D.B., eds (2002). Cancer Incidence in Five Continents, Vol. VIII. IARC Scientific Publications No. 155, Lyon, IARC.

³Curado. M. P., Edwards, B., Shin. H.R., Storm. H., Ferlay. J., Heanue. M. and Boyle. P., eds (2007). Cancer Incidence in Five Continents, Vol. IX. IARC Scientific Publications No. 160, Lyon, IARC.

Figure 42: Time trends in vaginal cancer incidence in India (cancer registry data)



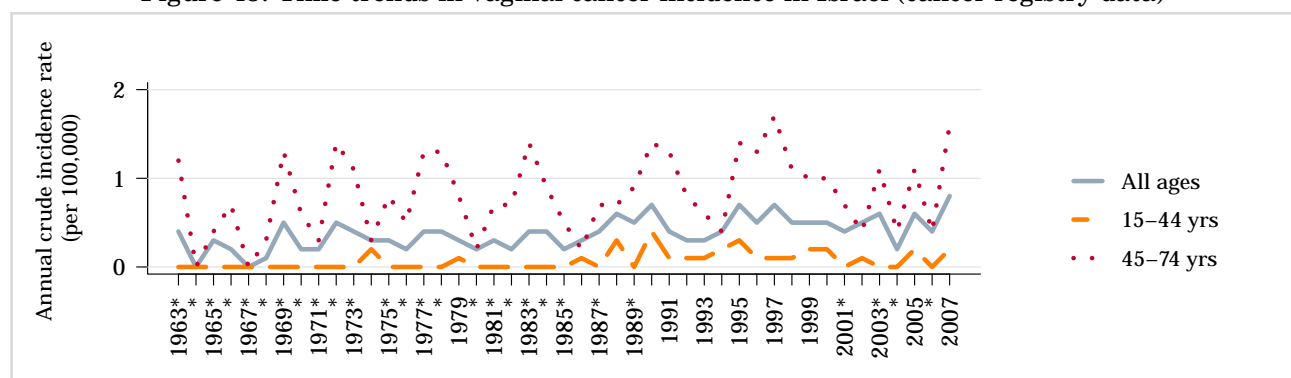
Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Chennai (Madras), Mumbai (Bombay), Poona.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 43: Time trends in vaginal cancer incidence in Israel (cancer registry data)



*No cases were registered for this age group.

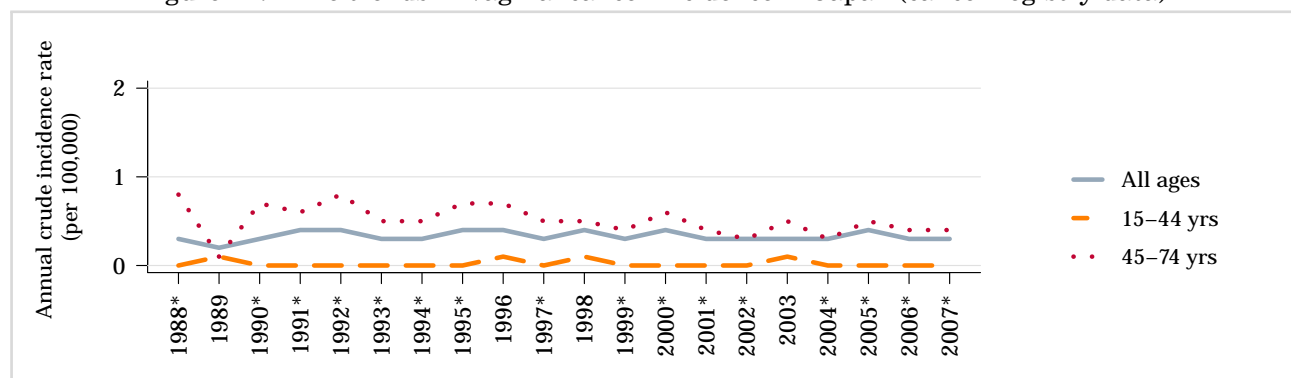
Data accessed on 27 Apr 2015.

Data was provided by the national registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 44: Time trends in vaginal cancer incidence in Japan (cancer registry data)



*No cases were registered for this age group.

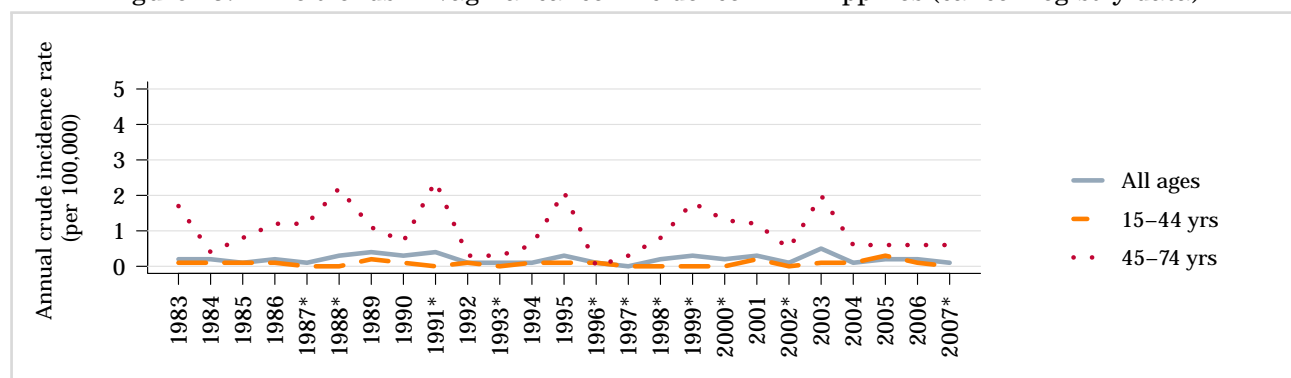
Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Miyagi Prefecture, Nagasaki Prefecture, Osaka Prefecture.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 45: Time trends in vaginal cancer incidence in Philippines (cancer registry data)



*No cases were registered for this age group.

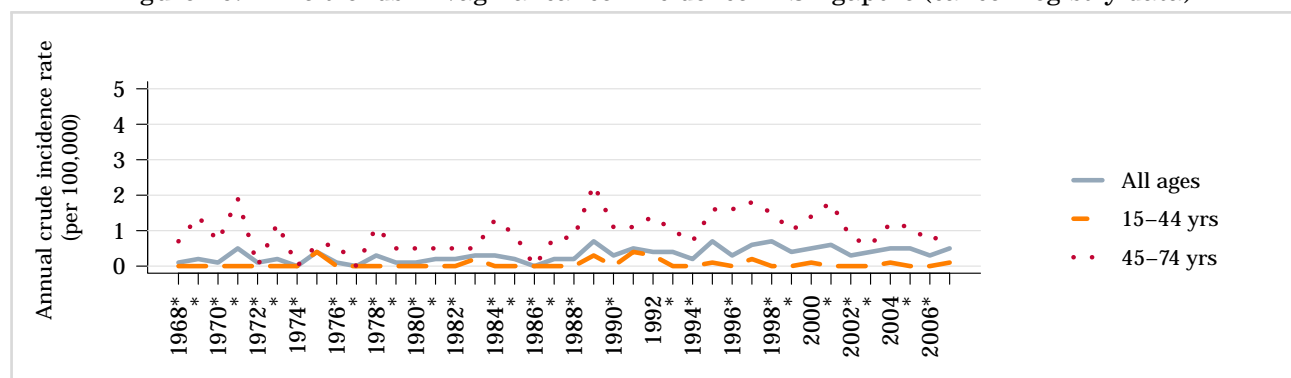
Data accessed on 27 Apr 2015.

Data was provided by the Manila registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 46: Time trends in vaginal cancer incidence in Singapore (cancer registry data)



*No cases were registered for this age group.

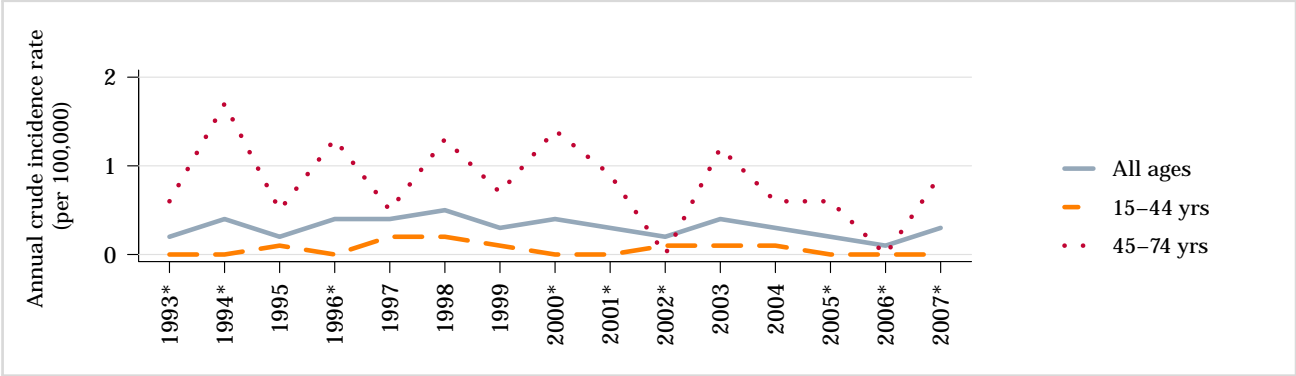
Data accessed on 27 Apr 2015.

Data was provided by the national registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 47: Time trends in vaginal cancer incidence in Thailand (cancer registry data)



*No cases were registered for this age group.

Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Chiang Mai, Lampang and Songkhla.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

NOTE

Time trends in cancer incidence are shown only in countries with available data.

3.2.4 Penile cancer

The annual burden of penile cancer has been estimated to be 22,000 cases worldwide with incidence rates strongly correlating with those of cervical cancer (*de Martel C et al. Lancet Oncol 2012;13(6):607-15*). Penile cancer is rare and most commonly affects men aged 50-70 years. Incidence rates are higher in less developed countries than in more developed countries, accounting for up to 10% of male cancers in some parts of Africa, South America and Asia. Precursor cancerous penile lesions (PeIN) are rare. Cancers of the penis are primarily of squamous cell carcinomas (SCC) (95%) and the most common penile SCC histologic sub-types are keratinising (49%), mixed warty-basaloid (17%), verrucous (8%) warty (6%), and basaloid (4%). HPV is most commonly detected in basaloid and warty tumours but is less common in keratinising and verrucous tumours. Approximately 60-100% of PeIN lesions are HPV DNA positive.

Table 10: Incidence of penile cancer in Asia by cancer registry

Country name	Cancer registry	Period	Male		
			N cases ^a	Crude rate ^b	ASR ^b
Central Asia					
Kazakhstan	-	-	-	-	-
Kyrgyzstan ¹	National	1986-1987	7	0.2	0.3
Tajikistan	-	-	-	-	-
Turkmenistan	-	-	-	-	-
Uzbekistan	-	-	-	-	-
Eastern Asia					
China ²	Beijing City	2003-2007	95	0.5	0.3
	Cixian County	2003-2007	10	0.6	0.8
	Haining County	2003-2007	5	0.3	0.2
	Harbin City, Nangang District	2003-2007	17	0.7	0.6
	Hong Kong	2003-2007	72	0.4	0.3
	Jiashan County	2003-2007	5	0.5	0.3
	Jiaying City	2005-2007	5	0.7	0.4
	Macao	2003-2007	4	0.3	0.3
	Qidong County	2003-2007	11	0.4	0.3
	Shanghai City	2003-2007	107	0.7	0.3
	Wuhan City	2003-2007	40	0.3	0.3
	Yangcheng County	2003-2007	8	0.8	1.0
	Yanting County	2003-2007	6	0.4	0.4
	Zhongshan City	2004-2007	27	1.0	1.0
DPR Korea	-	-	-	-	-
Japan ²	Aichi Prefecture	2003-2007	8	0.2	0.1
	Fukui Prefecture	2003-2007	9	0.5	0.2
	Hiroshima	2003-2007	21	0.8	0.3
	Miyagi Prefecture	2003-2007	31	0.5	0.2
	Nagasaki Prefecture	2003-2007	28	0.8	0.4
	Niigata Prefecture	2003-2007	30	0.5	0.2
	Osaka Prefecture	2003-2007	83	0.4	0.2
	Saga Prefecture	2003-2007	21	1.0	0.4
Mongolia	-	-	-	-	-
Republic of Korea ²	Busan	2003-2007	24	0.3	0.3
	Daegu	2003-2007	11	0.2	0.2
	Daejeon	2003-2007	5	0.1	0.1
	Gwangju	2003-2007	6	0.2	0.2
	Incheon	2003-2007	9	0.1	0.2
	Jeju	2004-2007	3	0.3	0.3
	National	2003-2007	282	0.2	0.2
	Seoul	2003-2007	44	0.2	0.2
	Ulsan	2003-2007	8	0.3	0.4

(Continued on next page)

(Table 10 – continued from previous page)

Country name	Cancer registry	Period	Male		
			N cases ^a	Crude rate ^b	ASR ^b
South-Eastern Asia					
Brunei	-	-	-	-	-
Cambodia	-	-	-	-	-
Indonesia	-	-	-	-	-
Laos	-	-	-	-	-
Malaysia ²	Penang	2004-2007	9	0.3	0.5
	Penang (Chinese)	2004-2007	6	0.5	0.5
	Penang (Indian)	2004-2007	2	0.7	1.3
	Penang (Malay)	2004-2007	1	0.1	0.2
Myanmar	-	-	-	-	-
Philippines ²	Manila	2003-2007	37	0.3	0.5
	Rizal	2003-2007	32	0.2	0.4
Singapore ²	National	2003-2007	52	0.6	0.5
	National (Chinese)	2003-2007	43	0.7	0.5
	National (Indian)	2003-2007	3	0.4	0.3
	National (Malay)	2003-2007	2	0.2	0.2
Thailand ²	Bangkok	2003-2007	64	0.4	0.5
	Chiang Mai	2003-2007	70	1.9	1.5
	Chonburi	2003-2007	32	1.1	1.3
	Khon Kaen	2003-2007	72	1.6	1.6
	Lampang	2003-2007	26	1.3	1.1
	Songkhla	2004-2007	48	1.8	1.8
Timor-Leste	-	-	-	-	-
Viet Nam ³	Hanoi	1993-1997	95	1.7	2.3
	Ho Chi Minh City	1995-1998	85	0.9	1.4
Southern Asia					
Afghanistan	-	-	-	-	-
Bangladesh	-	-	-	-	-
Bhutan	-	-	-	-	-
India ²	Bangalore	2005-2007	101	0.9	1.3
	Barshi, Paranda and Bhum	2003-2007	25	1.8	2.2
	Bhopal	2004-2007	12	0.3	0.6
	Chennai	2003-2007	179	1.6	1.8
	Dindigul, Ambilikkai	2003-2007	72	1.4	1.5
	Karunagappally	2003-2007	13	1.3	1.2
	Mizoram	2003-2007	26	1.0	1.7
	Mumbai	2003-2007	239	0.7	0.9
	New Delhi	2003-2007	246	0.6	0.9
	Poona	2003-2007	71	0.7	1.0
	Sikkim State	2003-2007	10	0.7	1.0
	Trivandrum	2005-2007	12	0.7	0.7
	Iran ²	Golestan Province	2005-2007	0	0.0
Maldives	-	-	-	-	-
Nepal	-	-	-	-	-
Pakistan ⁴	South Karachi	1998-2002	1	0.0	0.0
Sri Lanka	-	-	-	-	-
Western Asia					
Armenia	-	-	-	-	-
Azerbaijan	-	-	-	-	-
Bahrain ²	National (Bahraini)	2003-2007	0	0.0	0.0
Georgia	-	-	-	-	-
Iraq	-	-	-	-	-
Israel ²	National	2003-2007	17	0.1	0.1
	National (Jews)	2003-2007	14	0.1	0.1

(Continued on next page)

(Table 10 – continued from previous page)

Country name	Cancer registry	Period	Male		
			N cases ^a	Crude rate ^b	ASR ^b
	National (Non-Jews)	2003-2007	3	0.1	0.2
Jordan	-	-	-	-	-
Kuwait ²	National	2003-2007	1	0.0	0.1
	National (Kuwaitis)	2003-2007	0	0.0	0.0
	National (Non-Kuwaitis)	2003-2007	1	0.0	0.1
Lebanon	-	-	-	-	-
Oman ⁴	Omani	1998-2001	0	0.0	0.0
Qatar ²	National (Qatari)	2003-2007	0	0.0	0.0
Saudi Arabia ²	Riyadh (Saudi)	2003-2007	2	0.0	0.1
Syria	-	-	-	-	-
Turkey ²	Antalya	2003-2007	1	0.0	0.0
	Edirne	2004-2007	0	0.0	0.0
	Izmir	2003-2007	8	0.1	0.1
	Trabzon	2005-2007	0	0.0	0.0
United Arab Emirates	-	-	-	-	-
Yemen	-	-	-	-	-

Data accessed on 05 May 2015.

Please refer to original source (available at <http://ci5.iarc.fr/CI5i-ix/ci5i-ix.htm>)

^a Accumulated number of cases during the period in the population covered by the corresponding registry.

^b Rates per 100,000 men per year.

Data sources:

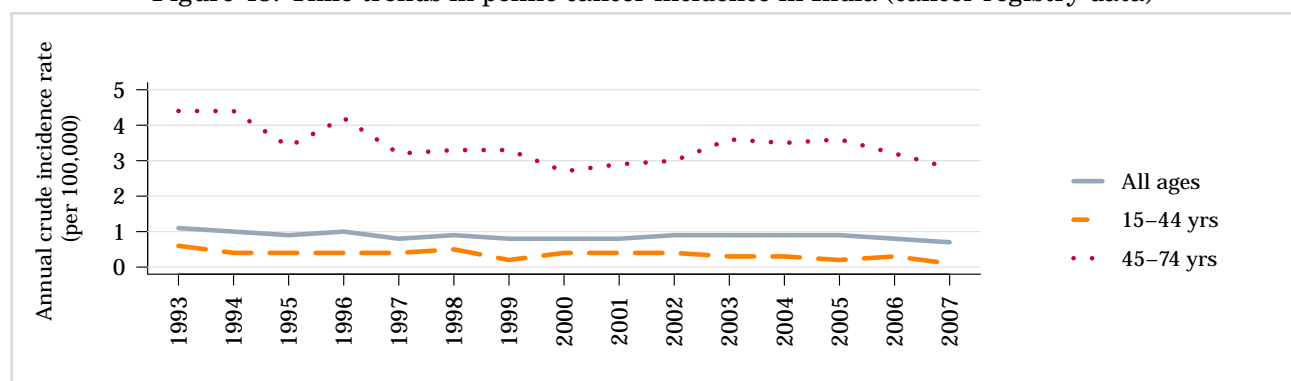
¹ Parkin, D.M., Muir, C.S., Whelan, S.L., Gao, Y.-T., Ferlay, J., Powell, J., eds (1992). Cancer Incidence in Five Continents, Vol. VI. IARC Scientific Publications No. 120, Lyon, IARC.

² Forman D, Bray F, Brewster DH, Gombe Mbalawa C, Kohler B, Piñeros M, Steliarova-Foucher E, Swaminathan R and Ferlay J eds (2013). Cancer Incidence in Five Continents, Vol. X (electronic version) Lyon, IARC. <http://ci5.iarc.fr>

³ Parkin, D.M., Whelan, S.L., Ferlay, J., Teppo, L., and Thomas, D.B., eds (2002). Cancer Incidence in Five Continents, Vol. VIII. IARC Scientific Publications No. 155, Lyon, IARC.

⁴ Curado, M. P., Edwards, B., Shin, H.R., Storm, H., Ferlay, J., Heanue, M. and Boyle, P., eds (2007). Cancer Incidence in Five Continents, Vol. IX. IARC Scientific Publications No. 160, Lyon, IARC.

Figure 48: Time trends in penile cancer incidence in India (cancer registry data)



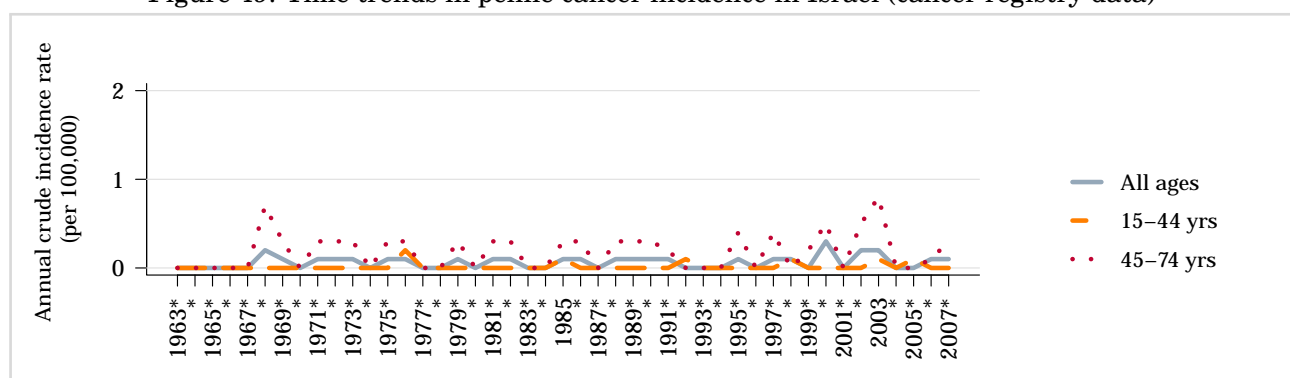
Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Chennai (Madras), Mumbai (Bombay), Poona.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 49: Time trends in penile cancer incidence in Israel (cancer registry data)



*No cases were registered for this age group.

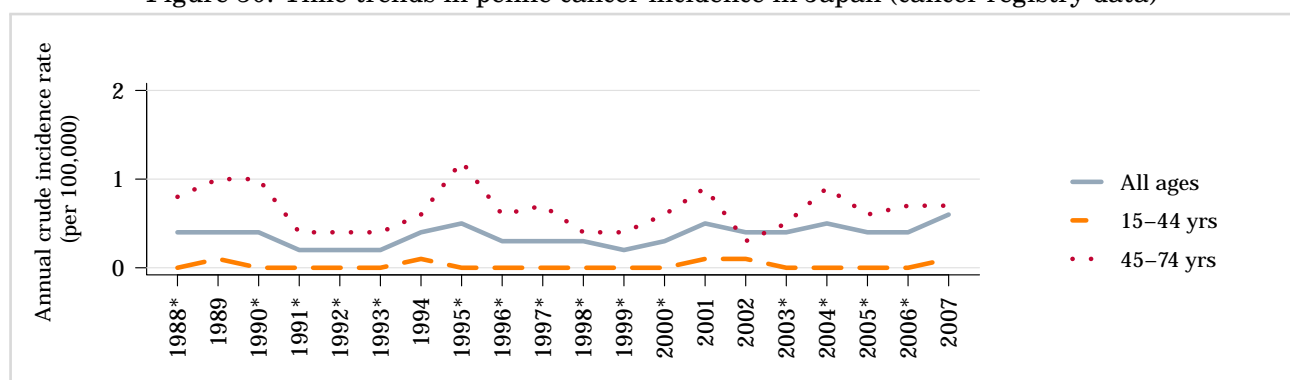
Data accessed on 27 Apr 2015.

Data was provided by the national registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 50: Time trends in penile cancer incidence in Japan (cancer registry data)



*No cases were registered for this age group.

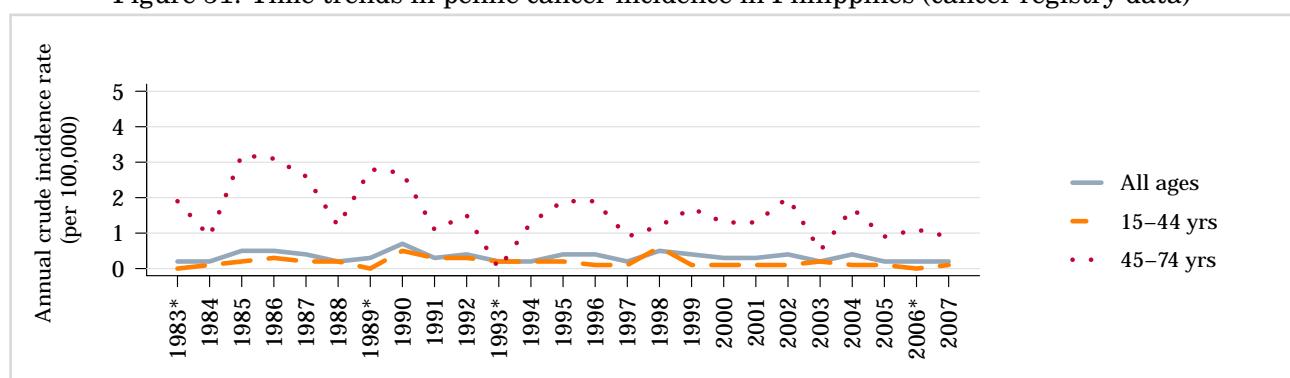
Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Miyagi Prefecture, Nagasaki Prefecture, Osaka Prefecture.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 51: Time trends in penile cancer incidence in Philippines (cancer registry data)



*No cases were registered for this age group.

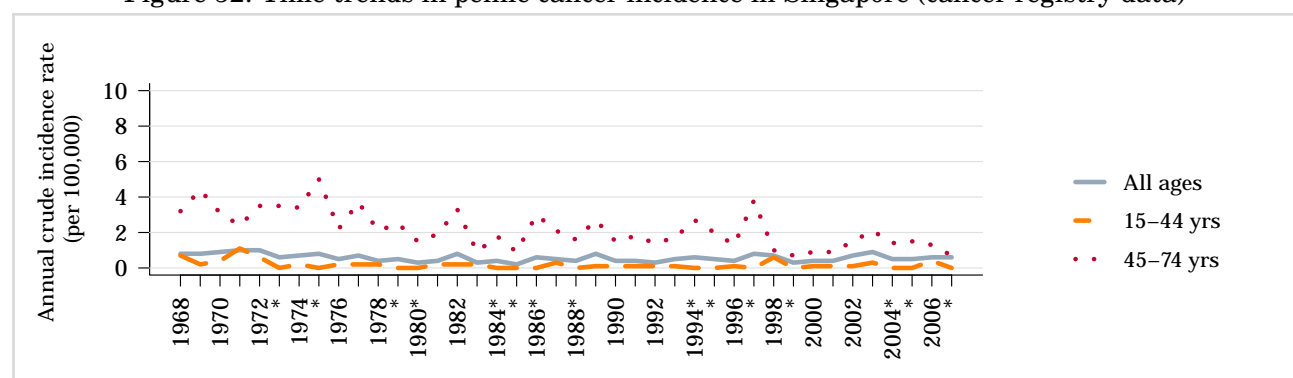
Data accessed on 27 Apr 2015.

Data was provided by the Manila registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 52: Time trends in penile cancer incidence in Singapore (cancer registry data)



*No cases were registered for this age group.

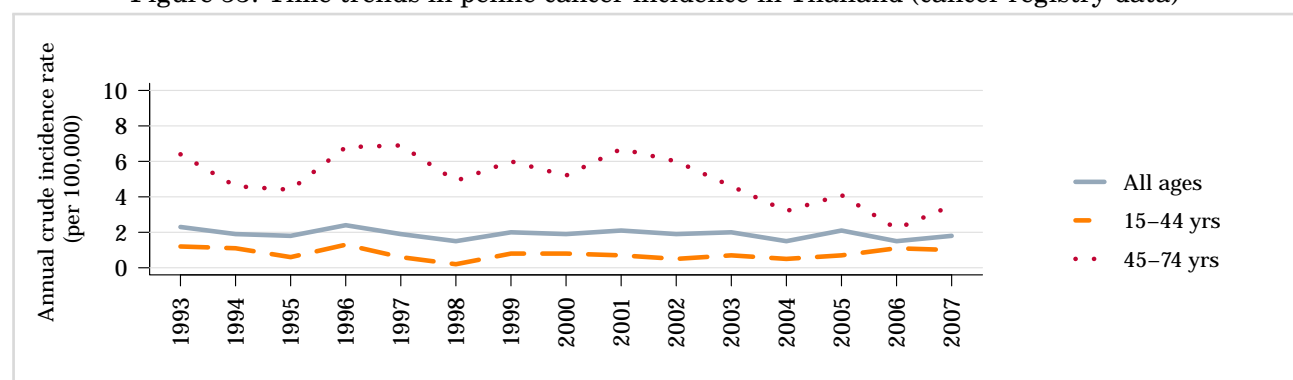
Data accessed on 27 Apr 2015.

Data was provided by the national registry.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

Figure 53: Time trends in penile cancer incidence in Thailand (cancer registry data)



Data accessed on 27 Apr 2015.

The following regional cancer registries provided data and contributed to their national estimate: Chiang Mai, Lampang and Songkhla.

Data sources:

Ferlay J, Bray F, Steliarova-Foucher E and Forman D. Cancer Incidence in Five Continents, CI5plus: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2014. Available from: <http://ci5.iarc.fr>

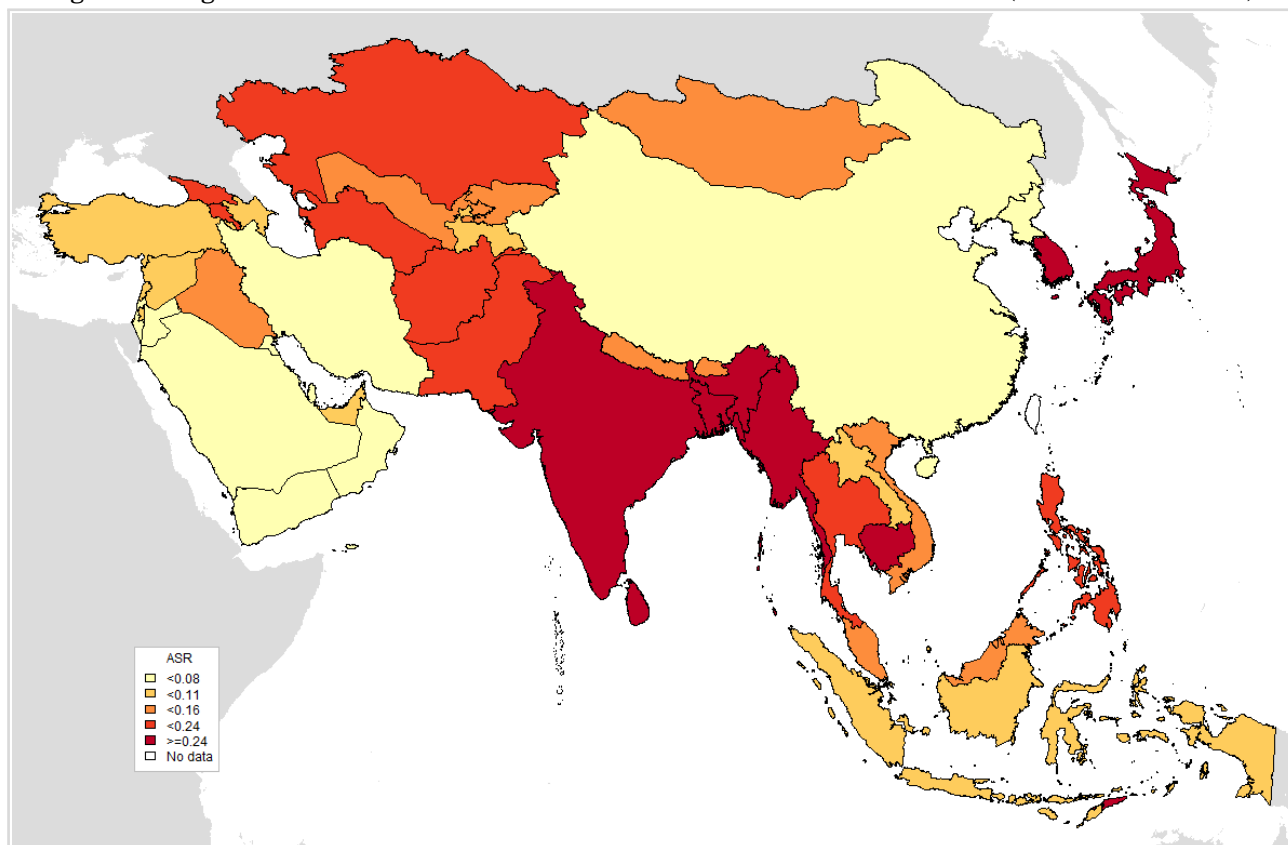
NOTE

Time trends in cancer incidence are shown only in countries with available data.

3.3 Head and neck cancers

The majority of head and neck cancers are associated with high tobacco and alcohol consumption. However, increasing trends in the incidence at specific sites suggest that other aetiological factors are involved, and infection by certain high-risk types of HPV (i.e. HPV16) have been reported to be associated with head and neck cancers, in particular with oropharyngeal cancer. Current evidence suggests that HPV16 is associated with tonsil cancer (including Waldeyer ring cancer), base of tongue cancer and other oropharyngeal cancer sites. Associations with other head and neck cancer sites such as oral cancer are neither strong nor consistent when compared to molecular-epidemiological data on HPV and oropharyngeal cancer. Association with laryngeal cancer is still unclear (IARC Monograph Vol 100B).

Figure 54: Age-standardised incidence rates of head and neck cancer in Asia (estimates for 2012)



Data accessed on 08 May 2017.

ASR: Age-standardized rate, rates per 100,000 per year.

Please refer to original source for methods.

Head and neck cancer cases (oropharynx, oral cavity and larynx).

GLOBOCAN quality index for availability of incidence data:

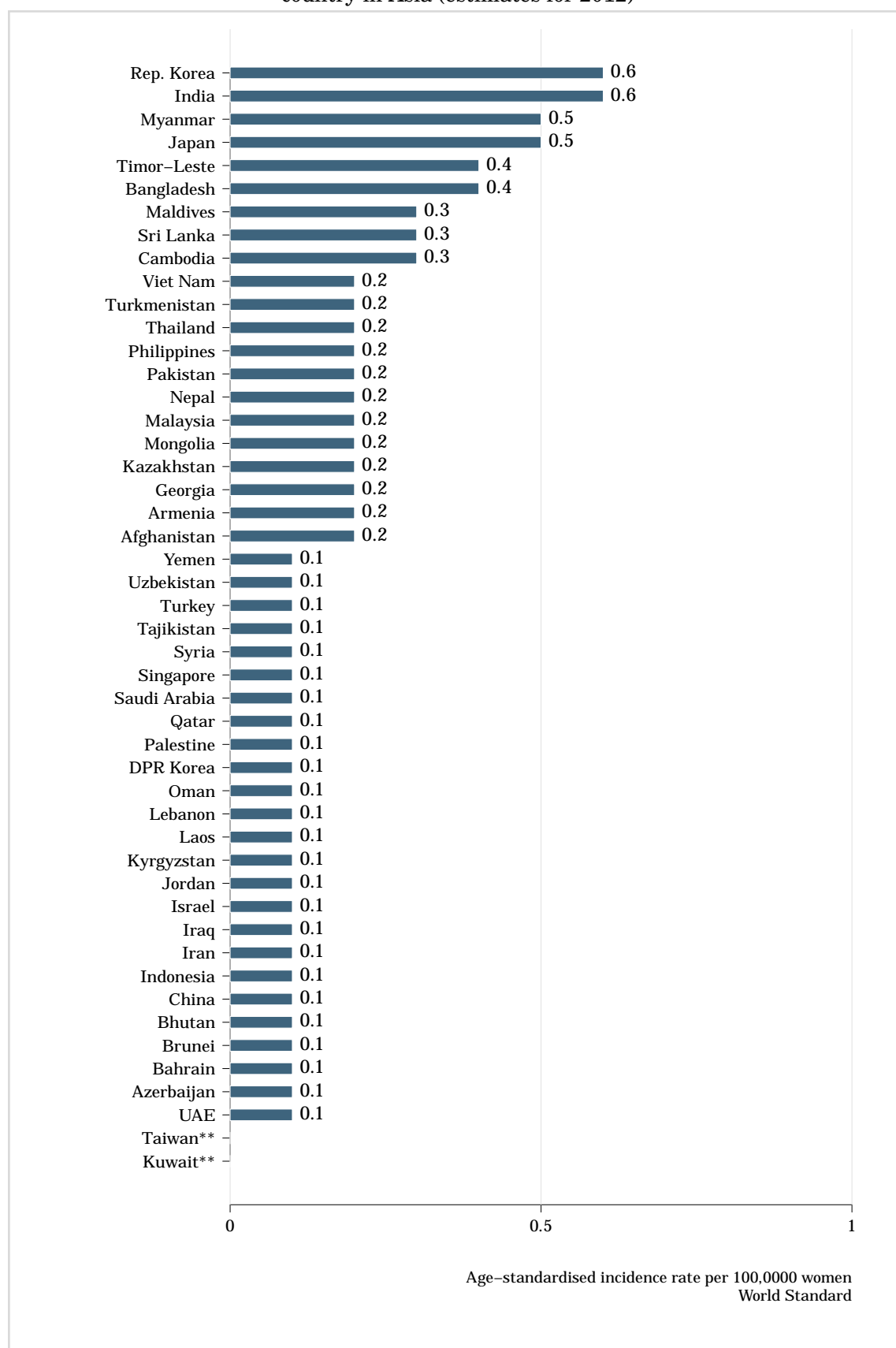
- For Afghanistan, Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Cambodia, Laos, Maldives, Myanmar, Nepal, DPR Korea, Syria, Tajikistan, Turkmenistan, Timor-Leste, Uzbekistan: No data.
- For United Arab Emirates, Bhutan, Jordan, Lebanon, Sri Lanka, Mongolia, Saudi Arabia: National data (rates).
- For Bangladesh, Brunei, Indonesia, Iraq, Palestine: Frequency data.
- For Bahrain, Israel, Republic of Korea, Kuwait, Oman, Qatar, Singapore: High quality national data or high quality regional (coverage greater than 50%).
- For China, India, Iran, Malaysia, Turkey: High quality regional (coverage lower than 10%).
- For Japan, Philippines, Thailand: High quality regional (coverage between 10% and 50%).
- For Pakistan, Viet Nam, Yemen: Regional data (rates).

GLOBOCAN quality index of methods for calculating incidence: Methods to estimate the sex- and age-specific incidence rates of cancer for a specific country:

- For Afghanistan, Cambodia, Laos, Maldives, Myanmar, Nepal, DPR Korea, Syria, Timor-Leste: The rates are those of neighbouring countries or registries in the same area
- For United Arab Emirates, Bhutan, Lebanon, Sri Lanka, Mongolia, Oman, Qatar: Most recent rates applied to 2012 population
- For Armenia, Azerbaijan, Brunei, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Viet Nam: Estimated from national mortality estimates using modelled survival
- For Bangladesh, Iraq, Palestine: Age/sex specific rates for "all cancers" were partitioned using data on relative frequency of different cancers (by age and sex)
- For Bahrain, Israel, Jordan, Republic of Korea, Kuwait, Saudi Arabia, Singapore: Rates projected to 2012
- For China, Japan: Estimated from national mortality by modelling using incidence mortality ratios derived from recorded data in country-specific cancer registries
- For Indonesia, India, Iran, Malaysia, Pakistan, Philippines, Thailand, Turkey: Estimated as the weighted average of the local rates
- For Yemen: One cancer registry covering part of a country is used as representative of the country profile

Data sources: Worldwide burden of cancer attributable to HPV by site, country and HPV type. de Martel C, Plummer M, Vignat J, Franceschi S. Int J Cancer. 2017 Apr 1. doi: 10.1002/ijc.30716. [Epub ahead of print]. PMID:28369882.

Figure 55: Age-standardised incidence rate of head and neck cancer cases attributable to HPV by country in Asia (estimates for 2012)



** No rates are available.

Data accessed on 08 May 2017.

ASR: Age-standardized rate, rates per 100,000 per year.

Please refer to original source for methods.

(Continued on next page)

(Figure 55 – continued from previous page)

Head and neck cancer cases (oropharynx, oral cavity and larynx).

GLOBOCAN quality index for availability of incidence data:

- For Kuwait, Bahrain, Israel, Oman, Qatar, Singapore, Republic of Korea: High quality national data or high quality regional (coverage greater than 50%).
- For United Arab Emirates, Bhutan, Jordan, Lebanon, Saudi Arabia, Mongolia, Sri Lanka: National data (rates).
- For Azerbaijan, Kyrgyzstan, Laos, DPR Korea, Syria, Tajikistan, Uzbekistan, Afghanistan, Armenia, Georgia, Kazakhstan, Nepal, Turkmenistan, Cambodia, Maldives, Timor-Leste, Myanmar: No data.
- For Brunei, Indonesia, Iraq, Palestine, Bangladesh: Frequency data.
- For China, Iran, Turkey, Malaysia, India: High quality regional (coverage lower than 10%).
- For Yemen, Pakistan, Viet Nam: Regional data (rates).
- For Philippines, Thailand, Japan: High quality regional (coverage between 10% and 50%).

GLOBOCAN quality index of methods for calculating incidence: Methods to estimate the sex- and age-specific incidence rates of cancer for a specific country:

- For Kuwait, Bahrain, Israel, Jordan, Saudi Arabia, Singapore, Republic of Korea: Rates projected to 2012
- For United Arab Emirates, Bhutan, Lebanon, Oman, Qatar, Mongolia, Sri Lanka: Most recent rates applied to 2012 population
- For Azerbaijan, Brunei, Kyrgyzstan, Tajikistan, Uzbekistan, Armenia, Georgia, Kazakhstan, Turkmenistan, Viet Nam: Estimated from national mortality estimates using modelled survival
- For China, Japan: Estimated from national mortality by modelling using incidence mortality ratios derived from recorded data in country-specific cancer registries
- For Indonesia, Iran, Turkey, Malaysia, Pakistan, Philippines, Thailand, India: Estimated as the weighted average of the local rates
- For Iraq, Palestine, Bangladesh: Age/sex specific rates for "all cancers" were partitioned using data on relative frequency of different cancers (by age and sex)
- For Laos, DPR Korea, Syria, Afghanistan, Nepal, Cambodia, Maldives, Timor-Leste, Myanmar: The rates are those of neighbouring countries or registries in the same area
- For Yemen: One cancer registry covering part of a country is used as representative of the country profile

Data sources: de Martel C, Plummer M, Vignat J, Franceschi S. Worldwide burden of cancer attributable to HPV by site, country and HPV type. Int J Cancer. 2017

3.3.1 Pharyngeal cancer (excluding nasopharynx)

Table 11: Cancer incidence of pharynx (excluding nasopharynx) in Asia and its regions by sex. Includes ICD-10 codes: C09-10, C12-14 (estimates for 2012).

Area	MALE				FEMALE			
	N cases	Crude ^a rate	ASR ^a	Cum risk ^b (%) ages 0-74	N cases	Crude ^a rate	ASR ^a	Cum risk ^b (%) ages 0-74
Asia	65016	3.0	3.1	0.4	14997	0.7	0.7	0.1
Central Asia	717	2.3	3.2	0.4	321	1.0	1.1	0.1
Kazakhstan	348	4.4	5.0	0.6	127	1.5	1.3	0.1
Kyrgyzstan	46	1.7	2.8	0.4	12	0.4	0.5	0.1
Tajikistan	40	1.2	1.8	0.2	26	0.7	1.0	0.1
Turkmenistan	73	2.9	3.9	0.5	23	0.9	1.0	0.1
Uzbekistan	210	1.5	2.1	0.3	133	0.9	1.1	0.1
Eastern Asia	13441	1.6	1.3	0.1	1884	0.2	0.2	0.0
China	5444	0.8	0.6	0.1	1080	0.2	0.1	0.0
DPR Korea	104	0.9	0.8	0.1	37	0.3	0.2	0.0
Japan	4880	7.9	3.5	0.4	595	0.9	0.4	0.0
Mongolia	20	1.4	2.4	0.3	10	0.7	0.8	0.0
Rep. Korea	827	3.4	2.4	0.3	86	0.4	0.2	0.0
Taiwan	-	-	-	-	-	-	-	-
South-Eastern Asia	6933	2.3	2.6	0.3	1965	0.6	0.7	0.1
Brunei	0	0.0	0.0	0.0	1	0.5	0.4	0.0
Cambodia	162	2.3	3.8	0.5	66	0.9	1.1	0.2
Indonesia	1479	1.2	1.4	0.1	555	0.5	0.5	0.1
Laos	23	0.7	1.1	0.1	7	0.2	0.3	0.0
Malaysia	201	1.4	1.7	0.2	82	0.6	0.6	0.1
Myanmar	1943	8.1	9.1	1.0	401	1.6	1.7	0.2
Philippines	800	1.7	2.7	0.3	413	0.9	1.2	0.1
Singapore	76	2.9	2.0	0.3	13	0.5	0.3	0.0
Thailand	1088	3.2	2.6	0.3	214	0.6	0.4	0.1
Timor-Leste	29	4.8	9.1	0.6	7	1.2	1.9	0.2
Viet Nam	1132	2.6	2.7	0.3	206	0.5	0.5	0.1
Southern Asia	43190	4.8	6.3	0.8	10454	1.2	1.5	0.2
Afghanistan	181	1.0	2.4	0.3	94	0.6	1.2	0.1
Bangladesh	8100	10.5	14.9	1.8	1858	2.5	3.1	0.3
Bhutan	10	2.5	3.2	0.3	5	1.4	1.7	0.2
India	31735	4.9	6.3	0.8	6956	1.1	1.3	0.2
Iran	123	0.3	0.4	0.0	94	0.3	0.3	0.0
Maldives	8	4.9	6.6	0.8	1	0.6	0.7	0.0
Nepal	357	2.3	3.9	0.5	110	0.7	1.0	0.1
Pakistan	1819	2.0	3.0	0.4	879	1.0	1.4	0.2
Sri Lanka	857	8.2	7.2	0.9	457	4.2	3.3	0.4
Western Asia	735	0.6	0.8	0.1	373	0.3	0.4	0.0
Armenia	31	2.1	1.8	0.2	8	0.5	0.3	0.0
Azerbaijan	52	1.1	1.3	0.2	35	0.7	0.7	0.1
Bahrain	4	0.5	0.8	0.1	0	0.0	0.0	0.0
Georgia	82	4.0	2.8	0.4	21	0.9	0.4	0.0

(Continued on next page)

(Table 11 – continued from previous page)

Area	MALE				FEMALE			
	N cases	Crude ^a rate	ASR ^a	Cum risk ^b (%) ages 0-74	N cases	Crude ^a rate	ASR ^a	Cum risk ^b (%) ages 0-74
Iraq	75	0.4	0.9	0.1	77	0.5	0.7	0.1
Israel	21	0.6	0.4	0.1	10	0.3	0.2	0.0
Jordan	6	0.2	0.3	0.0	6	0.2	0.3	0.0
Kuwait	1	0.1	0.1	0.0	0	0.0	0.0	0.0
Lebanon	10	0.5	0.5	0.1	5	0.2	0.2	0.0
Oman	6	0.3	0.5	0.1	1	0.1	0.1	0.0
Palestine	7	0.3	0.8	0.1	0	0.0	0.0	0.0
Qatar	2	0.1	0.7	0.1	0	0.0	0.0	0.0
Saudi Arabia	39	0.2	0.4	0.0	32	0.2	0.4	0.0
Syria	43	0.4	0.6	0.1	39	0.4	0.5	0.0
Turkey	320	0.9	0.9	0.1	88	0.2	0.2	0.0
UAE	21	0.4	1.3	0.2	5	0.2	0.3	0.0
Yemen	15	0.1	0.4	0.0	46	0.4	0.8	0.1

Data accessed on 15 Nov 2015.

^a Male: Rates per 100,000 men per year. Female: Rates per 100,000 women per year.^b Cumulative risk (incidence) is the probability or risk of individuals getting from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to develop from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Table 12: Cancer mortality of pharynx (excluding nasopharynx) in Asia and its regions by sex. Includes ICD-10 codes: C09-10, C12-14 (estimates for 2012).

Area	MALE				FEMALE			
	N cases	Crude ^a rate	ASR ^a	Cum risk ^b (%) ages 0-74	N cases	Crude ^a rate	ASR ^a	Cum risk ^b (%) ages 0-74
Asia	51005	2.3	2.4	0.3	12126	0.6	0.5	0.1
Central Asia	516	1.7	2.4	0.3	231	0.7	0.8	0.1
Kazakhstan	235	3.0	3.6	0.4	84	1.0	0.8	0.1
Kyrgyzstan	35	1.3	2.2	0.3	9	0.3	0.4	0.0
Tajikistan	32	0.9	1.6	0.2	20	0.6	0.8	0.1
Turkmenistan	52	2.0	3.0	0.4	17	0.6	0.7	0.1
Uzbekistan	162	1.2	1.7	0.2	101	0.7	0.9	0.1
Eastern Asia	7867	1.0	0.7	0.1	1352	0.2	0.1	0.0
China	3557	0.5	0.4	0.0	903	0.1	0.1	0.0
DPR Korea	50	0.4	0.4	0.0	10	0.1	0.1	0.0
Japan	2769	4.5	1.8	0.2	363	0.6	0.2	0.0
Mongolia	17	1.2	2.1	0.3	10	0.7	0.8	0.0
Rep. Korea	370	1.5	1.1	0.1	31	0.1	0.1	0.0
Taiwan	-	-	-	-	-	-	-	-
South-Eastern Asia	5414	1.8	2.1	0.2	1545	0.5	0.5	0.1
Brunei	0	0.0	0.0	0.0	0	0.0	0.0	0.0
Cambodia	136	1.9	3.4	0.4	56	0.8	1.0	0.1
Indonesia	1176	1.0	1.1	0.1	426	0.3	0.4	0.0
Laos	21	0.7	1.0	0.1	7	0.2	0.3	0.0
Malaysia	89	0.6	0.8	0.1	44	0.3	0.4	0.0
Myanmar	1685	7.0	8.3	0.9	344	1.4	1.5	0.2
Philippines	660	1.4	2.4	0.3	360	0.7	1.1	0.1
Singapore	27	1.0	0.7	0.1	5	0.2	0.1	0.0
Thailand	683	2.0	1.6	0.2	133	0.4	0.3	0.0
Timor-Leste	25	4.1	8.7	0.4	6	1.0	1.6	0.2
Viet Nam	912	2.1	2.2	0.3	164	0.4	0.4	0.0
Southern Asia	36667	4.1	5.4	0.6	8710	1.0	1.2	0.1
Afghanistan	161	0.9	2.4	0.3	85	0.5	1.2	0.1
Bangladesh	6928	9.0	12.9	1.5	1590	2.1	2.7	0.3
Bhutan	10	2.5	3.2	0.3	5	1.4	1.7	0.2
India	27002	4.2	5.3	0.6	5782	0.9	1.1	0.1
Iran	85	0.2	0.3	0.0	67	0.2	0.2	0.0
Maldives	7	4.3	5.8	0.7	1	0.6	0.7	0.0
Nepal	312	2.0	3.5	0.4	96	0.6	0.9	0.1
Pakistan	1542	1.7	2.6	0.3	755	0.9	1.3	0.2
Sri Lanka	620	5.9	5.2	0.6	329	3.1	2.3	0.3
Western Asia	541	0.4	0.6	0.1	288	0.2	0.3	0.0

(Continued on next page)

(Table 12 – continued from previous page)

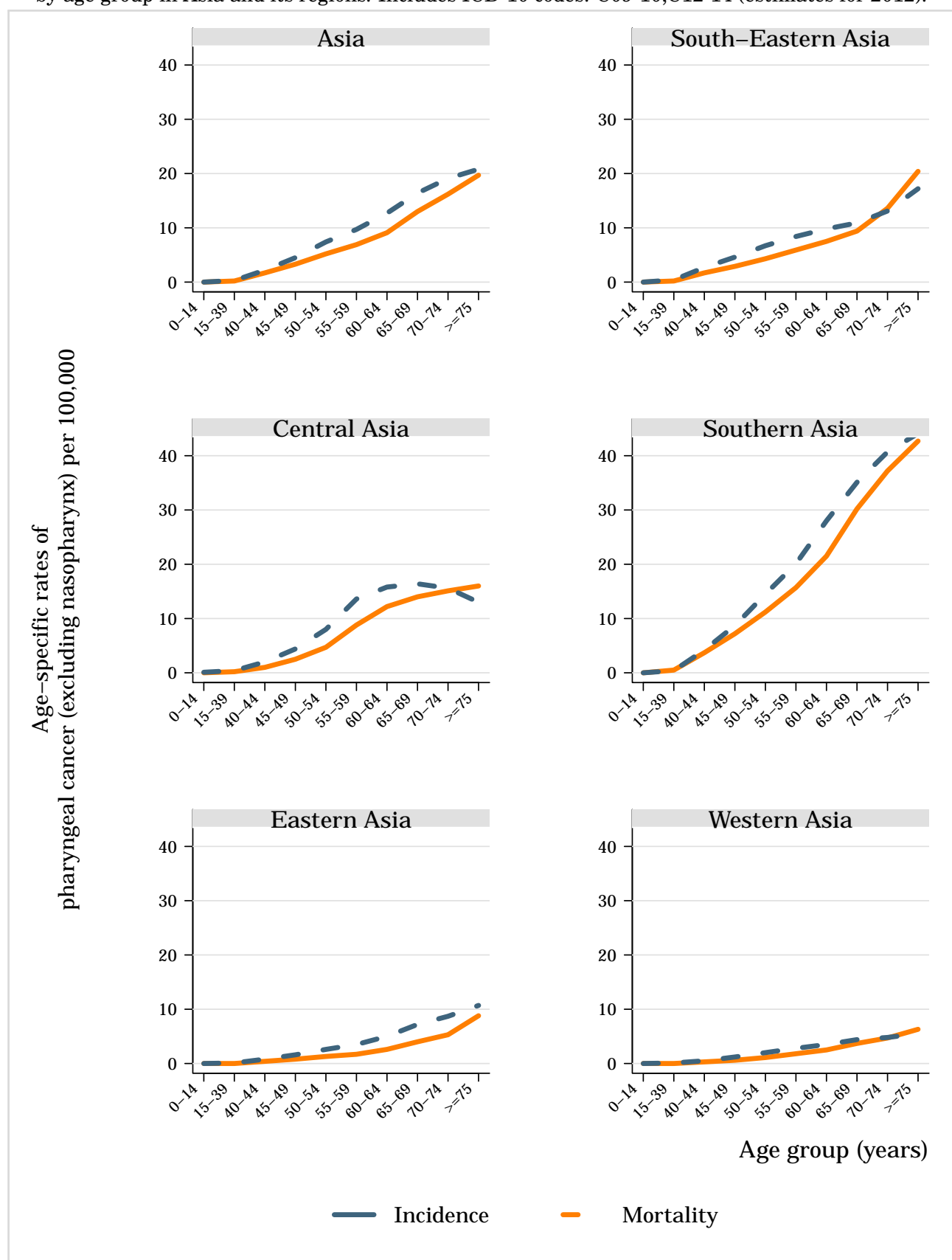
Area	MALE				FEMALE			
	N cases	Crude ^a rate	ASR ^a	Cum risk ^b (%) ages 0-74	N cases	Crude ^a rate	ASR ^a	Cum risk ^b (%) ages 0-74
Armenia	22	1.5	1.3	0.2	5	0.3	0.2	0.0
Azerbaijan	41	0.9	1.0	0.1	25	0.5	0.5	0.1
Bahrain	1	0.1	0.5	0.1	0	0.0	0.0	0.0
Georgia	55	2.7	1.8	0.2	15	0.7	0.3	0.0
Iraq	61	0.4	0.8	0.1	64	0.4	0.6	0.1
Israel	27	0.7	0.5	0.1	12	0.3	0.2	0.0
Jordan	5	0.2	0.3	0.0	6	0.2	0.3	0.0
Kuwait	0	0.0	0.0	0.0	1	0.1	0.2	0.0
Lebanon	7	0.3	0.3	0.0	4	0.2	0.2	0.0
Oman	5	0.3	0.4	0.1	1	0.1	0.1	0.0
Palestine	6	0.3	0.7	0.1	0	0.0	0.0	0.0
Qatar	1	0.1	0.6	0.1	0	0.0	0.0	0.0
Saudi Arabia	25	0.2	0.3	0.0	20	0.2	0.3	0.0
Syria	35	0.3	0.5	0.1	30	0.3	0.4	0.0
Turkey	226	0.6	0.7	0.1	63	0.2	0.2	0.0
UAE	11	0.2	1.0	0.1	2	0.1	0.2	0.0
Yemen	13	0.1	0.3	0.0	40	0.3	0.7	0.1

Data accessed on 15 Nov 2015.^a Male: Rates per 100,000 men per year. Female: Rates per 100,000 women per year.^b Cumulative risk (mortality) is the probability or risk of individuals dying from the disease during ages 0-74 years. For cancer, it is expressed as the % of new born children who would be expected to die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 56: Comparison of cancer incidence and mortality of pharynx (excluding nasopharynx) in males by age group in Asia and its regions. Includes ICD-10 codes: C09-10,C12-14 (estimates for 2012).



Data accessed on 15 Nov 2015.

For specific estimation methodology refer to http://globocan.iarc.fr/Pages/DataSource_and_methods.aspx

*European countries included in the Seven framework programme PREHDICT project (43 countries). Please refer to Introduction (link) to see PREHDICT project aim and coverage.

Male: Rates per 100,000 men per year. Female: Rates per 100,000 women per year.

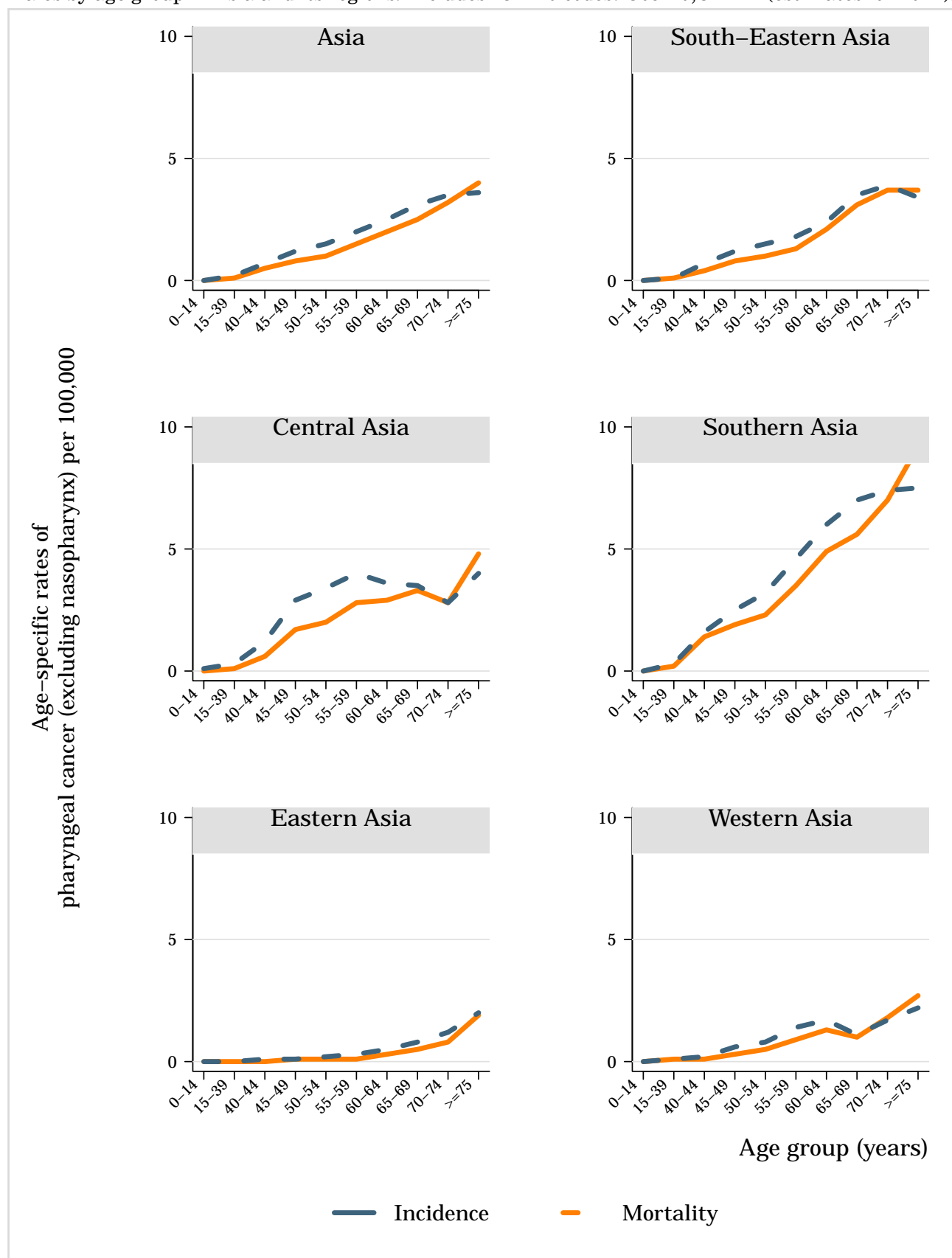
(Continued on next page)

(Figure 57 – continued from previous page)

Data sources:

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

Figure 57: Comparison of cancer incidence and mortality of pharynx (excluding nasopharynx) in females by age group in Asia and its regions. Includes ICD-10 codes: C09-10,C12-14 (estimates for 2012).



Data accessed on 15 Nov 2015.

For specific estimation methodology refer to http://globocan.iarc.fr/Pages/DataSource_and_methods.aspx

Male: Rates per 100,000 men per year. Female: Rates per 100,000 women per year.

Data sources:

(Continued on next page)

(Figure 57 – continued from previous page)

Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray F. GLOBOCAN 2012 v1.2, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11 [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Available from: <http://globocan.iarc.fr>.

4 HPV-related statistics

HPV infection is commonly found in the anogenital tract of men and women with and without clinical lesions. The aetiological role of HPV infection among women with cervical cancer is well-established, and there is growing evidence of its central role in other anogenital sites. This section presents the HPV burden at each of the anogenital tract sites. The methodologies used to compile the information on HPV burden are derived from systematic reviews and meta-analyses of the literature. Due to the limitations of HPV DNA detection methods and study designs used, these data should be interpreted with caution and used only as a guide to assess the burden of HPV infection within the population (*Vaccine 2006, Vol. 24, Suppl 3; Vaccine 2008, Vol. 26, Suppl 10; Vaccine 2012, Vol. 30, Suppl 5; IARC Monographs 2007, Vol. 90*)

4.1 HPV burden in women with normal cervical cytology, cervical precancerous lesions or invasive cervical cancer

The statistics shown in this section focus on HPV infection in the cervix uteri. HPV cervical infection results in cervical morphological lesions ranging from normalcy (cytologically normal women) to different stages of precancerous lesions (CIN-1, CIN-2, CIN-3/CIS) and invasive cervical cancer. HPV infection is measured by HPV DNA detection in cervical cells (fresh tissue, paraffin embedded or exfoliated cells).

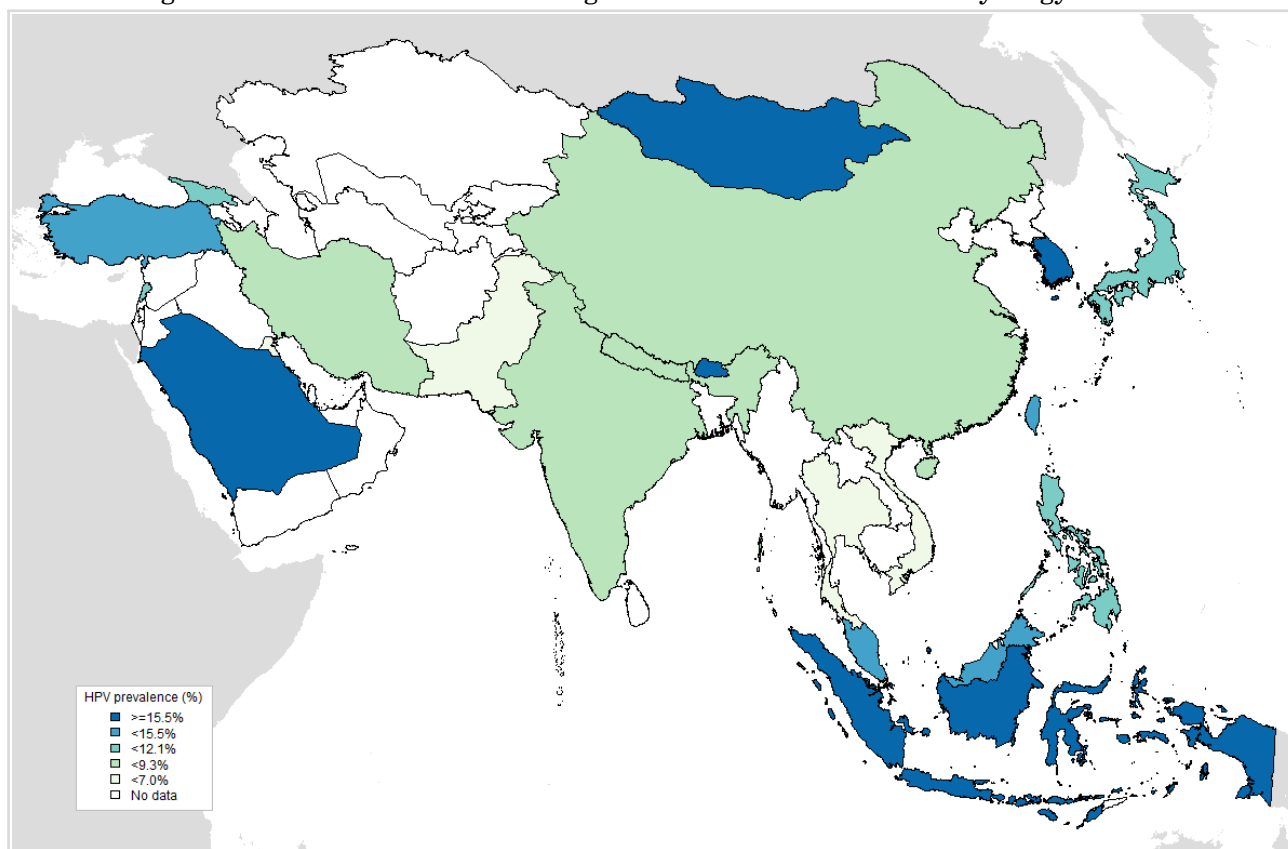
The prevalence of HPV increases with lesion severity. HPV causes virtually 100% of cervical cancer cases, and an underestimation of HPV prevalence in cervical cancer is most likely due to the limitations of study methodologies. Worldwide, HPV16 and 18 (the two vaccine-preventable types) contribute to over 70% of all cervical cancer cases, between 41% and 67% of high-grade cervical lesions and 16-32% of low-grade cervical lesions. After HPV16/18, the six most common HPV types are the same in all world regions, namely 31, 33, 35, 45, 52 and 58; these account for an additional 20% of cervical cancers worldwide (*Clifford G, Vaccine 2006;24(S3):26*).

Methods: Prevalence and type distribution of human papillomavirus in cervical carcinoma, low-grade cervical lesions, high-grade cervical lesions and normal cytology: systematic review and meta-analysis

A systematic review of the literature was conducted regarding the worldwide HPV-prevalence and type distribution for cervical carcinoma, low-grade cervical lesions, high-grade cervical lesions and normal cytology from 1990 to 'data as of' indicated in each section. The search terms for the review were 'HPV' AND cerv* using Pubmed. There were no limits in publication language. References cited in selected articles were also investigated. Inclusion criteria were: HPV DNA detection by means of PCR or HC2, a minimum of 20 cases for cervical carcinoma, 20 cases for low-grade cervical lesions, 20 cases for high-grade cervical lesions and 100 cases for normal cytology and a detailed description of HPV DNA detection and genotyping techniques used. The number of cases tested and HPV positive extracted for each study were pooled to estimate the prevalence of HPV DNA and the HPV type distribution globally and by geographical region. Binomial 95% confidence intervals were calculated for each HPV prevalence. For more details refer to the methods document.

4.1.1 HPV prevalence in women with normal cervical cytology

Figure 58: Prevalence of HPV among women with normal cervical cytology in Asia

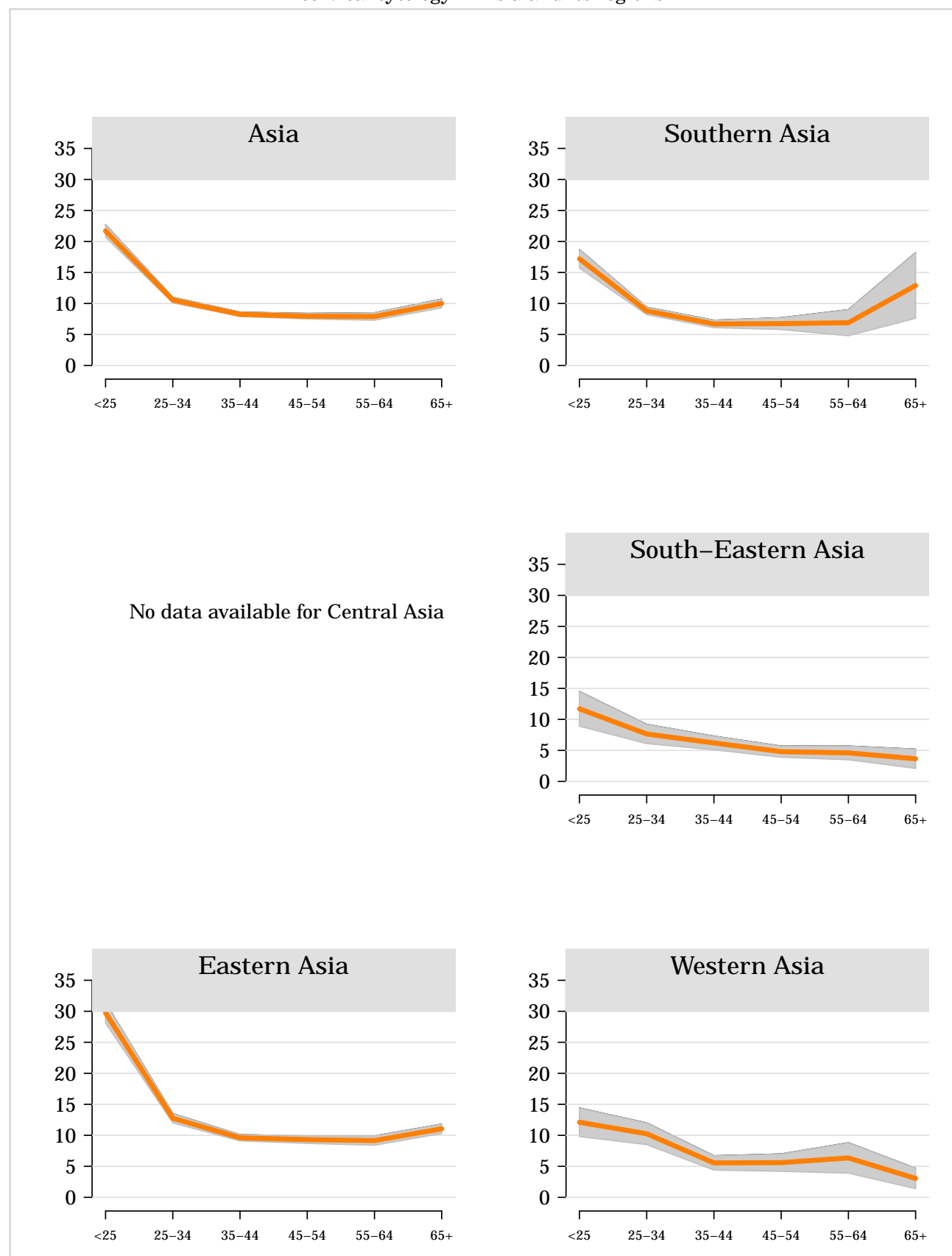


Data updated on 15 Dec 2016 (data as of 30 Jun 2015).

The samples for HPV testing come from cervical specimens (fresh / fixed biopsies or exfoliated cells).

Data sources: See references in Section 9.

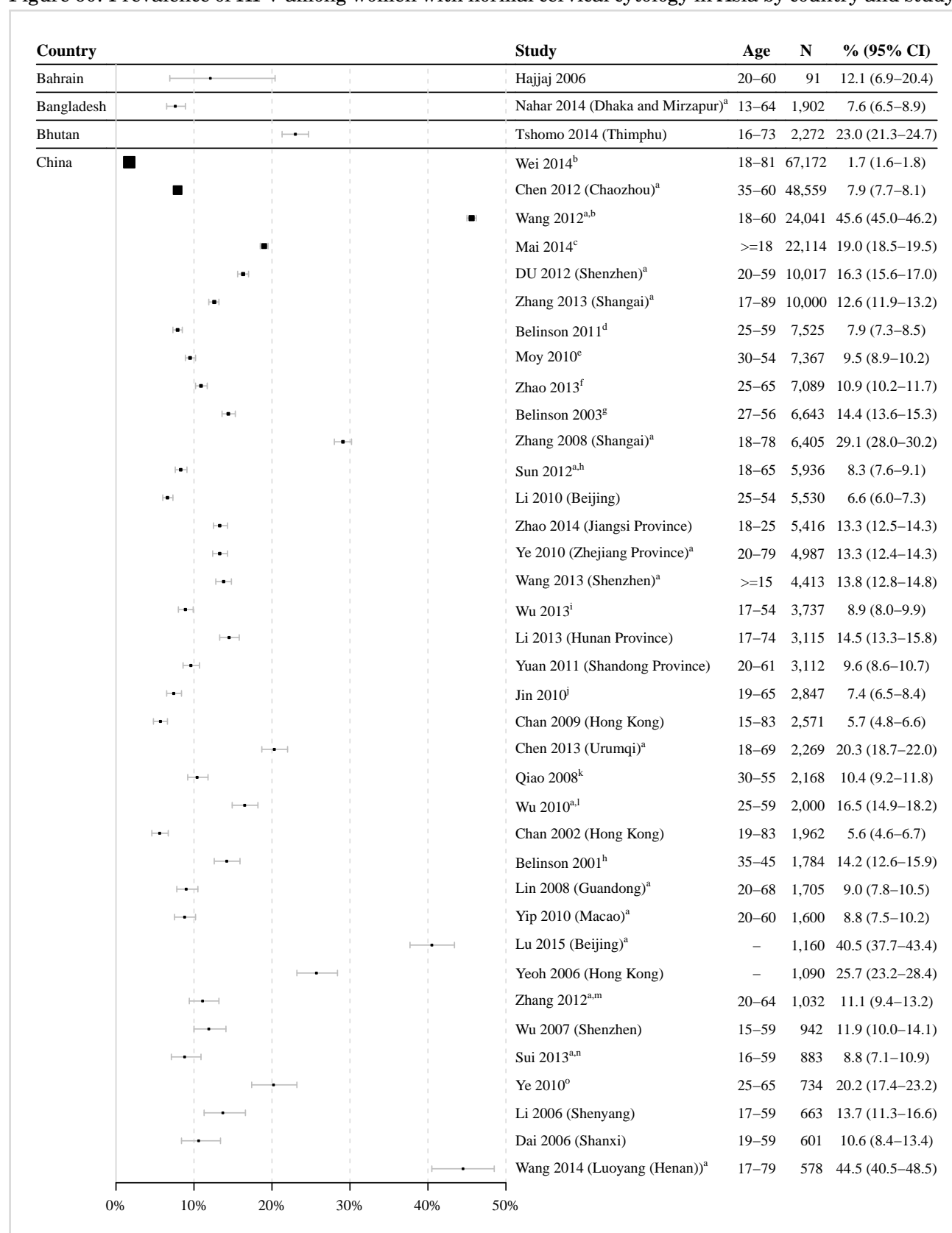
Figure 59: Crude age-specific HPV prevalence (%) and 95% confidence interval in women with normal cervical cytology in Asia and its regions



Data updated on 15 Dec 2016 (data as of 30 Jun 2015).

Data sources: See references in Section 9.

Figure 60: Prevalence of HPV among women with normal cervical cytology in Asia by country and study



(Continued on next page)

Data updated on 15 Dec 2016 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

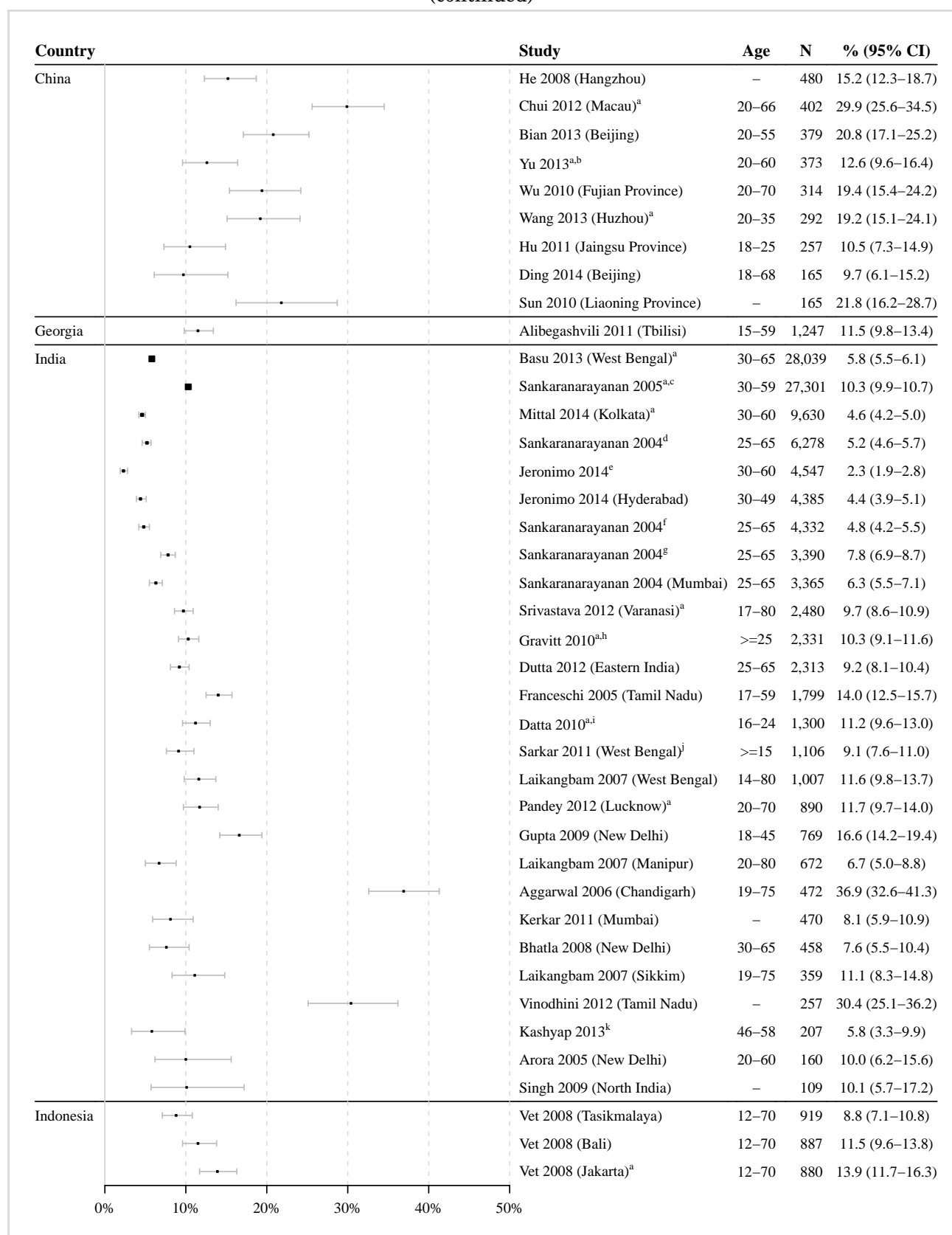
^a Women from the general population, including some with cytological cervical abnormalities^b Shenyang (Liaoning Province)^c Shantou City (Guandong Province)

(Continued on next page)

(Figure 60 – continued from previous page)

- ^d Guangdong Province
 - ^e Shanxi, Jiangxi and Gansu Provinces
 - ^f Yangcheng, Xinmi and Tonggu
 - ^g Yangcheng and Xiangyuan (Shanxi)
 - ^h Qujing (Yunnan Province)
 - ⁱ Beijing, Shanghai, Shanxi, Henan, Xinjiang
 - ^j Tibetan Autonomous Region
 - ^k Wuxiang and Xiangyuan (Shanxi Province)
 - ^l Shenzhen (Guangdong Province)
 - ^m Wufeng County (Hubei Province)
 - ⁿ Uyghur (Yutian County, Xingjian Province)
 - ^o Lishui County (Zhejiang Province)
- Data sources: See references in Section 9.

Figure 61: Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)



(Continued on next page)

Data updated on 15 Dec 2016 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

^a Women from the general population, including some with cytological cervical abnormalities

(Continued on next page)

(Figure 61 – continued from previous page)

^b Shiquan County (Shaanxi Province)

^c Osnamabad

^d Kolkata (2)

^e Rural Uttar Pradesh

^f Trivandrum

^g Kolkata (1)

^h Medchal Mandal (Andhra Pradesh)

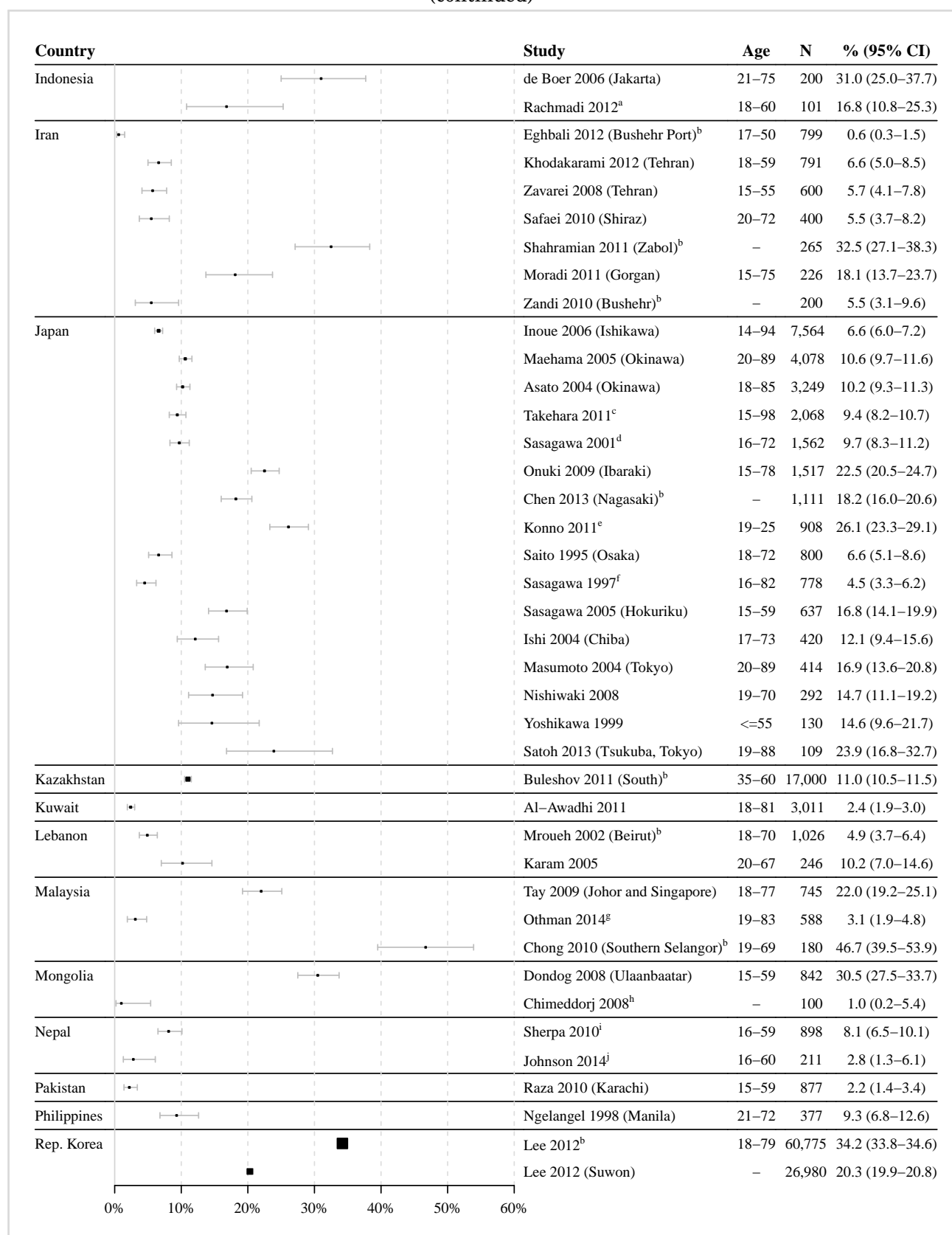
ⁱ Govindpuri (New Delhi)

^j Few HPV types tested: 16, 18 only

^k Few HPV types tested: 16 only

Data sources: See references in Section 9.

Figure 62: Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)



(Continued on next page)

Data updated on 15 Dec 2016 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

^aJakarta, Tasikmalaya and Bali

(Continued on next page)

(Figure 62 – continued from previous page)

^b Women from the general population, including some with cytological cervical abnormalities

^c Few HPV types tested: 16, 18, 52, 58 only

^d Hokuriku (Fukui, Ishikawa and Toyama)

^e Aomori, Tokyo, Fukui, Osaka, Hiroshima, Miyazaki and Kagoshima

^f Ishikawa and Toyama

^g North-Eastern region or West Malaysia

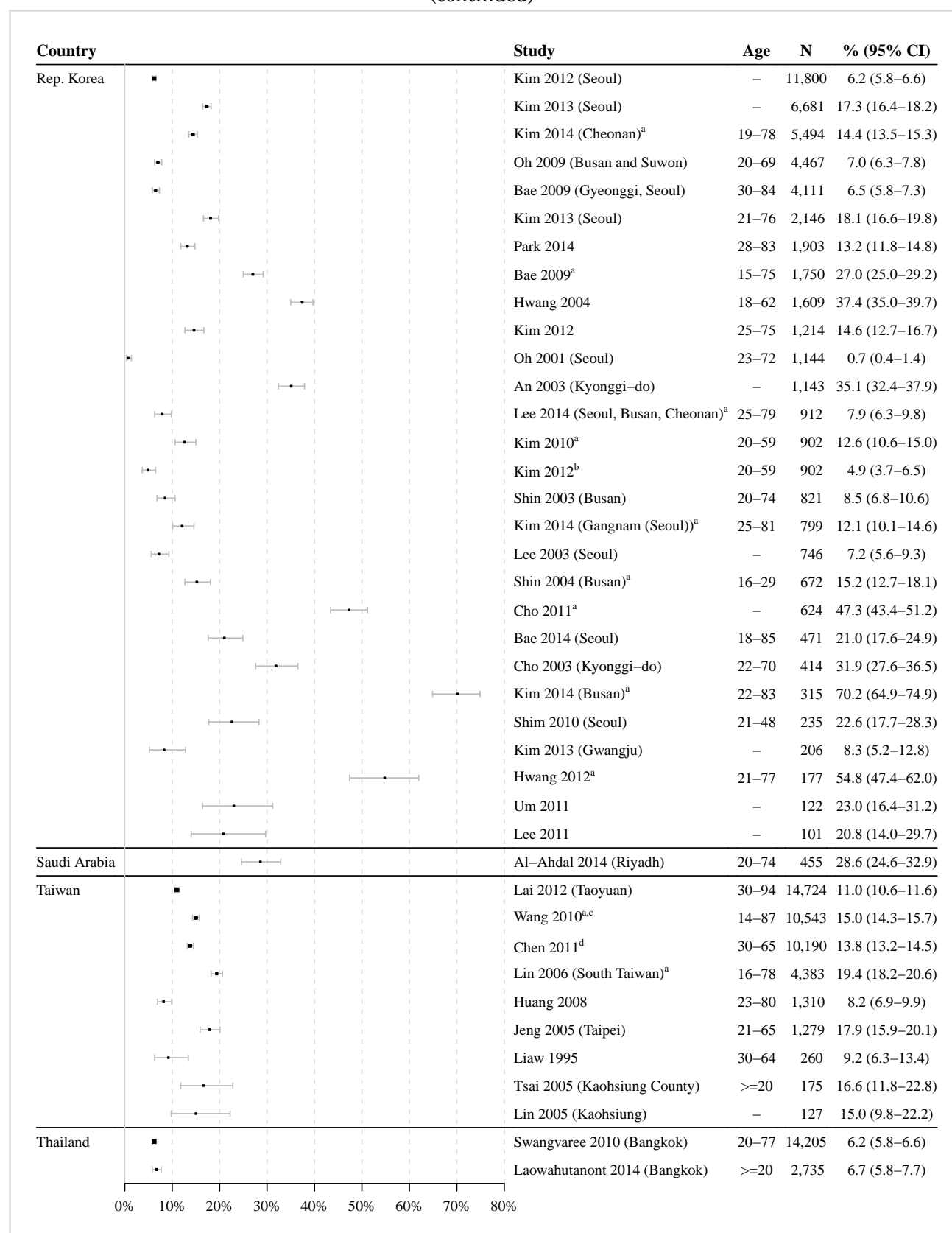
^h Few HPV types tested: 16 only

ⁱ Bharatpur (Chitawan Province)

^j Sanphebagar Village (Achham District)

Data sources: See references in Section 9.

Figure 63: Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)



(Continued on next page)

Data updated on 15 Dec 2016 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

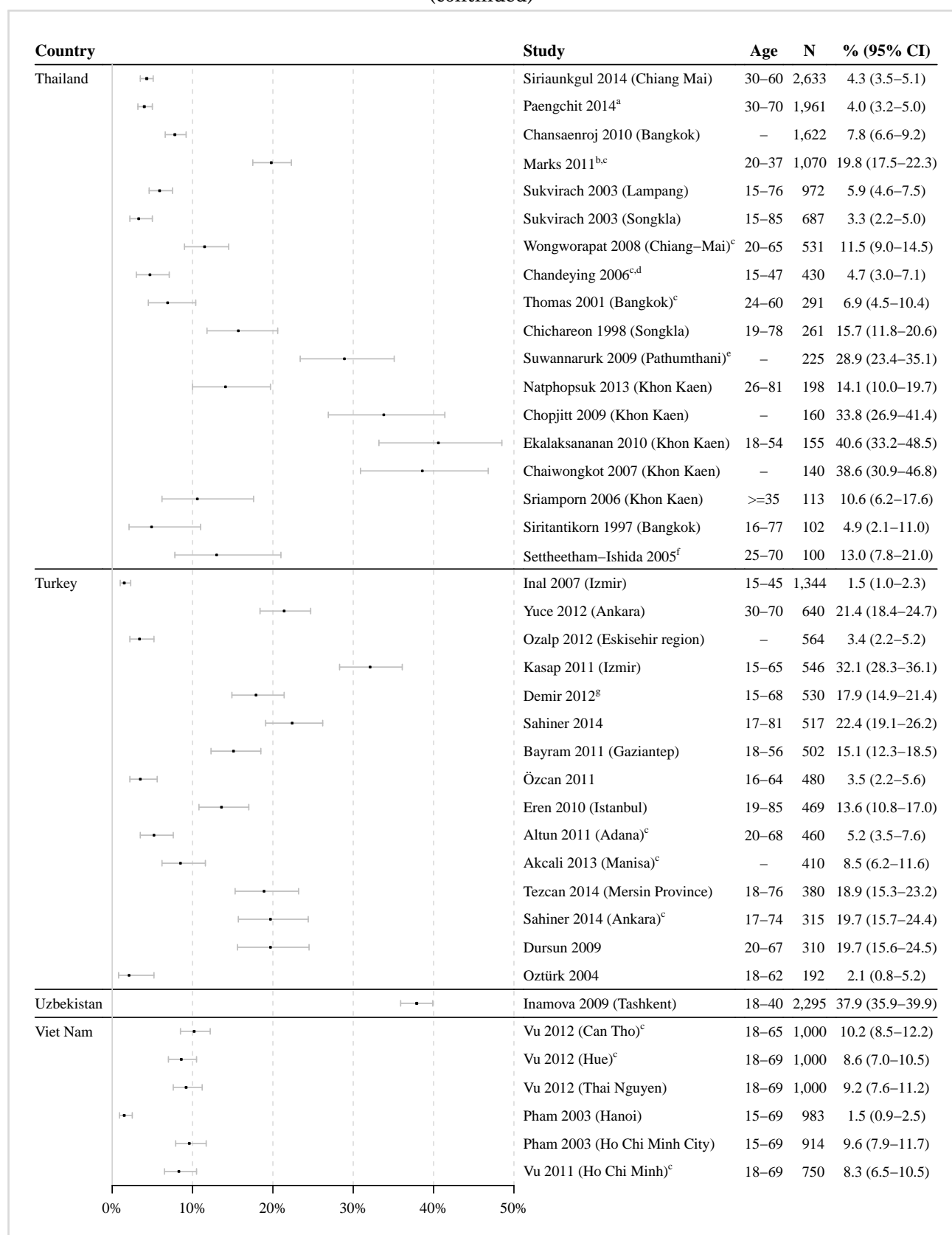
^a Women from the general population, including some with cytological cervical abnormalities

(Continued on next page)

^b Few HPV types tested: 6, 11, 42, 43, 44 only
^c Taipei, Taoyuan, Chungli, Hsinchu, Keelung)
^d Sanchi, Chutung, Potzu, Kaoshu, Makung, Paihsa and Huhsi
Data sources: See references in Section 9.

(Figure 63 – continued from previous page)

Figure 64: Prevalence of HPV among women with normal cervical cytology in Asia by country and study (continued)



(Continued on next page)

Data updated on 15 Dec 2016 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

^aLampang Province

(Continued on next page)

(Figure 64 – continued from previous page)

^b Chiang Mai, Khon Kaen, Bangkok, Songkla and Hat Yai

^c Women from the general population, including some with cytological cervical abnormalities

^d Hat Yai (South Thailand)

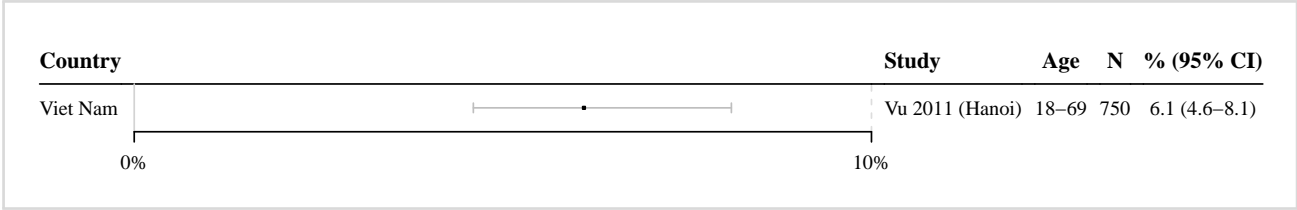
^e Few HPV types tested: 16, 18, 31, 33 only

^f Khon Kaen

^g Istanbul, Ankara, Antalya, Nigde and Elazig

Data sources: See references in Section 9.

Figure 65: Prevalence of HPV among women with normal cervical cytology in Asia by country and study
(continued)



Data updated on 15 Dec 2016 (data as of 30 Jun 2015).
95% CI: 95% Confidence Interval; N: number of women tested;
The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.
Data sources: See references in Section 9.

4.1.2 HPV type distribution among women with normal cervical cytology, precancerous cervical lesions and cervical cancer

Table 13: Prevalence of HPV 16/18 in women with normal cytology, precancerous cervical lesions and invasive cervical cancer in Asia

Country /Region	Normal cytology		Low-grade lesions		High-grade lesions		Cervical cancer	
	No. tested	HPV Prev (95% CI)	No. tested	HPV Prev (95% CI)	No. tested	HPV Prev (95% CI)	No. tested	HPV Prev (95% CI)
Asia	145,664	3.4 (3.3-3.5)	7,959	21.2 (20.3-22.1)	13,444	42.1 (41.3-42.9)	20,766	68.9 (68.3-69.5)
Central Asia	-	--	-	--	-	--	-	--
Kazakhstan	-	--	-	--	-	--	-	--
Kyrgyzstan	-	--	-	--	-	--	-	--
Tajikistan	-	--	-	--	-	--	-	--
Turkmenistan	-	--	-	--	-	--	-	--
Uzbekistan	-	--	-	--	-	--	-	--
Eastern Asia	116,022	3.2 (3.1-3.3)	6,981	20.3 (19.4-21.3)	10,551	41.0 (40.1-41.9)	15,236	65.0 (64.2-65.8)
China	51,260	3.7 (3.5-3.9)	3,716	22.3 (21.0-23.7)	5,979	44.1 (42.9-45.4)	6,435	69.1 (68.0-70.2)
DPR Korea	-	--	-	--	-	--	-	--
Japan	21,842	1.9 (1.7-2.1)	2,000	15.9 (14.4-17.6)	2,485	39.0 (37.1-40.9)	2,294	52.9 (50.9-55.0)
Mongolia	842	7.2 (5.7-9.2)	-	--	-	--	147	48.3 (40.4-56.3)
Rep. Korea	15,675	5.7 (5.3-6.1)	659	33.2 (29.7-36.9)	704	46.7 (43.1-50.4)	1,651	68.0 (65.7-70.2)
Taiwan	26,403	1.9 (1.7-2.1)	606	9.4 (7.3-12.0)	1,383	28.5 (26.2-30.9)	3,656	68.1 (66.6-69.6)
South-Eastern Asia	8,755	3.0 (2.7-3.4)	474	27.4 (23.6-31.6)	1,044	33.4 (30.6-36.3)	3,350	70.4 (68.8-71.9)
Brunei	-	--	-	--	-	--	-	--
Cambodia	-	--	-	--	-	--	-	--
Indonesia	200	4.0 (2.0-7.7)	-	--	-	--	230	87.0 (82.0-90.7)
Laos	-	--	-	--	-	--	-	--
Malaysia	588	1.0 (0.5-2.2)	23	30.4 (15.6-50.9)	73	49.3 (38.2-60.5)	426	88.7 (85.4-91.4)
Myanmar	-	--	15	80.0 (54.8-93.0)	-	--	-	--
Philippines	377	2.9 (1.6-5.1)	-	--	-	--	712	58.6 (54.9-62.1)
Singapore	-	--	-	--	106	43.4 (34.4-52.9)	65	63.1 (50.9-73.8)
Thailand	5,693	3.4 (3.0-3.9)	436	25.5 (21.6-29.7)	742	29.6 (26.5-33.0)	1,783	67.6 (65.4-69.7)
Timor-Leste	-	--	-	--	-	--	-	--
Viet Nam	1,897	2.1 (1.6-2.9)	-	--	123	37.4 (29.4-46.2)	134	82.8 (75.6-88.3)
Southern Asia	14,520	4.4 (4.1-4.7)	225	30.2 (24.6-36.5)	287	63.4 (57.7-68.8)	2,757	80.3 (78.8-81.7)
Afghanistan	-	--	-	--	-	--	-	--
Bangladesh	-	--	13	23.1 (8.2-50.3)	-	--	-	--
Bhutan	2,272	5.7 (4.8-6.8)	-	--	-	--	-	--
India	8,845	5.0 (4.6-5.5)	177	28.2 (22.1-35.3)	253	62.8 (56.7-68.6)	2,006	83.2 (81.5-84.8)
Iran	1,417	2.8 (2.1-3.8)	35	42.9 (28.0-59.1)	34	67.6 (50.8-80.9)	333	58.6 (53.2-63.7)
Maldives	-	--	-	--	-	--	-	--
Nepal	1,109	2.0 (1.3-3.0)	-	--	-	--	61	80.3 (68.7-88.4)
Pakistan	877	0.5 (0.2-1.2)	-	--	-	--	151	88.1 (81.9-92.3)
Sri Lanka	-	--	-	--	-	--	206	80.6 (74.6-85.4)
Western Asia	6,367	2.3 (2.0-2.7)	279	24.0 (19.4-29.4)	1,562	52.3 (49.8-54.8)	929	72.4 (69.5-75.2)
Armenia	-	--	-	--	-	--	-	--
Azerbaijan	-	--	-	--	-	--	-	--
Bahrain	91	2.2 (0.6-7.7)	-	--	-	--	-	--
Georgia	1,247	1.1 (0.7-1.9)	-	--	-	--	91	69.2 (59.1-77.8)
Iraq	-	--	-	--	-	--	-	--
Israel	-	--	-	--	918	67.6 (64.6-70.6)	122	79.5 (71.5-85.7)
Jordan	-	--	-	--	-	--	41	92.7 (80.6-97.5)
Kuwait	3,011	0.2 (0.1-0.4)	142	23.9 (17.7-31.6)	24	33.3 (18.0-53.3)	-	--
Lebanon	-	--	-	--	-	--	-	--
Oman	-	--	-	--	-	--	-	--
Palestine	-	--	-	--	-	--	-	--
Qatar	-	--	-	--	-	--	-	--
Saudi Arabia	-	--	-	--	-	--	100	76.0 (66.8-83.3)
Syria	-	--	-	--	-	--	44	88.6 (76.0-95.0)
Turkey	2,018	4.7 (3.9-5.7)	137	24.1 (17.7-31.9)	620	30.2 (26.7-33.9)	531	67.6 (63.5-71.4)
UAE	-	--	-	--	-	--	-	--
Yemen	-	--	-	--	-	--	-	--

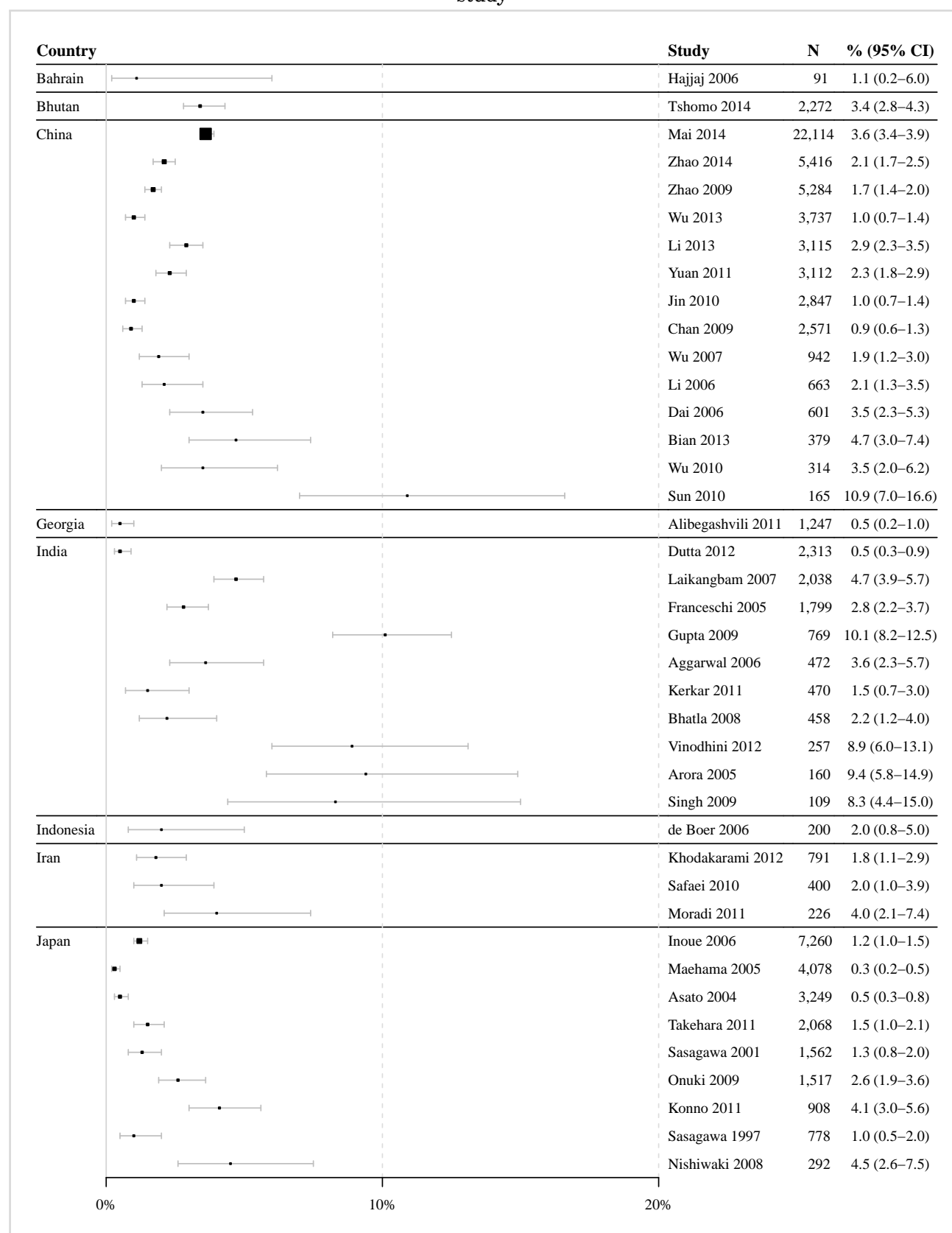
Data updated on 19 May 2017 (data as of 30 Jun 2015 / 30 Jun 2015).

95% CI: 95% Confidence Interval; High-grade lesions: CIN-2, CIN-3, CIS or HSIL; Low-grade lesions: LSIL or CIN-1;

^a Kahng 2014 includes lesions CIN2 or worse

Data sources: See references in Section 9.

Figure 66: Prevalence of HPV 16 among women with normal cervical cytology in Asia by country and study



(Continued on next page)

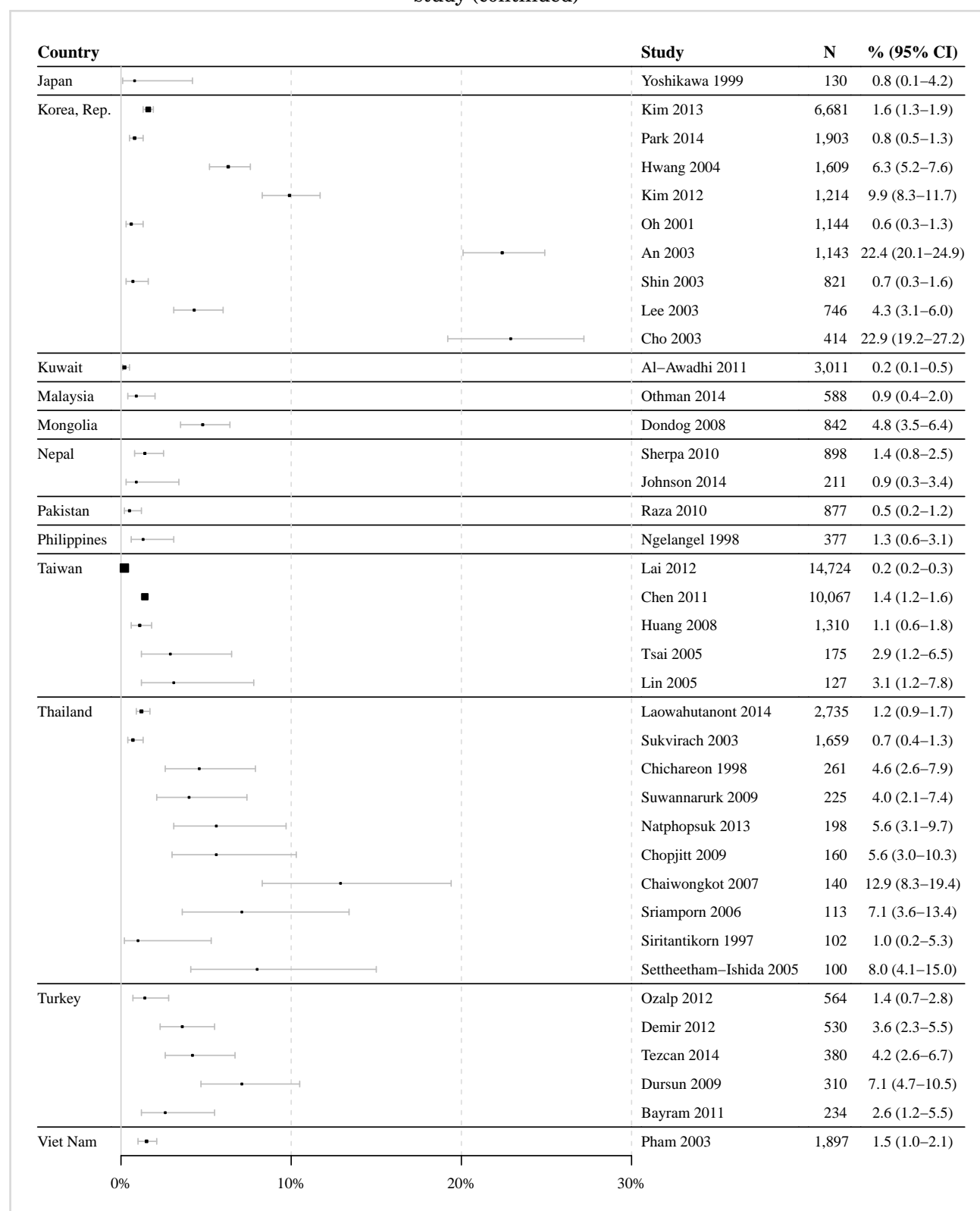
Data updated on 15 Dec 2016 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

Data sources: See references in Section 9.

Figure 67: Prevalence of HPV 16 among women with normal cervical cytology in Asia by country and study (continued)



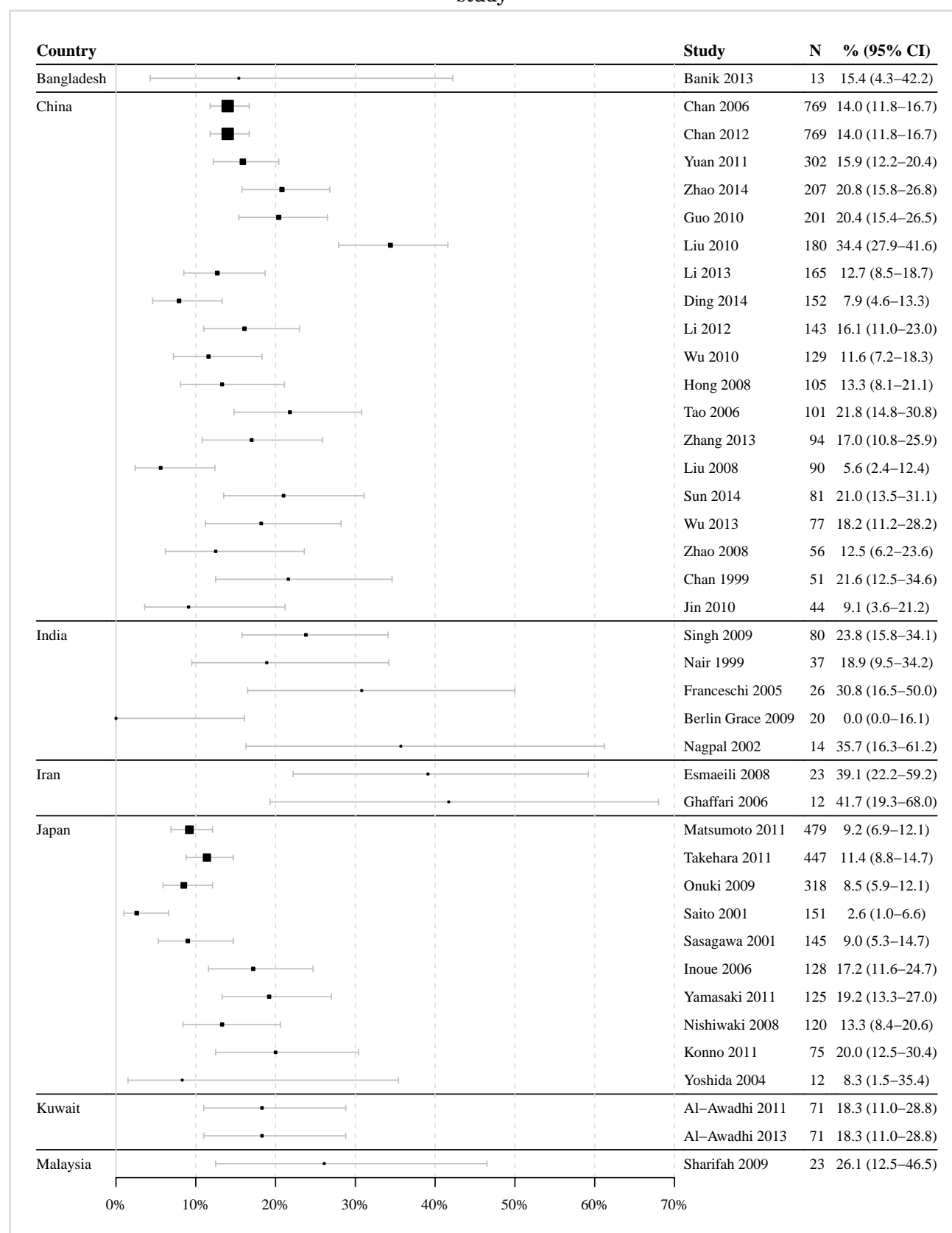
Data updated on 15 Dec 2016 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

Data sources: See references in Section 9.

Figure 68: Prevalence of HPV 16 among women with low-grade cervical lesions in Asia by country and study



(Continued on next page)

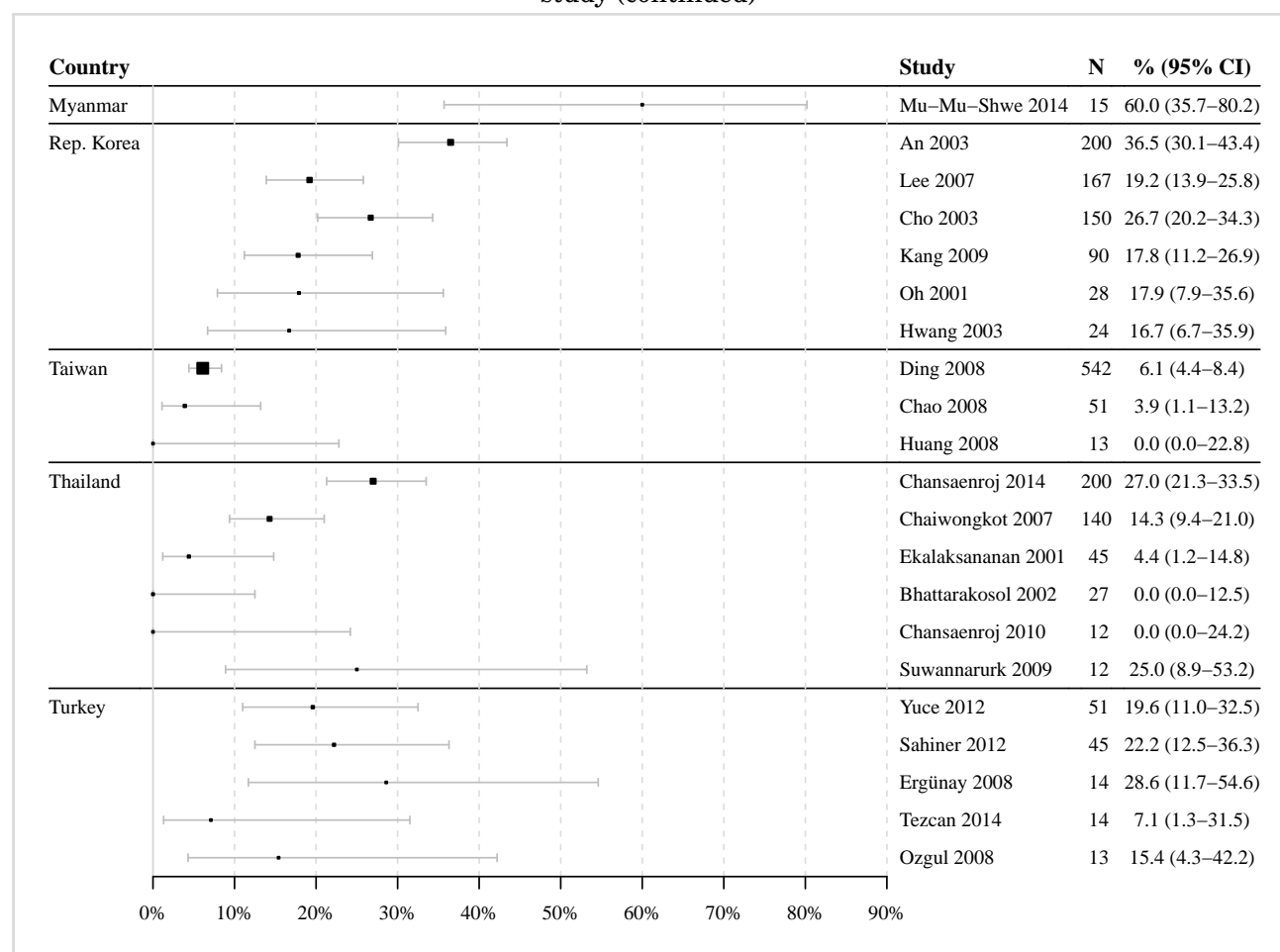
Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; Low-grade lesions: LSIL or CIN-1; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

Data sources: See references in Section 9.

Figure 69: Prevalence of HPV 16 among women with low-grade cervical lesions in Asia by country and study (continued)



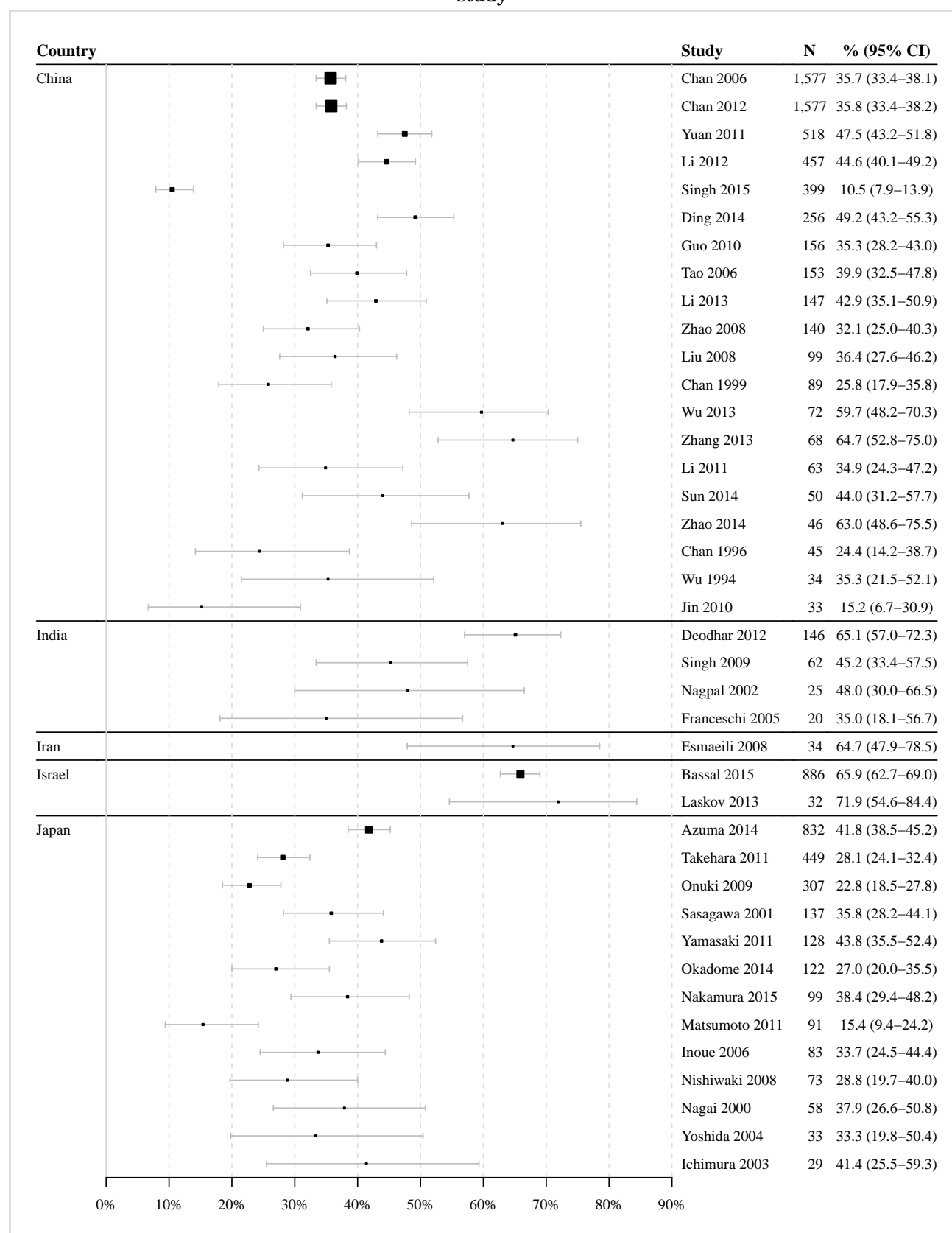
Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; Low-grade lesions: LSIL or CIN-I; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

Data sources: See references in Section 9.

Figure 70: Prevalence of HPV 16 among women with high-grade cervical lesions in Asia by country and study



(Continued on next page)

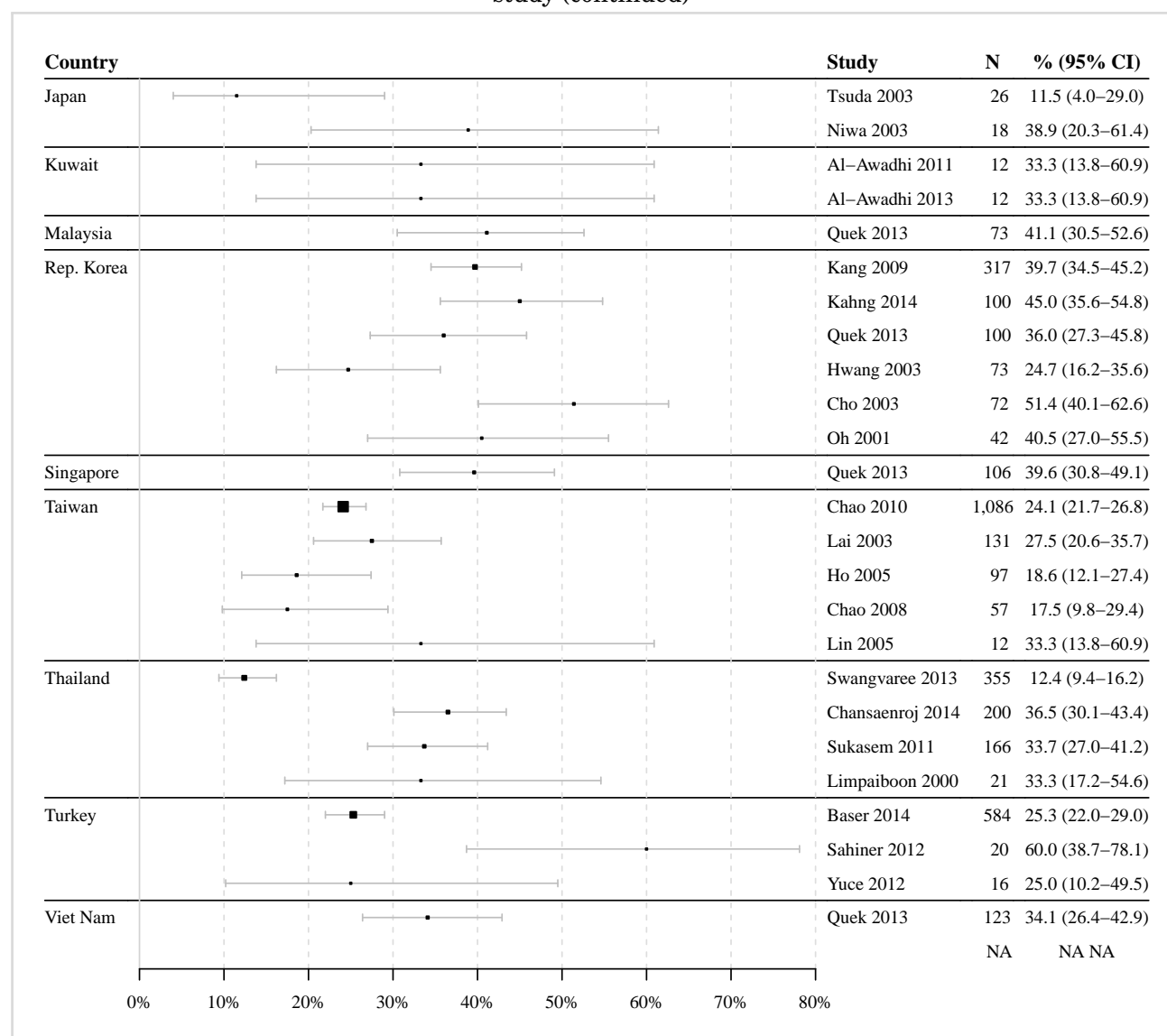
Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; High-grade lesions: CIN-2, CIN-3, CIS or HSIL; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

Data sources: See references in Section 9.

Figure 71: Prevalence of HPV 16 among women with high-grade cervical lesions in Asia by country and study (continued)



Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

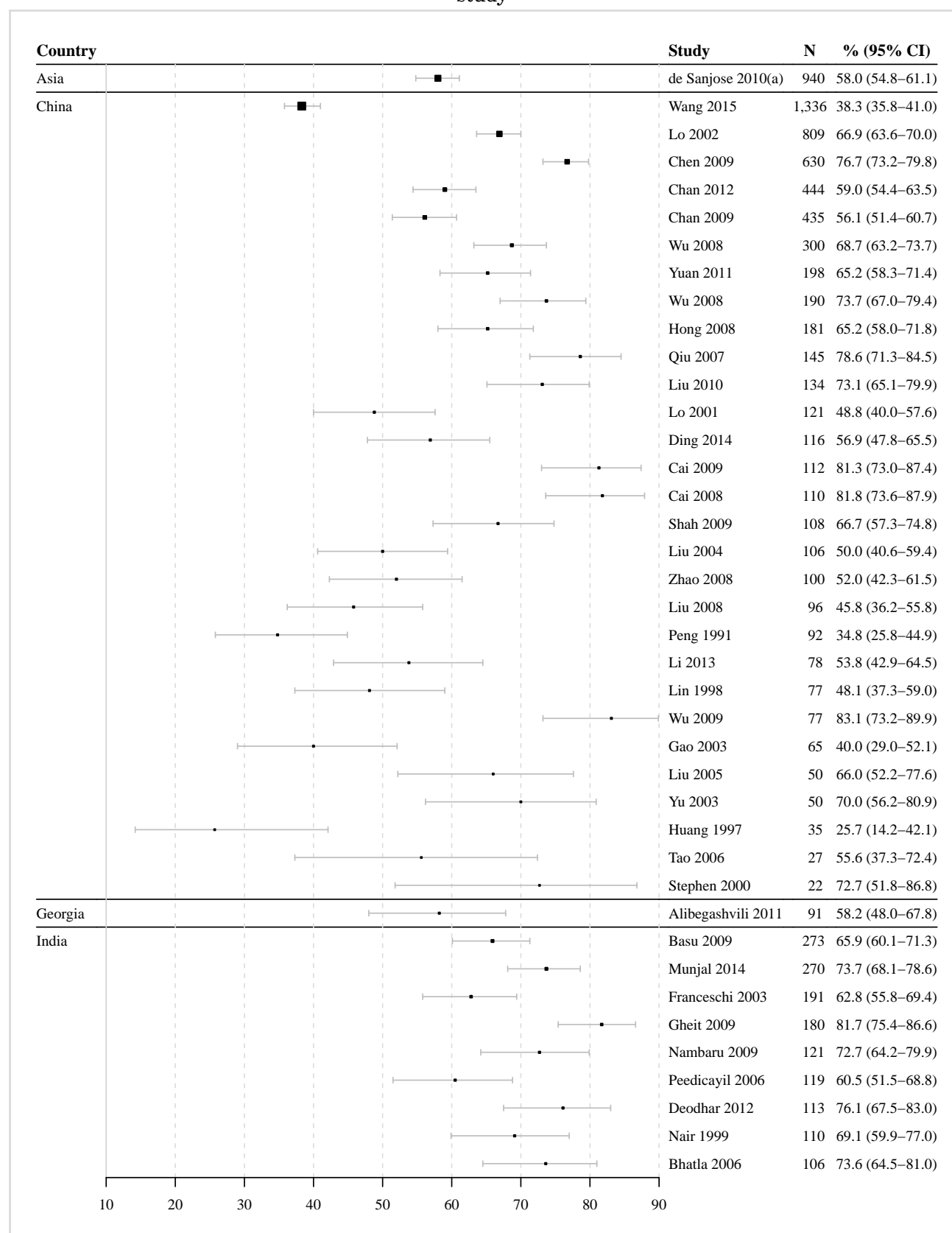
95% CI: 95% Confidence Interval; High-grade lesions: CIN-2, CIN-3, CIS or HSIL; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

^aIncludes lesions CIN2 or worse

Data sources: See references in Section 9.

Figure 72: Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study



(Continued on next page)

Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

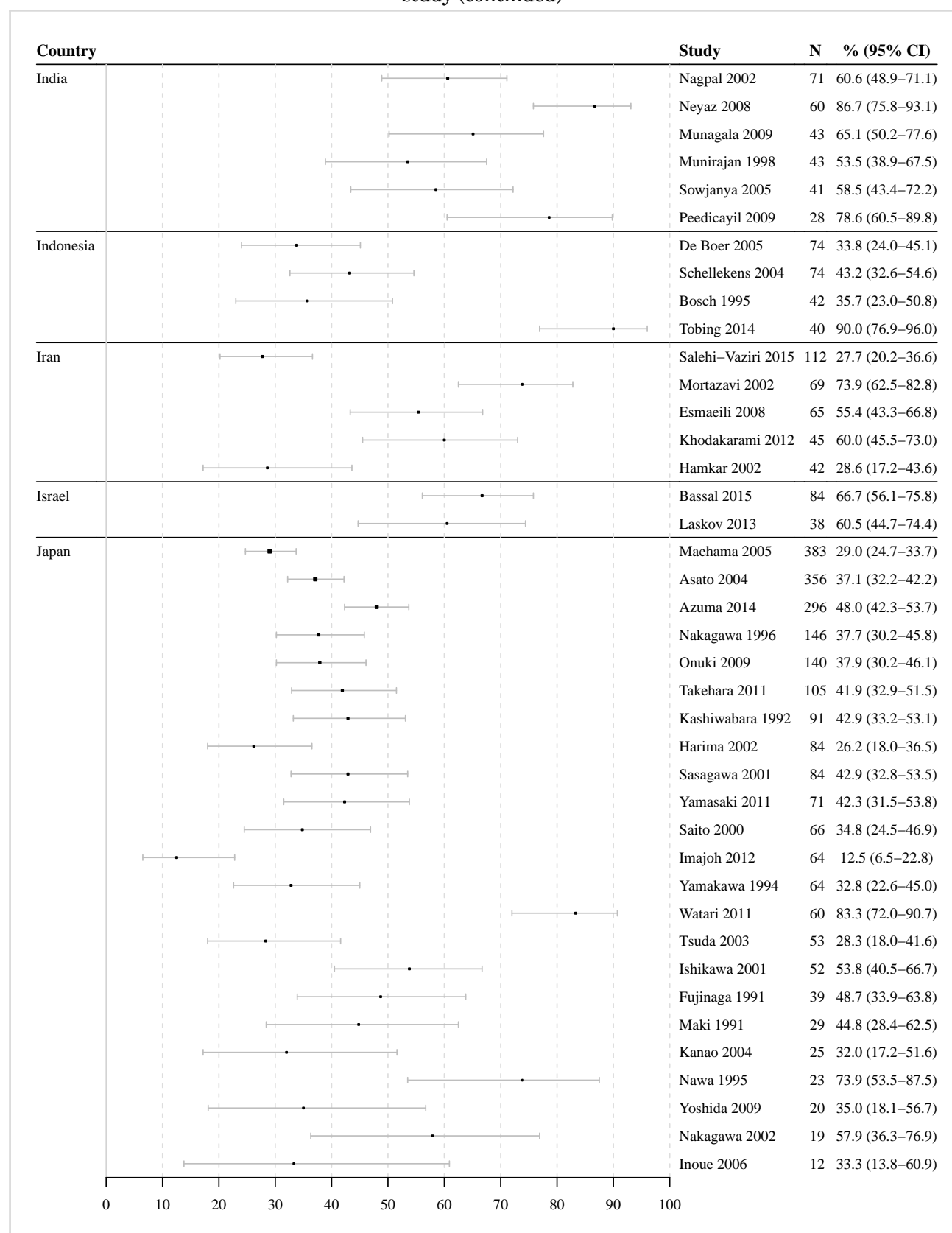
95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

^aIncludes cases from Bangladesh, India, Israel, Kuwait, Lebanon and Turkey

Data sources: See references in Section 9.

Figure 73: Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study (continued)



(Continued on next page)

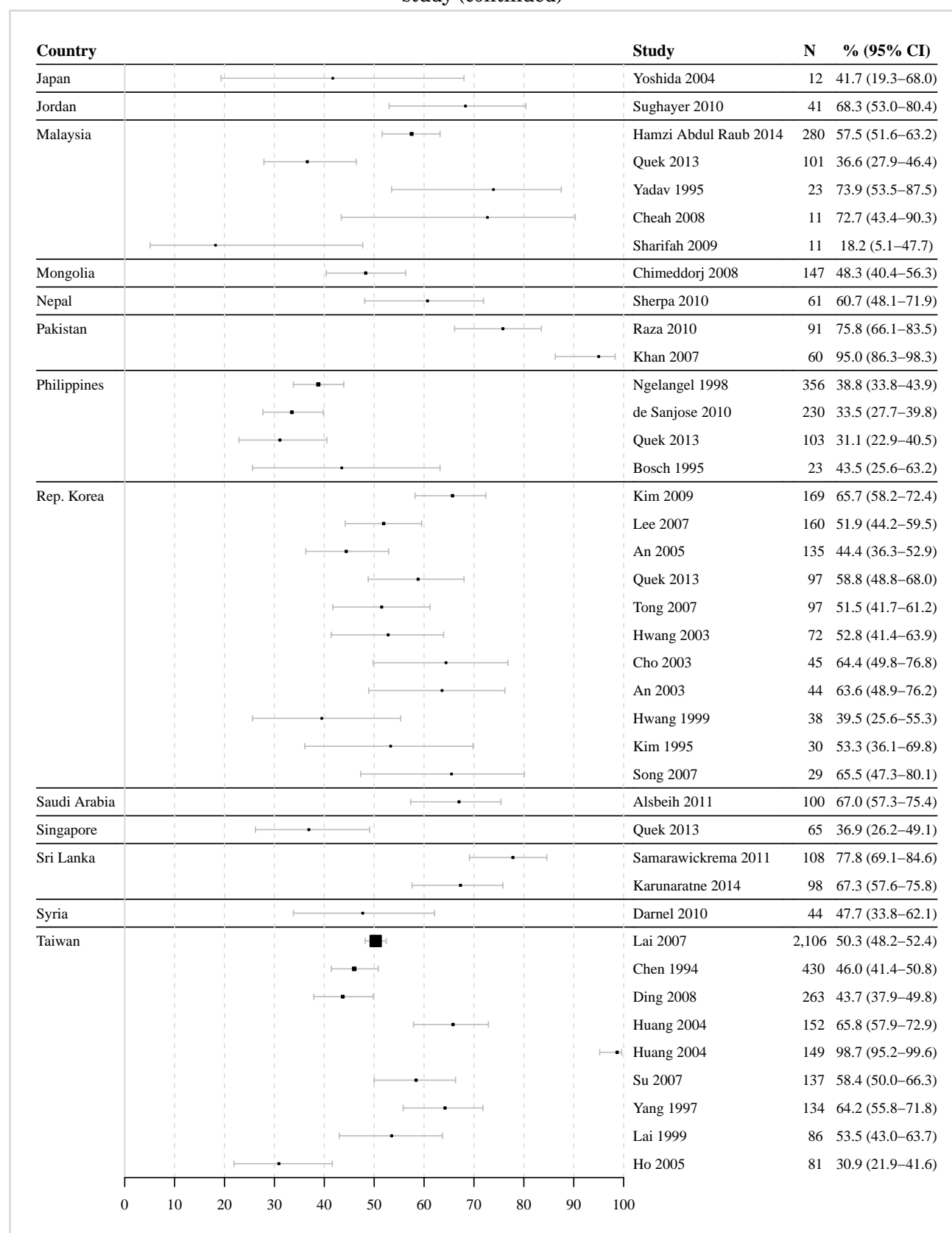
Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

Data sources: See references in Section 9.

Figure 74: Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study (continued)



(Continued on next page)

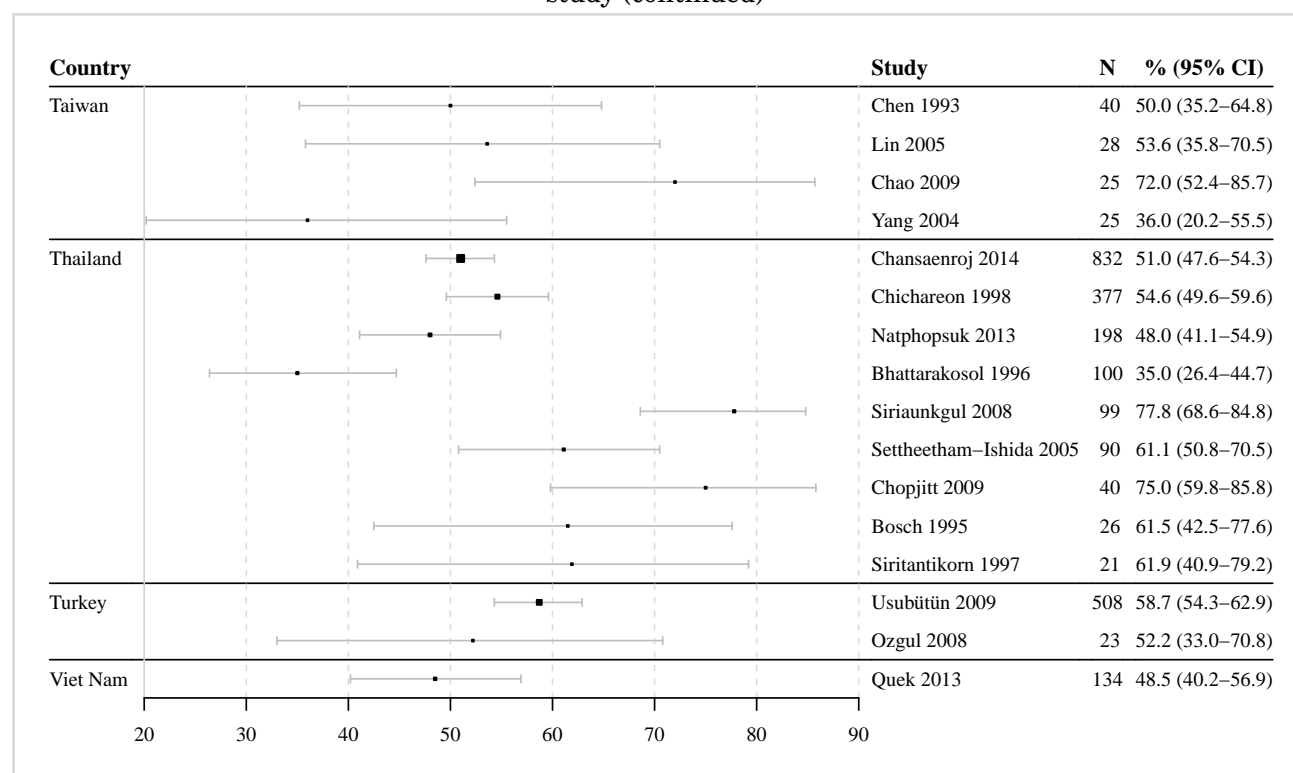
Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

Data sources: See references in Section 9.

Figure 75: Prevalence of HPV 16 among women with invasive cervical cancer in Asia by country and study (continued)



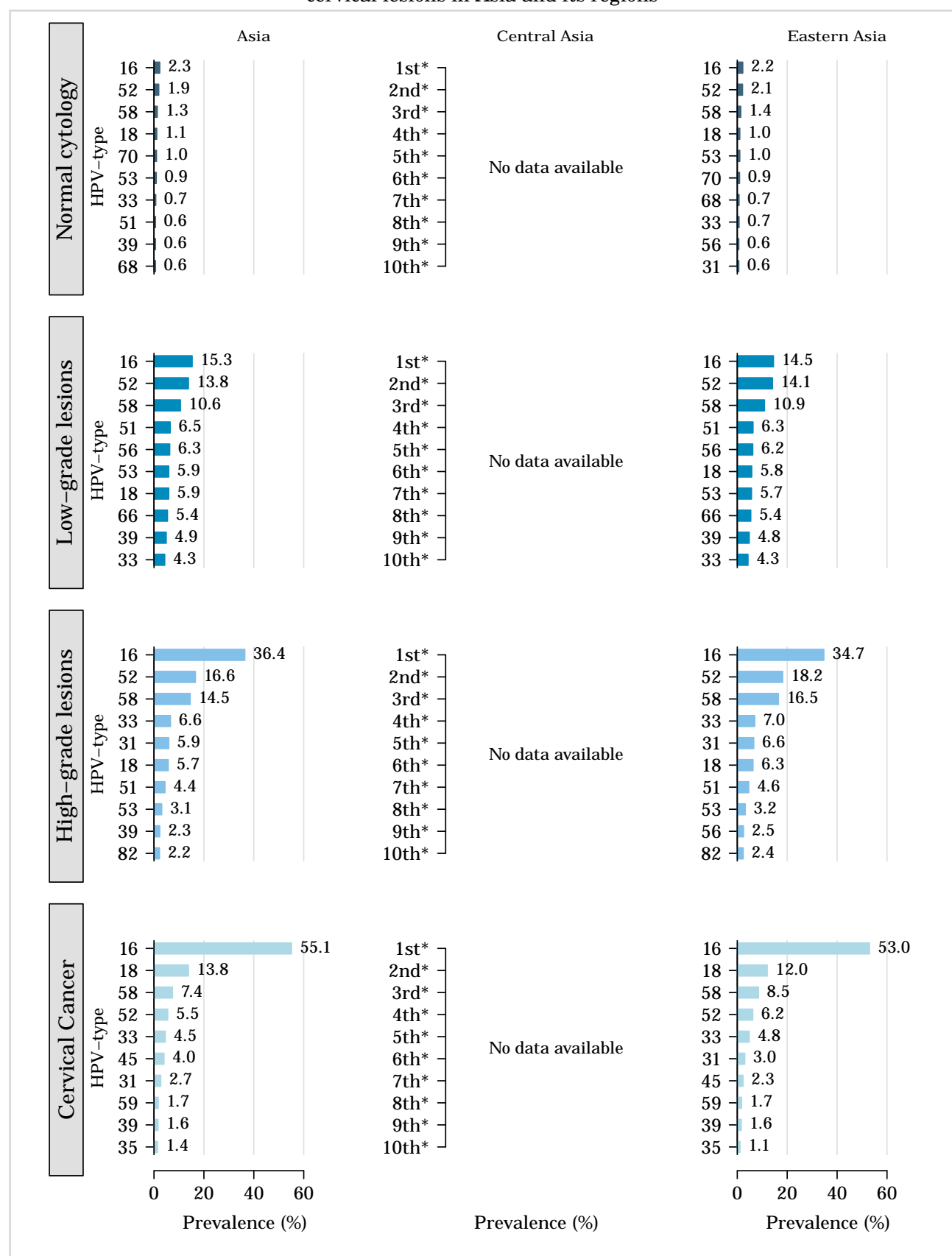
Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; N: number of women tested;

The samples for HPV testing come from cervical specimens (fresh/fixed biopsies or exfoliated cells). The line represents the 95% confidence interval and the shadowed square is proportional to the sample size.

Data sources: See references in Section 9.

Figure 76: Comparison of the ten most frequent HPV oncogenic types among women with and without cervical lesions in Asia and its regions



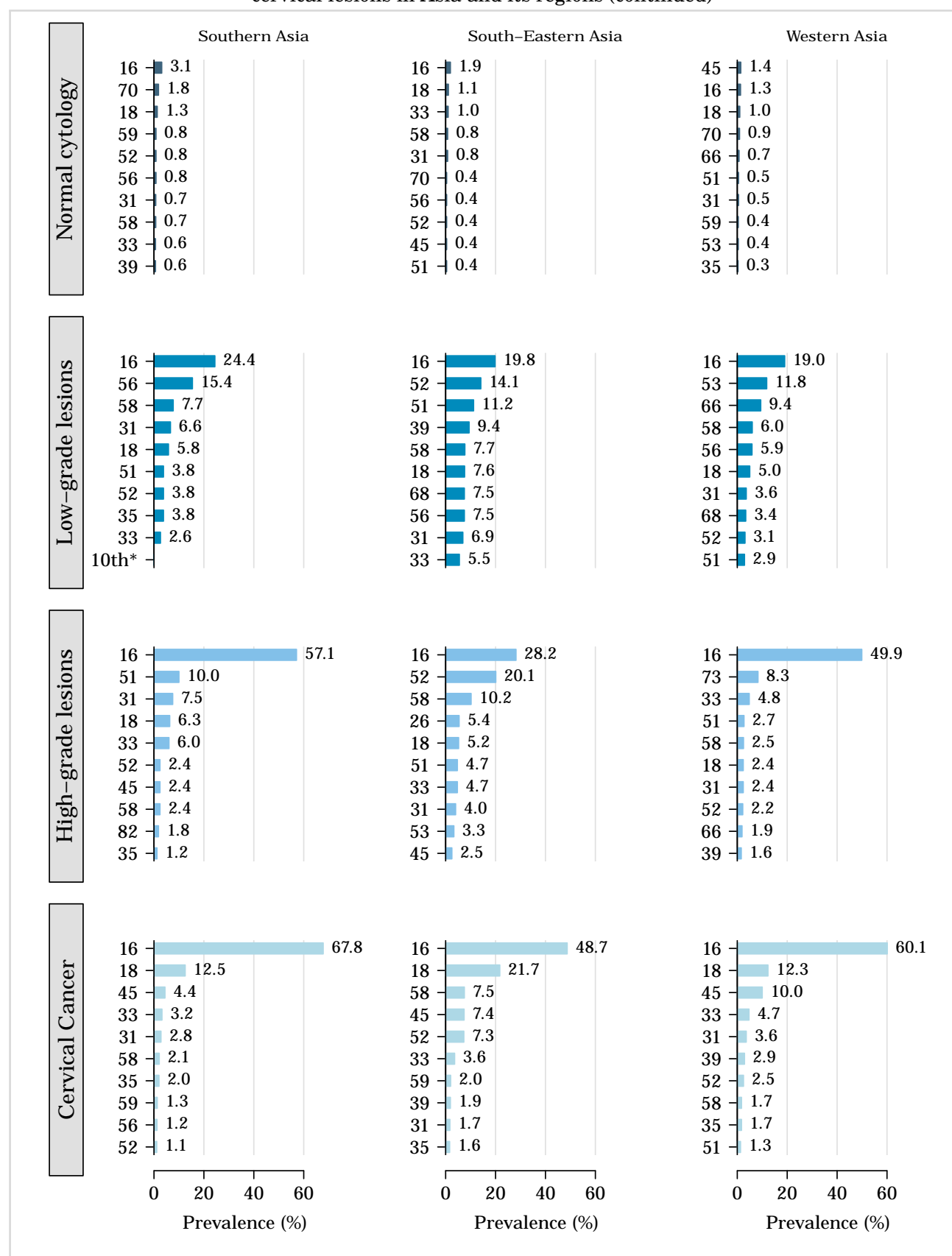
Data updated on 19 May 2017 (data as of 30 Jun 2015).

High-grade lesions: CIN-2, CIN-3, CIS or HSIL; Low-grade lesions: LSIL or CIN-1;

The samples for HPV testing come from cervical specimens (fresh / fixed biopsies or exfoliated cells).

Data sources: See references in Section 9.

Figure 77: Comparison of the ten most frequent HPV oncogenic types among women with and without cervical lesions in Asia and its regions (continued)



Data updated on 19 May 2017 (data as of 30 Jun 2015).

High-grade lesions: CIN-2, CIN-3, CIS or HSIL; Low-grade lesions: LSIL or CIN-1;

The samples for HPV testing come from cervical specimens (fresh / fixed biopsies or exfoliated cells).

Data sources: See references in Section 9.

Figure 78: Comparison of the ten most frequent HPV oncogenic types among women with invasive cervical cancer by histology in Asia and its regions

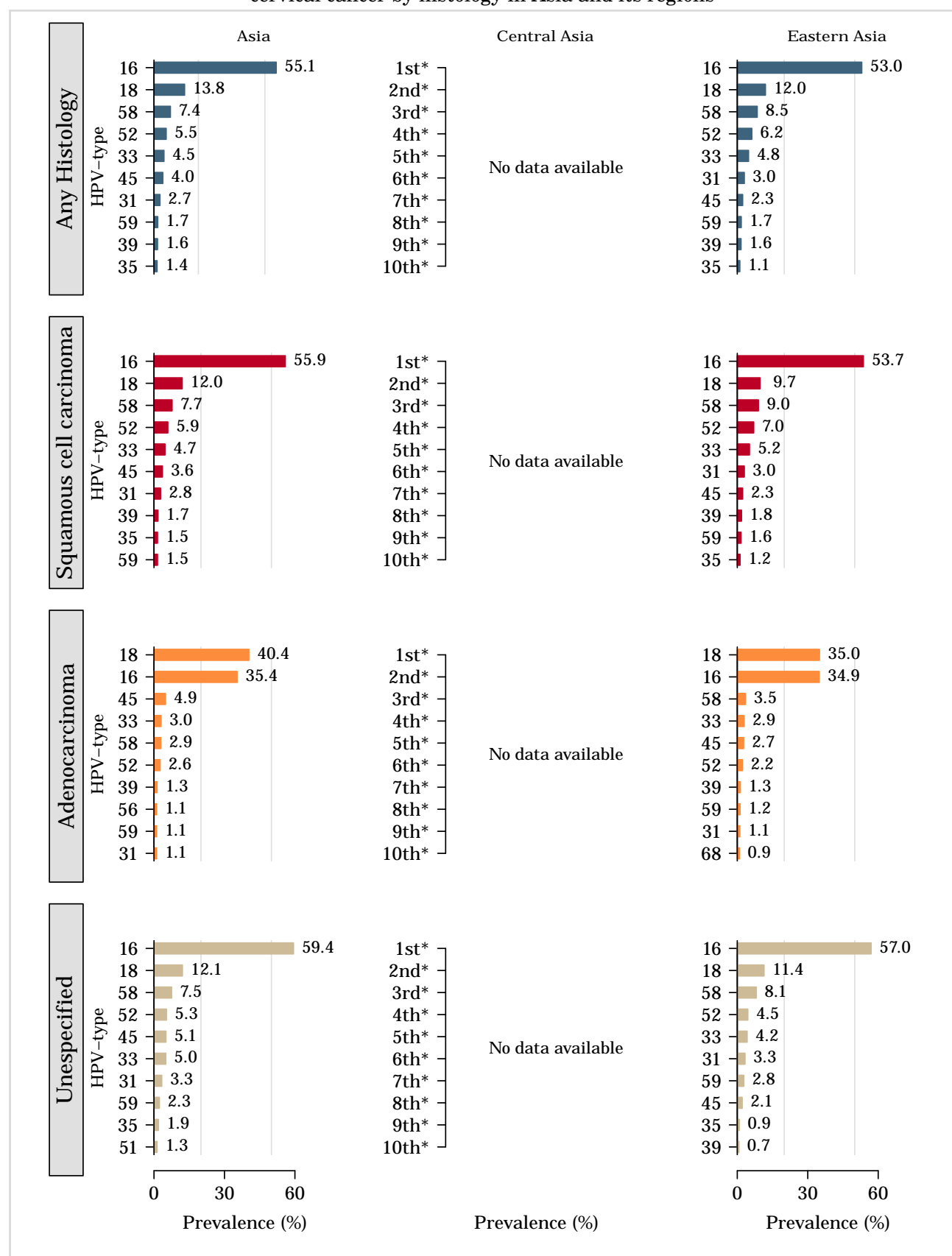
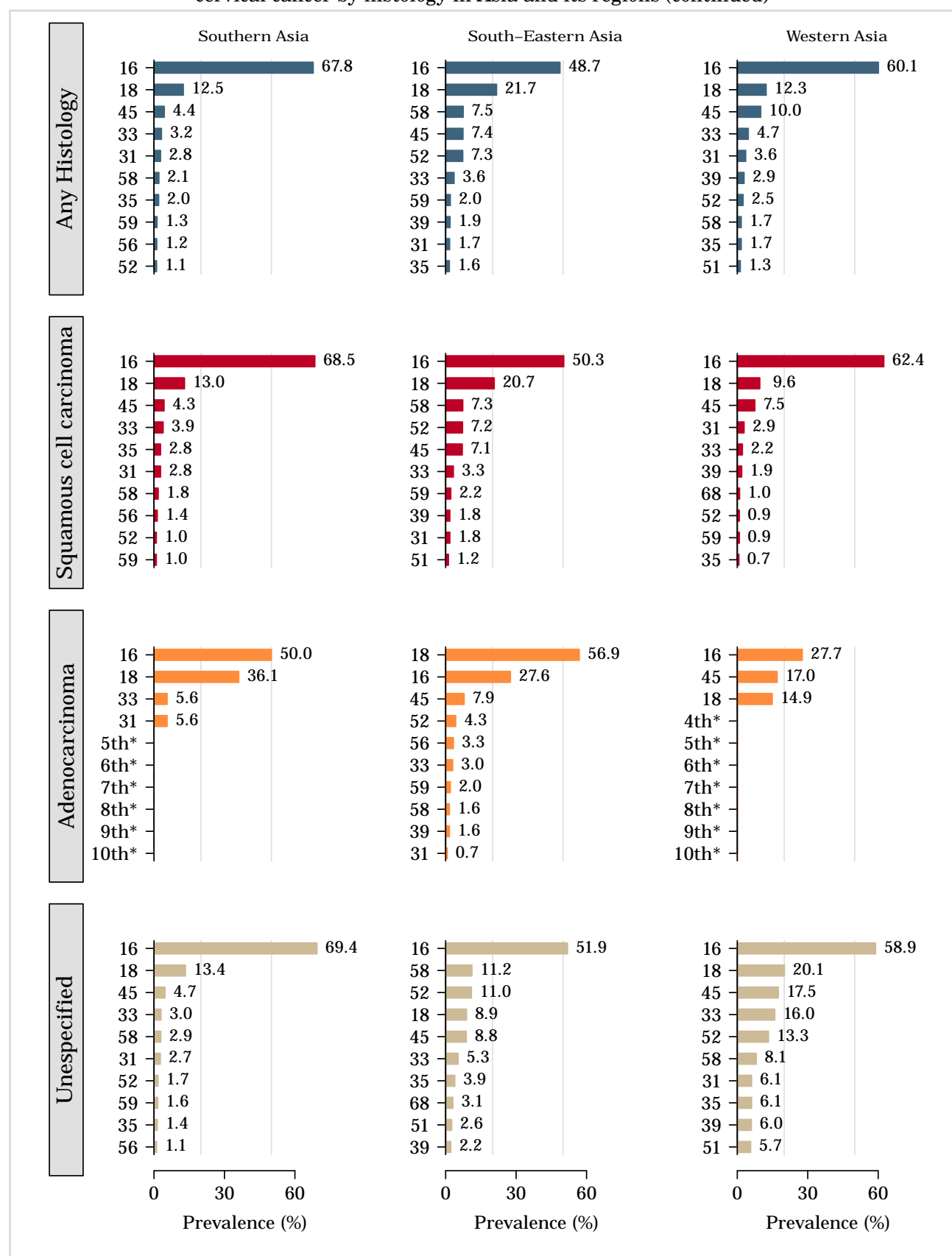


Figure 79: Comparison of the ten most frequent HPV oncogenic types among women with invasive cervical cancer by histology in Asia and its regions (continued)



*No data available. No more types than shown were tested or were positive.

Data updated on 19 May 2017 (data as of 30 Jun 2015).

The samples for HPV testing come from cervical specimens (fresh / fixed biopsies or exfoliated cells).

Data sources: See references in Section 9.

Table 14: Type-specific HPV prevalence in women with normal cervical cytology, precancerous cervical lesions and invasive cervical cancer in Asia

HPV Type	Normal cytology		Low-grade lesions		High-grade lesions		Cervical cancer	
	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)
ONCOGENIC HPV TYPES								
High-risk HPV types								
16	145,664	2.3 (2.2-2.3)	7,959	15.3 (14.5-16.1)	13,444	36.4 (35.6-37.3)	20,766	55.1 (54.4-55.7)
18	138,995	1.1 (1.0-1.1)	7,959	5.9 (5.4-6.5)	13,444	5.7 (5.4-6.1)	20,487	13.8 (13.4-14.3)
31	128,305	0.6 (0.6-0.6)	7,383	3.6 (3.2-4.0)	13,108	5.9 (5.5-6.3)	17,691	2.7 (2.5-3.0)
33	129,163	0.7 (0.7-0.7)	7,723	4.3 (3.8-4.7)	13,226	6.6 (6.1-7.0)	18,474	4.5 (4.2-4.8)
35	124,554	0.3 (0.3-0.3)	7,509	1.3 (1.0-1.5)	11,764	1.2 (1.0-1.4)	14,429	1.4 (1.2-1.6)
39	118,521	0.6 (0.6-0.7)	7,029	4.9 (4.4-5.4)	11,886	2.3 (2.0-2.6)	15,287	1.6 (1.4-1.8)
45	120,832	0.4 (0.3-0.4)	7,232	1.1 (0.8-1.3)	12,119	1.5 (1.3-1.8)	13,810	4.0 (3.6-4.3)
51	119,398	0.6 (0.6-0.7)	7,259	6.5 (5.9-7.0)	12,379	4.4 (4.1-4.8)	13,033	1.0 (0.8-1.2)
52	124,184	1.9 (1.8-2.0)	7,363	13.8 (13.0-14.6)	12,653	16.6 (15.9-17.2)	17,552	5.5 (5.2-5.9)
56	121,221	0.6 (0.6-0.6)	6,800	6.3 (5.7-6.9)	11,099	2.2 (1.9-2.5)	14,857	1.1 (0.9-1.2)
58	131,677	1.3 (1.2-1.3)	7,572	10.6 (9.9-11.3)	12,873	14.5 (13.9-15.1)	18,455	7.4 (7.0-7.8)
59	112,791	0.3 (0.3-0.4)	7,236	2.7 (2.3-3.0)	11,823	1.8 (1.5-2.0)	15,723	1.7 (1.5-1.9)
Probable/possible carcinogen								
26	50,936	0.1 (0.0-0.1)	2,942	1.1 (0.8-1.5)	6,483	1.1 (0.9-1.4)	9,437	0.2 (0.1-0.3)
30	18,873	0.2 (0.1-0.2)	1,358	0.5 (0.2-1.1)	897	0.6 (0.2-1.3)	3,411	0.3 (0.2-0.5)
34	39,912	0.1 (0.1-0.1)	2,899	0.4 (0.3-0.8)	4,589	0.1 (0.1-0.3)	6,292	0.2 (0.1-0.3)
53	99,272	0.9 (0.9-1.0)	5,331	5.9 (5.3-6.6)	9,984	3.1 (2.8-3.5)	10,324	0.4 (0.3-0.6)
66	114,531	0.5 (0.5-0.5)	6,483	5.4 (4.9-6.0)	10,905	1.9 (1.7-2.2)	11,837	0.4 (0.3-0.6)
67	52,468	0.2 (0.2-0.3)	2,502	0.8 (0.5-1.2)	5,122	0.9 (0.7-1.2)	7,244	0.4 (0.3-0.6)
68	112,114	0.6 (0.6-0.7)	6,435	3.7 (3.3-4.2)	11,165	2.0 (1.8-2.3)	12,525	0.8 (0.6-0.9)
69	50,570	0.2 (0.1-0.2)	2,609	0.3 (0.2-0.7)	6,535	0.4 (0.3-0.6)	4,633	0.1 (0.1-0.3)
70	65,734	1.0 (0.9-1.0)	3,846	0.9 (0.7-1.3)	7,701	0.9 (0.8-1.2)	10,278	0.4 (0.3-0.5)
73	39,237	0.1 (0.1-0.2)	2,451	0.8 (0.5-1.3)	5,412	0.7 (0.5-0.9)	9,120	0.3 (0.2-0.4)
82	60,152	0.1 (0.1-0.2)	2,803	1.1 (0.8-1.6)	7,307	2.2 (1.9-2.6)	9,491	0.2 (0.2-0.4)
85	30,111	0.1 (0.1-0.1)	1,842	0.3 (0.1-0.6)	3,285	0.0 (0.0-0.1)	-	-
97	-	-	-	-	-	-	270	0.0 (0.0-1.4)
NON-ONCOGENIC HPV TYPES								
6	186,394	1.0 (0.9-1.0)	5,371	2.9 (2.5-3.3)	11,183	1.1 (1.0-1.4)	13,305	0.3 (0.2-0.4)
11	182,467	0.6 (0.5-0.6)	5,336	2.8 (2.4-3.2)	11,129	2.0 (1.8-2.3)	12,694	0.4 (0.3-0.5)
32	42,977	0.1 (0.1-0.2)	71	0.0 (0.0-5.1)	-	-	1,790	0.1 (0.0-0.4)
40	41,863	0.3 (0.2-0.3)	1,509	0.9 (0.6-1.6)	3,515	0.2 (0.1-0.4)	6,649	0.0 (0.0-0.1)
42	173,428	0.3 (0.3-0.3)	2,062	2.1 (1.6-2.9)	5,034	0.7 (0.5-1.0)	7,804	0.3 (0.2-0.5)
43	163,886	0.2 (0.2-0.2)	783	0.9 (0.4-1.8)	2,531	0.0 (0.0-0.2)	6,012	0.0 (0.0-0.1)
44	171,760	0.2 (0.2-0.2)	1,868	1.8 (1.3-2.5)	4,794	1.5 (1.2-1.9)	6,999	0.1 (0.1-0.2)
54	66,525	0.4 (0.4-0.5)	1,827	2.4 (1.8-3.2)	4,055	2.0 (1.6-2.4)	7,190	0.2 (0.1-0.3)
55	-	-	-	-	-	-	-	-
57	16,021	0.0 (0.0-0.0)	223	0.9 (0.2-3.2)	1,100	0.6 (0.3-1.3)	2,686	0.0 (0.0-0.1)
61	52,911	0.2 (0.2-0.3)	1,526	2.0 (1.4-2.9)	2,474	2.2 (1.7-2.8)	7,366	0.6 (0.4-0.8)
62	34,229	0.4 (0.4-0.5)	1,056	6.6 (5.3-8.3)	1,911	3.8 (3.0-4.7)	3,050	0.4 (0.2-0.6)
64	-	-	-	-	-	-	-	-
71	47,750	0.2 (0.2-0.3)	1,211	0.7 (0.4-1.4)	2,518	0.8 (0.5-1.2)	3,596	0.1 (0.1-0.3)
72	53,039	0.4 (0.3-0.4)	1,117	0.4 (0.1-0.9)	1,973	0.4 (0.2-0.8)	4,125	0.1 (0.0-0.2)
74	31,406	0.3 (0.3-0.4)	278	0.7 (0.2-2.6)	460	0.0 (0.0-0.8)	3,517	0.1 (0.0-0.3)
81	145,551	0.7 (0.6-0.7)	1,432	5.1 (4.1-6.4)	2,552	2.5 (2.0-3.2)	3,948	0.2 (0.1-0.4)
83	51,553	0.1 (0.1-0.1)	1,208	0.8 (0.5-1.5)	2,999	0.4 (0.2-0.7)	3,755	0.0 (0.0-0.1)
84	53,975	0.4 (0.3-0.4)	1,208	2.4 (1.7-3.4)	2,999	1.3 (1.0-1.8)	3,378	0.1 (0.1-0.3)
86	14,160	0.1 (0.0-0.1)	-	-	-	-	-	-
87	-	-	71	0.0 (0.0-5.1)	-	-	-	-
89	22,871	0.2 (0.1-0.3)	840	1.0 (0.5-1.9)	1,589	1.1 (0.7-1.7)	3,448	0.1 (0.0-0.3)
90	18,836	0.7 (0.6-0.8)	71	2.8 (0.8-9.7)	-	-	1,490	0.1 (0.0-0.4)
91	4,896	0.2 (0.1-0.4)	71	0.0 (0.0-5.1)	-	-	2,509	0.0 (0.0-0.2)

Data updated on 19 May 2017 (data as of 30 Jun 2015 / 30 Jun 2015).

95% CI: 95% Confidence Interval; High-grade lesions: CIN-2, CIN-3, CIS or HSIL; Low-grade lesions: LSIL or CIN-1;

The samples for HPV testing come from cervical specimens (fresh / fixed biopsies or exfoliated cells).

Data sources: See references in Section 9.

Table 15: Type-specific HPV prevalence among invasive cervical cancer cases in Asia by histology

HPV Type	Any Histology		Squamous cell carcinoma		Adenocarcinoma		Unspecified	
	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)	No. tested	HPV Prev % (95% CI)
ONCOGENIC HPV TYPES								
High-risk HPV types								
16	20,766	55.1 (54.4-55.7)	14,450	55.9 (55.1-56.7)	1,496	35.4 (33.0-37.9)	5,280	59.4 (58.0-60.7)
18	20,487	13.8 (13.4-14.3)	14,171	12.0 (11.5-12.6)	1,496	40.4 (37.9-42.9)	5,280	12.1 (11.3-13.0)
31	17,691	2.7 (2.5-3.0)	12,459	2.8 (2.5-3.1)	1,202	1.1 (0.6-1.8)	4,490	3.3 (2.8-3.8)
33	18,474	4.5 (4.2-4.8)	12,940	4.7 (4.3-5.1)	1,368	3.0 (2.2-4.0)	4,626	5.0 (4.4-5.6)
35	14,429	1.4 (1.2-1.6)	9,758	1.5 (1.3-1.7)	1,124	0.5 (0.2-1.2)	3,729	1.9 (1.5-2.3)
39	15,287	1.6 (1.4-1.8)	11,338	1.7 (1.5-2.0)	1,090	1.3 (0.8-2.1)	2,997	1.2 (0.9-1.7)
45	13,810	4.0 (3.6-4.3)	9,785	3.6 (3.3-4.0)	1,195	4.9 (3.8-6.2)	3,290	5.1 (4.4-5.9)
51	13,033	1.0 (0.8-1.2)	9,256	1.0 (0.8-1.2)	1,060	0.4 (0.1-1.0)	2,899	1.3 (0.9-1.8)
52	17,552	5.5 (5.2-5.9)	12,855	5.9 (5.5-6.3)	1,315	2.6 (1.9-3.6)	3,842	5.3 (4.6-6.0)
56	14,857	1.1 (0.9-1.2)	10,956	1.2 (1.0-1.4)	1,225	1.1 (0.7-1.9)	3,092	0.7 (0.5-1.1)
58	18,455	7.4 (7.0-7.8)	13,007	7.7 (7.2-8.2)	1,315	2.9 (2.1-3.9)	4,593	7.5 (6.8-8.3)
59	15,723	1.7 (1.5-1.9)	11,753	1.5 (1.3-1.8)	1,225	1.1 (0.6-1.8)	3,161	2.3 (1.9-2.9)
Probable/possible carcinogen								
26	9,437	0.2 (0.1-0.3)	-	-	-	-	-	-
30	3,411	0.3 (0.2-0.5)	2,352	0.4 (0.2-0.7)	228	0.0 (0.0-1.7)	892	0.1 (0.0-0.6)
34	6,292	0.2 (0.1-0.3)	4,459	0.2 (0.1-0.3)	603	0.2 (0.0-0.9)	1,365	0.1 (0.0-0.5)
53	10,324	0.4 (0.3-0.6)	-	-	-	-	-	-
66	11,837	0.4 (0.3-0.6)	8,667	0.4 (0.3-0.6)	1,007	0.2 (0.1-0.7)	2,301	0.4 (0.2-0.7)
67	7,244	0.4 (0.3-0.6)	5,459	0.4 (0.3-0.7)	575	0.2 (0.0-1.0)	1,664	0.2 (0.1-0.6)
68	12,525	0.8 (0.6-0.9)	8,582	0.7 (0.5-0.9)	1,112	0.6 (0.3-1.3)	2,969	1.0 (0.7-1.4)
69	4,633	0.1 (0.1-0.3)	-	-	-	-	-	-
70	10,278	0.4 (0.3-0.5)	-	-	-	-	-	-
73	9,120	0.3 (0.2-0.4)	-	-	-	-	-	-
82	9,491	0.2 (0.2-0.4)	6,970	0.2 (0.2-0.4)	724	0.0 (0.0-0.5)	1,861	0.3 (0.1-0.7)
97	270	0.0 (0.0-1.4)	270	0.0 (0.0-1.4)	-	-	-	-
NON-ONCOGENIC HPV TYPES								
6	13,305	0.3 (0.2-0.4)	-	-	-	-	-	-
11	12,694	0.4 (0.3-0.5)	-	-	-	-	-	-
32	1,790	0.1 (0.0-0.4)	-	-	-	-	-	-
40	6,649	0.0 (0.0-0.1)	-	-	-	-	-	-
42	7,804	0.3 (0.2-0.5)	5,675	0.3 (0.2-0.5)	668	0.1 (0.0-0.8)	1,596	0.4 (0.2-0.8)
43	6,012	0.0 (0.0-0.1)	-	-	-	-	-	-
44	6,999	0.1 (0.1-0.2)	5,118	0.1 (0.1-0.3)	647	0.0 (0.0-0.6)	1,257	0.2 (0.0-0.6)
54	7,190	0.2 (0.1-0.3)	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-
57	2,686	0.0 (0.0-0.1)	-	-	-	-	-	-
61	7,366	0.6 (0.4-0.8)	-	-	-	-	-	-
62	3,050	0.4 (0.2-0.6)	-	-	-	-	-	-
64	-	-	-	-	-	-	-	-
71	3,596	0.1 (0.1-0.3)	-	-	-	-	-	-
72	4,125	0.1 (0.0-0.2)	-	-	-	-	-	-
74	3,517	0.1 (0.0-0.3)	-	-	-	-	-	-
81	3,948	0.2 (0.1-0.4)	-	-	-	-	-	-
83	3,755	0.0 (0.0-0.1)	-	-	-	-	-	-
84	3,378	0.1 (0.1-0.3)	-	-	-	-	-	-
89	3,448	0.1 (0.0-0.3)	-	-	-	-	-	-
90	1,490	0.1 (0.0-0.4)	-	-	-	-	-	-
91	2,509	0.0 (0.0-0.2)	-	-	-	-	-	-

Data updated on 19 May 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval;

The samples for HPV testing come from cervical specimens (fresh / fixed biopsies or exfoliated cells).

Data sources: See references in Section 9.

4.1.3 HPV type distribution among HIV+ women with normal cervical cytology

Table 16: Asian studies on HPV prevalence among HIV women with normal cytology

Country	Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence	
				%	(95% CI)
Israel	Leibenson 2011	PCR-, sequencing	67	49.3	(36.8-61.8)

Data updated on 31 Jul 2013 (data as of 31 Dec 2011). Only for European countries.

95% CI: 95% Confidence Interval;

PCR: Polymerase Chain Reaction;

Data sources: See references in Section 9.

4.1.4 Terminology

Cytologically normal women

No abnormal cells are observed on the surface of their cervix upon cytology.

Cervical Intraepithelial Neoplasia (CIN) / Squamous Intraepithelial Lesions (SIL)

SIL and CIN are two commonly used terms to describe precancerous lesions or the abnormal growth of squamous cells observed in the cervix. SIL is an abnormal result derived from cervical cytological screening or Pap smear testing. CIN is a histological diagnosis made upon analysis of cervical tissue obtained by biopsy or surgical excision. The condition is graded as CIN 1, 2 or 3, according to the thickness of the abnormal epithelium (1/3, 2/3 or the entire thickness).

Low-grade cervical lesions (LSIL/CIN-1)

Low-grade cervical lesions are defined by early changes in size, shape, and number of abnormal cells formed on the surface of the cervix and may be referred to as mild dysplasia, LSIL, or CIN-1.

High-grade cervical lesions (HSIL/ CIN-2 / CIN-3 / CIS)

High-grade cervical lesions are defined by a large number of precancerous cells on the surface of the cervix that are distinctly different from normal cells. They have the potential to become cancerous cells and invade deeper tissues of the cervix. These lesions may be referred to as moderate or severe dysplasia, HSIL, CIN-2, CIN-3 or cervical carcinoma in situ (CIS).

Carcinoma in situ (CIS)

Preinvasive malignancy limited to the epithelium without invasion of the basement membrane. CIN 3 encompasses the squamous carcinoma in situ.

Invasive cervical cancer (ICC) / Cervical cancer

If the high-grade precancerous cells invade the basement membrane is called ICC. ICC stages range from stage I (cancer is in the cervix or uterus only) to stage IV (the cancer has spread to distant organs, such as the liver).

Invasive squamous cell carcinoma

Invasive carcinoma composed of cells resembling those of squamous epithelium.

Adenocarcinoma

Invasive tumour with glandular and squamous elements intermingled.

4.2 HPV burden in anogenital cancers other than the cervix

Methods: Prevalence and type distribution of human papillomavirus in carcinoma of the vulva, vagina, anus and penis: systematic review and meta-analysis

A systematic review of the literature was conducted on the worldwide HPV-prevalence and type distribution for anogenital carcinomas other than cervix from January 1986 to 'data as of' indicated in each section. The search terms for the review were 'HPV' AND (anus OR anal) OR (penile) OR vagin* OR vulv* using Pubmed. There were no limits in publication language. References cited in selected articles were also investigated. Inclusion criteria were: HPV DNA detection by means of PCR, a minimum of 10 cases by lesion and a detailed description of HPV DNA detection and genotyping techniques used. The number of cases tested and HPV positive cases were extracted for each study to estimate the prevalence of HPV DNA and the HPV type distribution. Binomial 95% confidence intervals were calculated for each HPV prevalence.

4.2.1 Anal cancer and precancerous anal lesions

Anal cancer is similar to cervical cancer with respect to overall HPV DNA positivity, with approximately 88% of cases associated with HPV infection worldwide (*de Martel C et al. Lancet Oncol 2012;13(6):607-15*). HPV16 is the most common type detected, representing 73% of all HPV-positive tumours. HPV18 is the second most common type detected and is found in approximately 5% of cases. HPV DNA is also detected in the majority of precancerous anal lesions (AIN) (91.5% in AIN1 and 93.9% in AIN2/3) (De Vuyst H et al. *Int J Cancer* 2009; 124: 1626-36). In this section, the HPV prevalence among anal cancer cases and precancerous anal lesions in Asia are presented.

Table 17: Asian studies on HPV prevalence among anal cancer cases (male and female)

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV types (%)
			%	(95% CI)	
Alemaný 2015 ^a (Asia)	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	52	80.8	(68.1-89.2)	HPV 16 (67.3%) HPV 16 (67.3%) HPV 16 (67.3%) HPV 16 (67.3%) HPV 18 (3.8%) HPV 18 (3.8%) HPV 18 (3.8%) HPV 18 (3.8%) HPV 35 (3.8%) HPV 35 (3.8%)
Yhim 2011 (Rep. Korea)	PCR, TS (HPV 6, 11, 16, 18, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 56, 58, 59, 66, 68, 69)	47	74.5	(60.5-84.7)	HPV 16 (66.0%) HPV 58 (6.4%) HPV 35 (2.1%)
Youk 2001 (Rep. Korea)	PCR-MY09/11, PCR-L1C1/C2, PCR-E6, PCR-E7, TS (HPV 16, 18)	21	100.0	(84.5-100.0)	HPV 16 (100.0%)

Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval;

EIA: Enzyme ImmunoAssay; PCR: Polymerase Chain Reaction; SPF: Short Primer Fragment; TS: Type Specific;

^a Includes cases from Bangladesh, India and South Korea

Data sources: See references in Section 9.

Table 18: Asian studies on HPV prevalence among AIN 2/3 cases (male and female)

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV types (%)
			%	(95% CI)	
Phanuphak 2013 (Thailand)	PCR L1-Consensus primer, PCR-E6, PCR-E7, LBA (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 81, 82, 83, 84)	41	82.9	(68.7-91.5)	HPV 40 (51.2%) HPV 53 (26.8%) HPV 16 (24.4%) HPV 11 (19.5%) HPV 58 (17.1%)

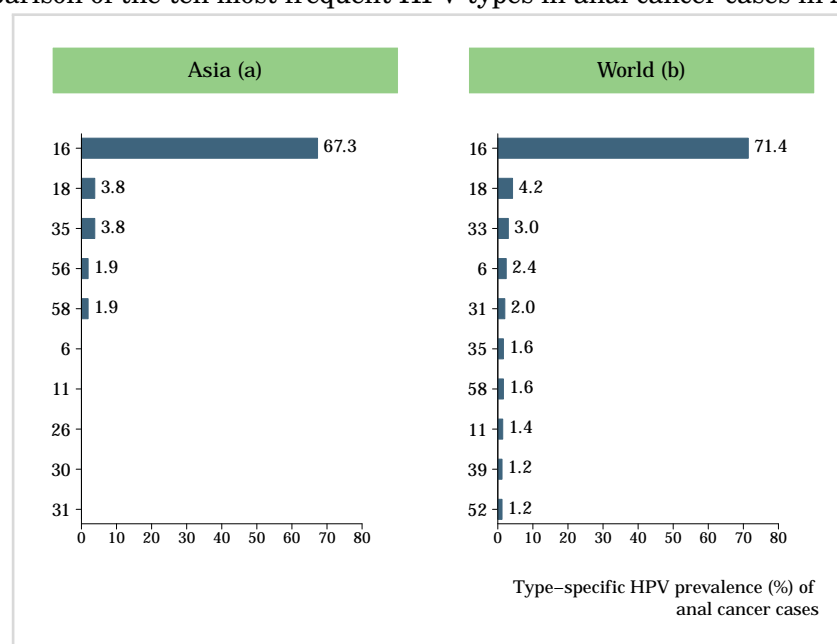
Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; AIN 2/3: Anal intraepithelial neoplasia of grade 2/3;

LBA: Line-Blot Assay; PCR: Polymerase Chain Reaction;

Data sources: See references in Section 9.

Figure 80: Comparison of the ten most frequent HPV types in anal cancer cases in Asia and the World



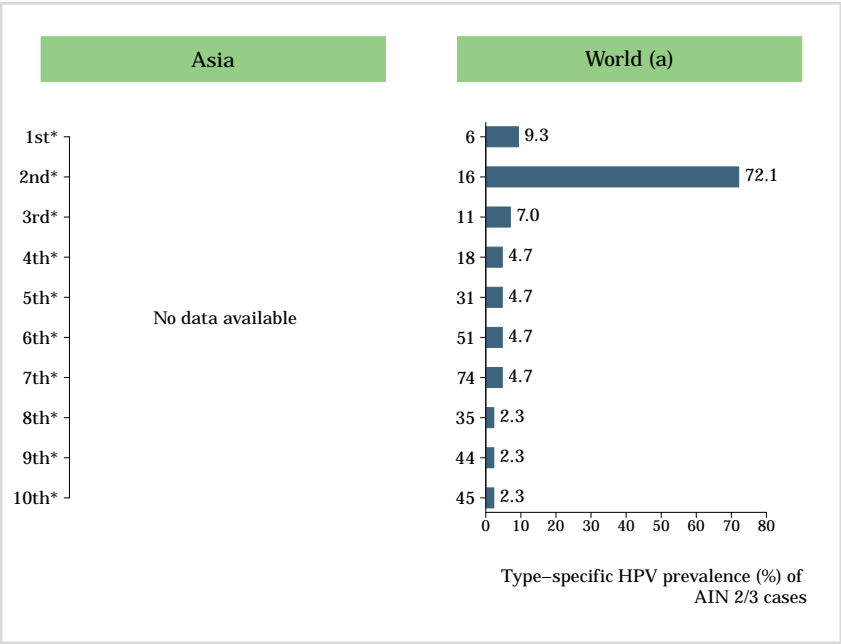
Data updated on 09 Feb 2017 (data as of 30 Jun 2014).

^aIncludes cases from Bangladesh, India and South Korea

^bIncludes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay and United States); Africa (Mali, Nigeria and Senegal); Asia (Bangladesh, India and South Korea)

Data sources: See references in Section 9.

Figure 81: Comparison of the ten most frequent HPV types in AIN 2/3 cases in Asia and the World



*No data available. No more types than shown were tested or were positive.
Data updated on 09 Feb 2017 (data as of 30 Jun 2014).
AIN 2/3: Anal intraepithelial neoplasia of grade 2/3;
^aIncludes cases from Europe (Bosnia-Herzegovina, Czech Republic, France, Germany, Poland, Portugal, Slovenia, Spain and United Kingdom); America (Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay)
Data sources: See references in Section 9.

4.2.2 Vulvar cancer and precancerous vulvar lesions

HPV attribution for vulvar cancer is 43% worldwide (*de Martel C et al. Lancet Oncol 2012;13(6):607-15*). Vulvar cancer has two distinct histological patterns with two different risk factor profiles: (1) basaloid/warty types (2) keratinising types. Basaloid/warty lesions are more common in young women, are frequently found adjacent to VIN, are very often associated with HPV DNA detection (86%), and have a similar risk factor profile as cervical cancer. Keratinising vulvar carcinomas represent the majority of the vulvar lesions (>60%). These lesions develop from non HPV-related chronic vulvar dermatoses, especially lichen sclerosus and/or squamous hyperplasia, their immediate cancer precursor lesion is differentiated VIN, they occur more often in older women, and are rarely associated with HPV (6%) or with any of the other risk factors typical of cervical cancer. HPV prevalence is frequently detected among cases of high-grade VIN (VIN2/3) (85.3%). HPV 16 is the most common type detected followed by HPV 33 (De Vuyst H et al. *Int J Cancer* 2009; 124:1626-36). In this section, the HPV prevalence among vulvar cancer cases and precancerous vulvar lesions in Asia are presented.

Table 19: Asian studies on HPV prevalence among vulvar cancer cases

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV types (%)
			%	(95% CI)	
de Sanjosé 2013 ^a (Asia)	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	188	28.7	(22.7-35.6)	HPV 16 (18.1%) HPV 18 (1.6%) HPV 44 (1.6%) HPV 45 (1.1%) HPV 52 (1.1%)
Nagano 1996 (Japan)	PCR-L1C1/C2, RFLP (HPV 6, 11, 16, 18, 30, 31, 33, 34, 35, 39, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 68, 70)	11	72.7	(43.4-90.3)	HPV 16 (36.4%) HPV 6 (9.1%) HPV 18 (9.1%) HPV 51 (9.1%) HPV 56 (9.1%)
Osakabe 2007 (Japan)	PCR-L1C1/C2, RFLP (HPV 6, 11, 16, 18, 31, 33, 42, 52, 58)	21	23.8	(10.6-45.1)	HPV 16 (14.3%) HPV 6 (4.8%) HPV 52 (4.8%)
Ngamkham 2013 (Thailand)	EIA (HPV 6, 11, 16, 18, 26, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 66, 68, 70, 71, 72, 73, 81, 82, 83, 84, 89)	25	44.0	(26.7-62.9)	HPV 16 (36.0%) HPV 33 (8.0%) HPV 35 (8.0%) HPV 18 (4.0%) HPV 58 (4.0%)

Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval;

EIA: Enzyme ImmunoAssay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; SPF: Short Primer Fragment;

^aIncludes cases from Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey

Data sources: See references in Section 9.

Table 20: Asian studies on HPV prevalence among VIN 2/3 cases

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV types (%)
			%	(95% CI)	
de Sanjosé 2013 (Asia)	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 91)	20	100.0	(83.9-100.0)	HPV 16 (80.0%) HPV 6 (5.0%) HPV 18 (5.0%) HPV 33 (5.0%) HPV 35 (5.0%)

Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

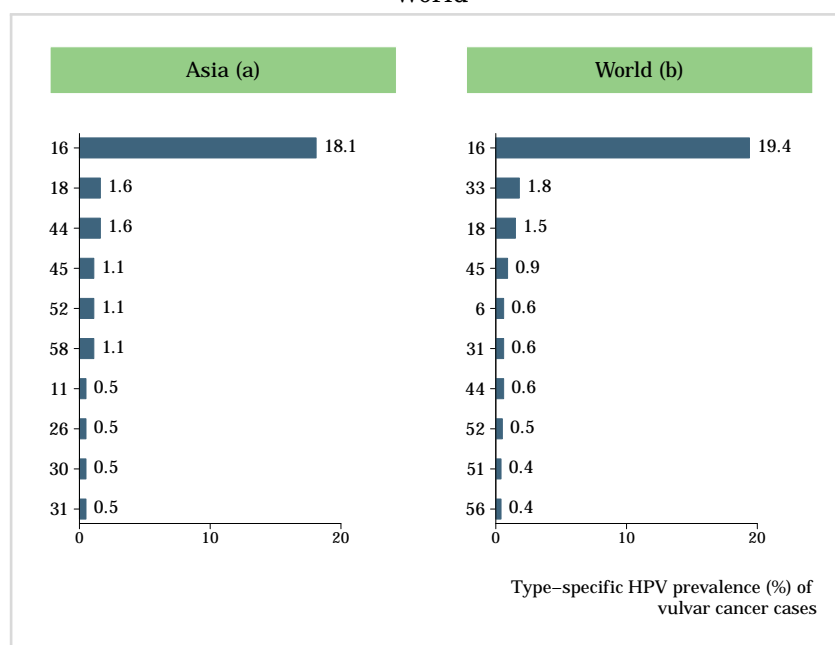
95% CI: 95% Confidence Interval; VIN 2/3: Vulvar intraepithelial neoplasia of grade 2/3;

EIA: Enzyme ImmunoAssay; PCR: Polymerase Chain Reaction; SPF: Short Primer Fragment;

^aIncludes cases from Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey

Data sources: See references in Section 9.

Figure 82: Comparison of the ten most frequent HPV types in cases of vulvar cancer in Asia and the World



Data updated on 09 Feb 2017 (data as of 30 Jun 2014).

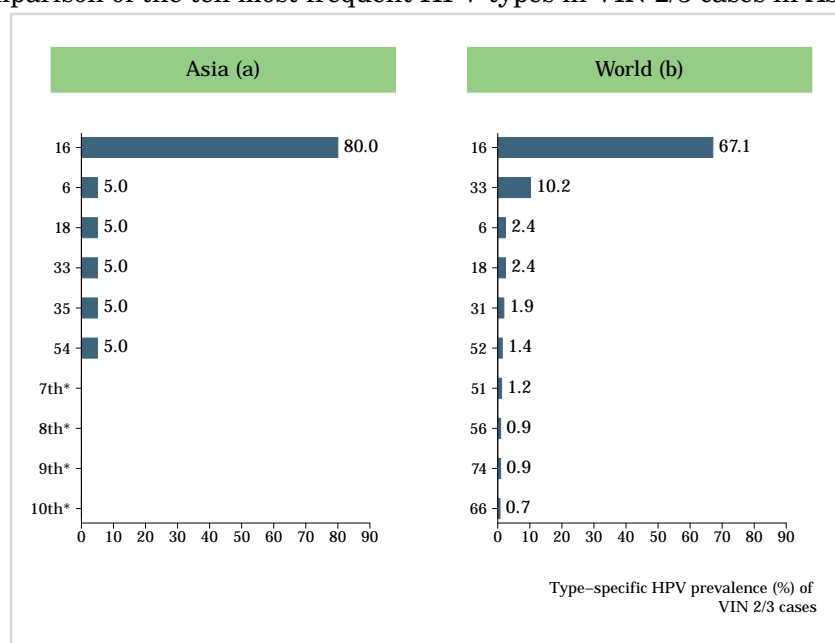
VIN 2/3: Vulvar intraepithelial neoplasia of grade 2/3;

^a Includes cases from Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey.

^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay, United States of America and Venezuela); Africa (Mali, Mozambique, Nigeria, and Senegal); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)

Data sources: See references in Section 9.

Figure 83: Comparison of the ten most frequent HPV types in VIN 2/3 cases in Asia and the World



*No data available. No more types than shown were tested or were positive.

Data updated on 09 Feb 2017 (data as of 30 Jun 2014).

VIN 2/3: Vulvar intraepithelial neoplasia of grade 2/3;

^a Includes cases from Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey.

^b Includes cases from America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Uruguay and Venezuela); Oceania (Australia and New Zealand); Europe (Austria, Belarus, Bosnia-Herzegovina, Czech Republic, France, Germany, Greece, Italy, Poland, Portugal, Spain and United Kingdom); and in Asia (Bangladesh, India, Israel, South Korea, Kuwait, Lebanon, Philippines, Taiwan and Turkey)

Data sources: See references in Section 9.

4.2.3 Vaginal cancer and precancerous vaginal lesions

Vaginal and cervical cancers share similar risk factors and it is generally accepted that both carcinomas share the same aetiology of HPV infection although there is limited evidence available. Women with vaginal cancer are more likely to have a history of other anogenital cancers, particularly of the cervix, and these two carcinomas are frequently diagnosed simultaneously. HPV DNA is detected among 70% of invasive vaginal carcinomas and 91% of high-grade vaginal neoplasias (VaIN2/3). HPV16 is the most common type in high-grade vaginal neoplasias and it is detected in at least 70% of HPV-positive carcinomas (*de Martel C et al. Lancet Oncol 2012;13(6):607-15; De Vuyst H et al. Int J Cancer 2009; 124: 1626-36*). In this section, the HPV prevalence among vaginal cancer cases and precancerous vaginal lesions in Asia are presented.

Table 21: Asian studies on HPV prevalence among vaginal cancer cases

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV types (%)
			%	(95% CI)	
Alemaný 2014 (Asia-Pacific)	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82)	46	71.7	(57.5-82.7)	HPV 16 (41.3%) HPV 33 (4.3%) HPV 68 (4.3%) HPV 18 (2.2%) HPV 26 (2.2%)

Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval;

EIA: Enzyme ImmunoAssay; PCR: Polymerase Chain Reaction; SPF: Short Primer Fragment;

^aIncludes cases from Australia, Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey

Data sources: See references in Section 9.

Table 22: Asian studies on HPV prevalence among VaIN 2/3 cases

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV types (%)
			%	(95% CI)	
Alemaný 2014 (Asia-Pacific)	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 33, 35, 39, 42, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 73, 82, 89)	13	100.0	(77.2-100.0)	HPV 16 (53.8%) HPV 52 (15.4%) HPV 59 (15.4%) HPV 45 (7.7%) HPV 73 (7.7%)
Sugase 1997 (Japan)	PCR, TS, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	18	100.0	(82.4-100.0)	HPV 16 (16.7%) HPV 58 (16.7%) HPV 53 (11.1%) HPV 67 (11.1%) HPV 35 (5.6%)

Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; VaIN 2/3: Vaginal intraepithelial neoplasia of grade 2/3;

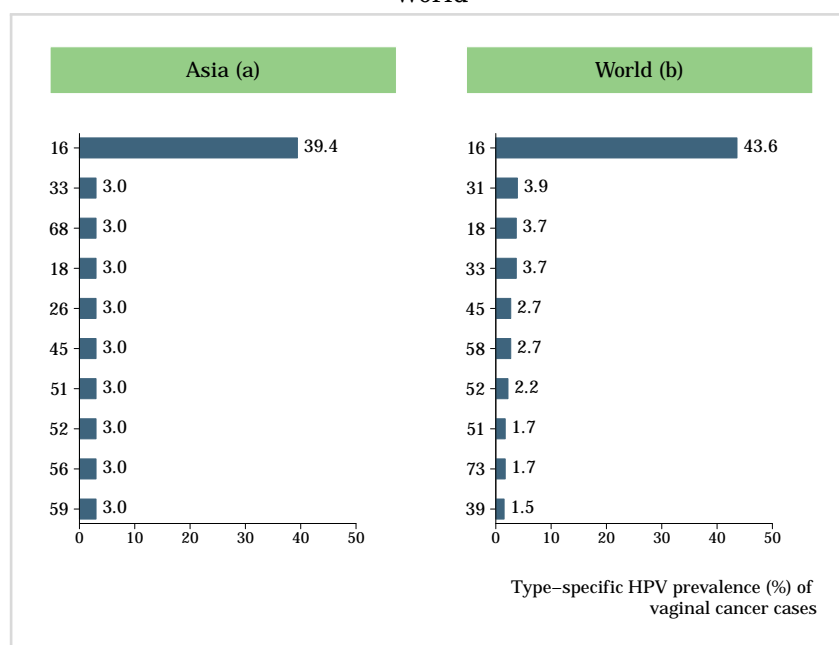
EIA: Enzyme ImmunoAssay; PCR: Polymerase Chain Reaction; SPF: Short Primer Fragment; TS: Type Specific;

Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321-2) De Vuyst H, Int J Cancer 2009;124:1626

Alemaný L, Eur J Cancer 2014; 50: 2846 | Sugase M, Int J Cancer 1997; 72: 412

Data sources: See references in Section 9.

Figure 84: Comparison of the ten most frequent HPV types in vaginal cancer cases in Asia and the World



Data updated on 09 Feb 2017 (data as of 30 Jun 2014).

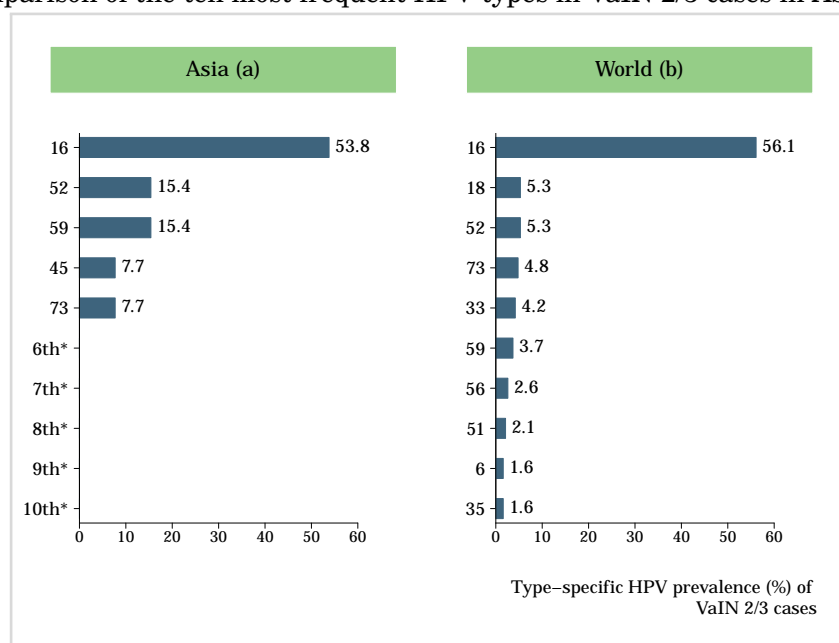
VAIN 2/3: Vaginal intraepithelial neoplasia of grade 2/3;

^a Includes cases from Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey

^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Africa (Mozambique, Nigeria); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)

Data sources: See references in Section 9.

Figure 85: Comparison of the ten most frequent HPV types in VaIN 2/3 cases in Asia and the World



*No data available. No more types than shown were tested or were positive.

Data updated on 09 Feb 2017 (data as of 30 Jun 2014).

VAIN 2/3: Vaginal intraepithelial neoplasia of grade 2/3;

^a Includes cases from Australia, Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey.

^b Includes cases from Europe (Austria, Belarus, Czech Republic, France, Germany, Greece, Poland, Spain and United Kingdom); America (Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Paraguay, Uruguay, United states of America and Venezuela); Asia (Bangladesh, India, Israel, South Korea, Kuwait, Philippines, Taiwan and Turkey); and Oceania (Australia)

Data sources: See references in Section 9.

4.2.4 Penile cancer and precancerous penile lesions

HPV DNA is detectable in approximately 50% of all penile cancers (de Martel C et al. *Lancet Oncol* 2012;13(6):607-15). Among HPV-related penile tumours, HPV16 is the most common type detected, followed by HPV18 and HPV types 6/11 (Miralles C et al. *J Clin Pathol* 2009;62:870-8). Over 95% of invasive penile cancers are SCC and the most common penile SCC histologic sub-types are keratinising (49%), mixed warty-basaloid (17%), verrucous (8%), warty (6%), and basaloid (4%). HPV is commonly detected in basaloid and warty tumours but is less common in keratinising and verrucous tumours. In this section, the HPV prevalence among penile cancer cases and precancerous penile lesions in Asia are presented.

Table 23: Asian studies on HPV prevalence among penile cancer cases

Study		HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPVs HPV type (%)
				%	(95% CI)	
Alemaný	2016 (Asia)	PCR-SPF10, EIA, (HPV 6, 11, 16, 18, 26, 30, 31, 32, 33, 34, 35, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 61, 66, 67, 68, 69, 70, 73, 74, 82, 83, 87, 89, 90, 91)	67	13.4	(7.2-23.6)	HPV 16 (9.0%) HPV 33 (1.5%) HPV 35 (1.5%) HPV 45 (1.5%)
Chan	1994 (China)	PCR-E6, TS (HPV 16, 18)	41	14.6	(6.9-28.4)	HPV 16 (9.8%) HPV 18 (9.8%)
Iwasawa	1993 (Japan)	PCR-E6, TS (HPV 16, 18, 33)	111	63.1	(53.8-71.5)	HPV 16 (61.3%) HPV 18 (1.8%)
Suzuki	1994 (Japan)	PCR L1-Consensus primer, PCR-E6, RFLP (HPV 6, 11, 16, 18, 31, 33, 42, 52, 58)	13	53.8	(29.1-76.8)	HPV 16 (30.8%) HPV 33 (15.4%) HPV 31 (7.7%)
Yanagawa	2008 (Japan)	PCR-L1C1/C2, RFLP (HPV 6, 11, 16, 18, 31, 33, 42, 52, 58)	26	11.5	(4.0-29.0)	HPV 16 (11.5%)
Senba	2006 (Thailand)	PCR L1-Consensus primer, PCR-SPF10, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	65	81.5	(70.4-89.1)	HPV 18 (55.4%) HPV 6 (40.0%) HPV 34 (3.1%) HPV 11 (1.5%) HPV 22 (1.5%)
Do	2013 (Viet Nam)	PCR-SPF10, PCR-E6, qPCR, (HPV 6, 11, 16, 18, 26, 31, 33, 35, 39, 40, 43, 44, 45, 51, 52, 53, 54, 56, 58, 59, 66, 68, 69, 70, 71, 73, 74, 82)	120	22.5	(15.9-30.8)	HPV 16 (20.0%) HPV 11 (0.8%) HPV 18 (0.8%) HPV 33 (0.8%) HPV 58 (0.8%)

Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval;

EIA: Enzyme ImmunoAssay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; SPF: Short Primer Fragment; TS: Type Specific;

Data sources: See references in Section 9.

Table 24: Asian studies on HPV prevalence among PeIN 2/3 cases

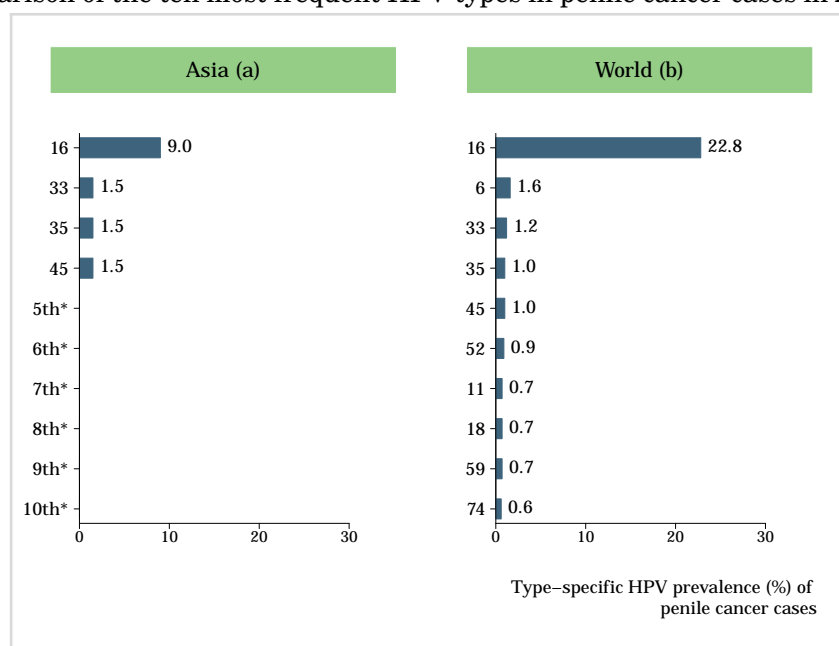
Table 2. Asian studies on HPV prevalence among PCNV L/S cases					
Study	HPV detection method and targeted Method	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPVs HPV type (%)
			%	(95% CI)	
No Data Available	-	-	-	-	-

Data updated on 28 Jun 2017 (data as of 30 Jun 2015).

95% CI: 95% Confidence Interval; PeIN 2/3: Penile intraepithelial neoplasia of grade 2/3;

Data sources: See references in Section 9.

Figure 86: Comparison of the ten most frequent HPV types in penile cancer cases in Asia and the World



*No data available. No more types than shown were tested or were positive.

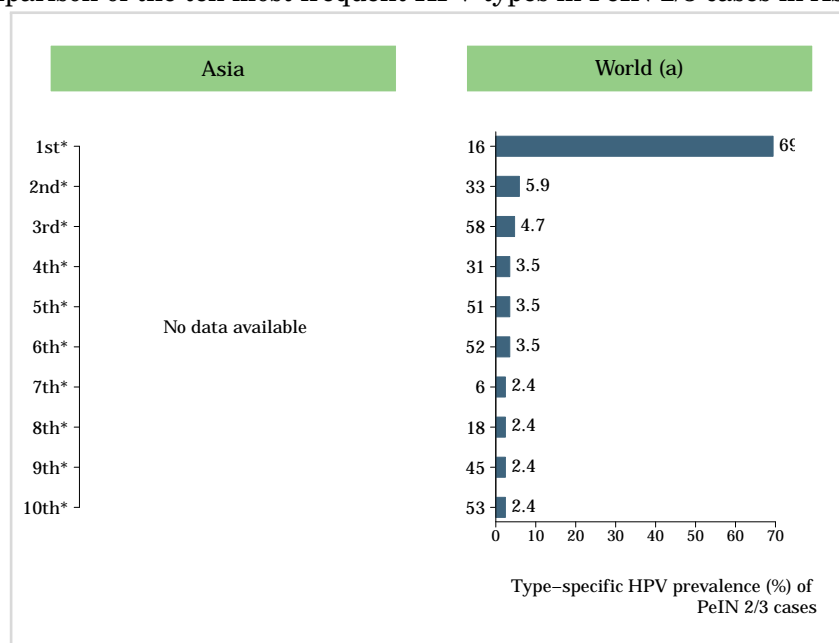
Data updated on 09 Feb 2017 (data as of 30 Jun 2015).

^aIncludes cases from Bangladesh, India, South Korea, Lebanon, Philippines

^bIncludes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela and United States, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.

Data sources: See references in Section 9.

Figure 87: Comparison of the ten most frequent HPV types in PeIN 2/3 cases in Asia and the World



*No data available. No more types than shown were tested or were positive.

Data updated on 09 Feb 2017 (data as of 30 Jun 2015).

^aIncludes cases from Australia, Bangladesh, India, South Korea, Lebanon, Philippines, Chile, Colombia, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Venezuela, Mozambique, Nigeria, Senegal, Czech Republic, France, Greece, Poland, Portugal, Spain and United Kingdom.

Data sources: See references in Section 9.

4.3 HPV burden in men

The information to date regarding anogenital HPV infection is primarily derived from cross-sectional studies of selected populations such as general population, university students, military recruits, and studies that examined husbands of control women, as well as from prospective studies. Special sub-groups include mainly studies that examined STD (sexually transmitted diseases) clinic attendees, MSM (men who have sex with men), HIV positive men, and partners of women with HPV lesions, CIN (cervical intraepithelial neoplasia), cervical cancer or cervical carcinoma in situ. Globally, prevalence of external genital HPV infection in men is higher than cervical HPV infection in women, but persistence is less likely. As with genital HPV prevalence, high numbers of sexual partners increase the acquisition of oncogenic HPV infections (Vaccine 2012, Vol. 30, Suppl 5). In this section, the HPV burden among men in Asia is presented.

Methods

HPV burden in men was based on published systematic reviews and meta-analyses (Dunne EF, J Infect Dis 2006; 194: 1044, Smith JS, J Adolesc Health 2011; 48: 540, Olesen TB, Sex Transm Infect 2014; 90: 455, and Hebnes JB, J Sex Med 2014; 11: 2630) up to October 31, 2015. The search terms for the review were human papillomavirus, men, polymerase chain reaction (PCR), hybrid capture (HC), and viral DNA. References cited in selected articles were also investigated. Inclusion criteria were: HPV DNA detection by means of PCR or HC (ISH if data are not available for the country), and a detailed description of HPV DNA detection and genotyping techniques used. The number of cases tested and HPV positive cases were extracted for each study to estimate the anogenital prevalence of HPV DNA. Binomial 95% confidence intervals were calculated for each anogenital HPV prevalence.

Table 25: Asian studies on anogenital HPV prevalence among men

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	HPV prevalence		
						No	%	(95% CI)
China	Liu 2015	Coronal sulcus, shaft, glans, and scrotum	PCR-SPF1/GP6+	Population-based esophageal cancer cohort study	25-65	2228	16.9	(15.3-18.5)
India	Gupta 2006	Coronal sulcus, distal and intrameatal urethra and glans	PCR-L1 and TS 16,18	Partners of women with normal cytology	Mean 46.9	30	26.7	(12.3-45.9)
Japan	Takahashi 2003	Glans, corona, prepuce	HC2 HR, LR	University students	18-35	75	1.3	(0.0-7.2)
Korea, Rep.	Shin 2004	Glans, corona, scrotum, prepuce, urethra	PCR-SPF10	Male students	Median 22	381	8.7	(6.0-11.9)
Philippines	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of control women	19-71	106	4.7	(1.5-10.7)
Thailand	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of control women	28-78	75	17.3	(9.6-27.8)

Data updated on 28 Jun 2017 (data as of 31 Oct 2015).

95% CI: 95% Confidence Interval;

HC2: Hybrid Capture 2; PCR: Polymerase Chain Reaction; SPF: Short Primer Fragment; TS: Type Specific;

Data sources: See references in Section 9.

Table 26: Asian studies on anogenital HPV prevalence among men from special subgroups

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	HPV prevalence		
						No	%	(95% CI)
China	Gao 2010	Anal canal	PCR-Tellgenplex™ HPV DNA Test	HIV- MSM	≥18 (70% <30 years)	528	58.9	(54.6-63.1)
				HIV+ MSM	≥18 (70% <30 years)	50	96	(86.3-99.5)
	Li 2015	Anus	PCR-GenoArray	HIV+ MSM	18-60	193	99	(96.3-99.9)
	Tang 2006	Urethral meatus	PCR-MY09/11	STD clinic attendees	18-70	305	13.8	(10.1-18.2)
	Yang 2012	Anus	PCR-Tellgenplex™ HPV DNA Test	HIV+ MSM	≥18	91	70.3	(59.8-79.5)
	Zhang 2014	Anus	PCR-GenoArray	HIV- MSM, STD clinic attendees	IQR=25- 34.8	380	33.7	(28.9-38.7)
				HIV+ MSM STD clinic attendees	IQR=25- 34.8	28	71.4	(51.3-86.8)
India	Gupta 2006	Coronal sulcus, distal and intrameatal urethra and glans	PCR-L1 and TS 16,18	Partners of women with cervical cancer	Mean 46.4	30	66.7	(47.2-82.7)
Japan	Nagata 2015	Anus	PCR-Invader	HIV+ heterosexual men	Median 44 (IQR=39- 55)	34	20.6	(8.7-37.9)
				HIV+ MSM	Median 44 (IQR=39- 55)	361	75.9	(71.1-80.2)
	Shigehara 2010	Coronal sulcus, glans, prepuce, urethra, and urine	PCR-HPV GenoArray	Men with urethritis	Mean 35.2 (19-62)	142	47.9	(39.4-56.4)
	Takahashi 2003	Coronal sulcus, glans, prepuce	HC2 HR, LR	Patients with urethritis	17-49	130	18.5	(12.2-26.2)
	Takahashi 2005	Glans, corona, inner surface of prepuce	HC2 HR, LR	STD clinic attendees	18-35	204	5.9	(3.1-10.0)
	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of women with invasive cervical cancer	22-77	149	6	(2.8-11.2)
Thailand	Franceschi 2002	Glans, corona, urethra	PCR-GP5+/6+	Husbands of women with invasive cervical cancer	25-77	109	22	(14.6-31.0)
	Leaungwutikorn 2015	Anus	Nested-PCR and sequencing	HIV- MSM	Median 33	50	30	(17.9-44.6)
				HIV- MSM sex worker	Median 26	50	30	(17.9-44.6)
	Phanuphak 2013	Anus	PCR-Roche Linear Array HPV Genotyping test	HIV- MSM	≥18	123	58.5	(49.3-67.3)
				HIV+ MSM	≥18	123	85.4	(77.9-91.1)

(Table 26 – continued from previous page)

(Table 26 – continued from previous page)

Country	Study	Anatomic sites samples	HPV detection method	Population	Age (years)	HPV prevalence		
						No	%	(95% CI)
	Supindham 2015	Anus	PCR-Linear Array	MSM-Bisexual men who self-identify as men and engage in insertive and/or receptive anal sex with men and women	18-36	29	48.3	(29.4-67.5)
				MSM-Gay men who self-identify as men and prefer insertive and/or receptive anal sex with other men	18-54	85	89.4	(80.8-95.0)
				MSM-Transgender women who are born as anatomical males (and who may or may not have undergone genital surgery), but who self-identify as women and prefer receptive anal sex with men	18-48	83	80.7	(70.6-88.6)

Data updated on 28 Jun 2017 (data as of 31 Oct 2015).

95% CI: 95% Confidence Interval;

HC2: Hybrid Capture 2; PCR: Polymerase Chain Reaction; TS: Type Specific; MSM: Men who have sex with men; STD: sexually transmitted diseases;

Data sources: See references in Section 9.

4.4 HPV burden in the head and neck

The last evaluation of the International Agency for Research in Cancer (IARC) on the carcinogenicity of HPV in humans concluded that (a) there is enough evidence for the carcinogenicity of HPV type 16 in the oral cavity, oropharynx (including tonsil cancer, base of tongue cancer and other oropharyngeal cancer sites), and (b) limited evidence for laryngeal cancer (*IARC Monograph Vol 100B*). There is increasing evidence that HPV-related oropharyngeal cancers constitute an epidemiological, molecular and clinical distinct form as compared to non HPV-related ones. Some studies indicate that the most likely explanation for the origin of this distinct form of head and neck cancers associated with HPV is a sexually acquired oral HPV infection that is not cleared, persists and evolves into a neoplastic lesion. The most recent figures estimate that 25.6% of all oropharyngeal cancers are attributable to HPV infection with HPV16 being the most frequent type (*de Martel C. Lancet Oncol. 2012;13(6):607*). In this section, the HPV burden in the head and neck in Asia is presented.

4.4.1 Burden of oral HPV infection in healthy population

Table 27: Asian studies on oral HPV prevalence among healthy population

Study	Method specimen collection and anatomic site	HPV detection method and targeted HPV types	Population	Age (years)	No. Tested	HPV prevalence % (95% CI)	Prev. of 5 most frequent HPV types (%)
MEN							
No Data Available	-	-	-	-	-	--	-
WOMEN							
No Data Available	-	-	-	-	-	--	-
BOTH OR UNSPECIFIED							
No Data Available	-	-	-	-	-	--	-

Data updated on 15 Dec 2014 (data as of 29 Feb 2012). Only for European countries.

95% CI: 95% Confidence Interval;

Data sources: See references in Section 9.

4.4.2 HPV burden in head and neck cancers

Table 28: Asian studies on HPV prevalence among cases of oral cavity cancer

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence % (95% CI)	Prevalence of 5 most frequent HPV types (%)
MEN				
Zhang (China) 2004	TS-PCR E6 for 16/18 Amplification with TS primers (16. 18)	48	81.3 (68.1-89.8)	-
Balaram 1995 (India)	MY09/MY11 (L1). GP5+/GP6+ (L1)/GP17+/GP18+ (L1). Y1/Y2 and TS-PCR for 6/11/16/18 Sequencing	50	74.0 (60.4-84.1)	-
Chaudhary (India) 2010	MY09/MY11 (L1) Amplification with TS primers (16)	146	33.6 (26.4-41.6)	HPV 16 (33.6%)
D'Costa 1998 (India)	MY09/MY11 (L1) SBH (6. 11. 16. 18. 33)	71	12.7 (6.8-22.4)	HPV 16 (12.7%)
Herrero 2003 (India)	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	127	4.7 (2.2-9.9)	HPV 16 (3.9%) HPV 18 (0.8%) HPV 35 (0.8%)
Saghravanian 2011 (Iran)	GP5+/GP6+ (L1) Amplification with TS primers HPV E6/7 (16. 18. 31. 33)	8	0.0 -	-
Bhawal (Japan) 2008	TS-PCR E6 for 16 Electrophoretic analysis using SiHa DNA as positive control for HPV-16	19	26.3 (11.8-48.8)	HPV 16 (26.3%)
Chiba (Japan) 1996	TS-PCR E6/E7 for 6/11/16/18/31/33/52b/58 Restriction enzyme digestion (6. 11. 16. 18. 31. 33. 52b. 58)	22	27.3 (13.2-48.2)	HPV 16 (27.3%)
Shimizu (Japan) 2004	TS-PCR L1 for 16/18/31/33/35/39/45/51/52/56/58/59/68/73/75/76/82 Sequencing	13	15.4 (4.3-42.2)	HPV 58 (7.7%) HPV 120 (7.7%)
Tsuhako (Japan) 2000	TS-PCR E6/E7 for 16/18 and E6 for 6/11 Amplification with TS primers (6. 11. 16. 18)	51	52.9 (39.5-65.9)	HPV 16 (33.3%) HPV 18 (33.3%) HPV 6 (11.8%) HPV 11 (2.0%)
Shin 2002 (Korea, Rep.)	TS-PCR E6 for 16/18/33 Amplification with TS primers (16. 18. 33)	76	9.2 (4.5-17.8)	HPV 18 (6.6%) HPV 16 (1.3%) HPV 33 (1.3%)

(Continued on next page)

(Table 28 – continued from previous page)

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV types (%)
			%	(95% CI)	
Chang 2003 (Taiwan)	MY09 (L1) and GP5+/GP6+ (L1) Sequencing	42	33.3	(21.0-48.4)	-
Chen 2002 (Taiwan)	MY09/MY11 (L1) Hybridization with TS probes (6. 11. 16. 18)	28	92.9	(77.4-98.0)	HPV 16 (82.1%) HPV 18 (71.4%) HPV 6 (10.7%) HPV 11 (3.6%)
WOMEN					
Zhang 2004 (China)	TS-PCR E6 for 16/18 Amplification with TS primers (16. 18)	25	60.0	(40.7-76.6)	-
Balaram 1995 (India)	MY09/MY11 (L1). GP5+/GP6+ (L1)/GP17+/GP18+ (L1). Y1/Y2 and TS-PCR for 6/11/16/18 Sequencing	41	68.3	(53.0-80.4)	-
Chaudhary 2010 (India)	MY09/MY11 (L1) Amplification with TS primers (16)	76	30.3	(21.1-41.3)	HPV 16 (30.3%)
D'Costa 1998 (India)	MY09/MY11 (L1) SBH (6. 11. 16. 18. 33)	5	20.0	(3.6-62.4)	-
Herrero 2003 (India)	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	135	1.5	(0.4-5.2)	HPV 16 (1.5%) HPV 18 (0.7%)
Saghravanian 2011 (Iran)	GP5+/GP6+ (L1) Amplification with TS primers HPV E6/7 (16. 18. 31. 33)	13	23.1	(8.2-50.3)	HPV 16 (23.1%) HPV 18 (23.1%)
Bhawal 2008 (Japan)	TS-PCR E6 for 16 Electrophoretic analysis using SiHa DNA as positive control for HPV-16	9	55.6	(26.7-81.1)	HPV 16 (55.6%)
Chiba 1996 (Japan)	TS-PCR E6/E7 for 6/11/16/18/31/33/52b/58 Restriction enzyme digestion (6. 11. 16. 18. 31. 33. 52b. 58)	1	0.0	-	-
Shimizu 2004 (Japan)	TS-PCR L1 for 16/18/31/33/35/39/45/51/52/56/58/59/68/73/75/76/82 Sequencing	11	18.2	(5.1-47.7)	HPV 75 (9.1%) HPV 76 (9.1%)
Tsuhako 2000 (Japan)	TS-PCR E6/E7 for 16/18 and E6 for 6/11 Amplification with TS primers (6. 11. 16. 18)	21	66.7	(45.4-82.8)	HPV 18 (52.4%) HPV 16 (28.6%) HPV 6 (19.0%)
Shin 2002 (Korea, Rep.)	TS-PCR E6 for 16/18/33 Amplification with TS primers (16. 18. 33)	76	5.3	(2.1-12.8)	HPV 16 (3.9%) HPV 18 (3.9%) HPV 33 (1.3%)
Chang 2003 (Taiwan)	MY09 (L1) and GP5+/GP6+ (L1) Sequencing	61	60.7	(48.1-71.9)	-
Chen 2002 (Taiwan)	MY09/MY11 (L1) Hybridization with TS probes (6. 11. 16. 18)	1	100.0	(20.7-100.0)	HPV 16 (100.0%)
BOTH OR UNSPECIFIED					
Tang 2003 (China)	TS-PCR E6 for 16/18/33 Sequencing	30	46.7	(30.2-63.9)	HPV 16 (36.7%) HPV 18 (16.7%)
Wen 1997 (China)	TS-PCR E6 for 16/18 Hybridization with TS probes (HPV16. 18 E6)	45	31.1	(19.5-45.7)	HPV 18 (24.4%) HPV 16 (20.0%)
Zhang 2004 (China)	TS-PCR E6 for 16/18 Amplification with TS primers (16. 18)	73	74.0	(62.9-82.7)	HPV 16 (58.9%) HPV 18 (24.7%)

(Continued on next page)

(Table 28 – continued from previous page)

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV types HPV type (%)
			%	(95% CI)	
Balaram 1995 (India)	MY09/MY11 (L1). GP5+/GP6+ (L1)/GP17+/GP18+ (L1). Y1/Y2 and TS-PCR for 6/11/16/18 Sequencing	91	73.6	(63.7-81.6)	HPV 18 (47.3%) HPV 16 (41.8%) HPV 11 (19.8%) HPV 6 (14.3%)
Bhattacharya 2009 (India)	MY09/MY11 (L1) Amplification with TS primers (16. 18)	193	62.2	(55.2-68.7)	HPV 16 (60.1%) HPV 18 (5.2%)
Chaudhary 2010 (India)	MY09/MY11 (L1) Amplification with TS primers (16)	222	32.4	(26.6-38.8)	HPV 16 (32.4%)
D'Costa 1998 (India)	MY09/MY11 (L1) SBH (6. 11. 16. 18. 33)	99	15.2	(9.4-23.5)	HPV 16 (15.2%)
Herrero 2003 (India)	GP5+/GP6+ (L1) Hybridization with EIA oligonucleotide probes (2. 6. 11. 16. 18. 31. 33. 35. 39. 40. 42. 43. 44. 45. 51. 52. 56. 58. 59. 66. 68)	262	3.1	(1.6-5.9)	HPV 16 (2.7%) HPV 18 (0.8%) HPV 35 (0.4%)
Mishra 2006 (India)	MY09/MY11 (L1) Amplification with TS primers (16. 18)	66	27.3	(18.0-39.0)	HPV 16 (27.3%)
Saghravanian 2011 (Iran)	GP5+/GP6+ (L1) Amplification with TS primers HPV E6/7 (16. 18. 31. 33)	21	14.3	(5.0-34.6)	HPV 16 (14.3%) HPV 18 (14.3%)
Bhawal 2008 (Japan)	TS-PCR E6 for 16 Electrophoretic analysis using SiHa DNA as positive control for HPV-16	28	35.7	(20.7-54.2)	HPV 16 (35.7%)
Chiba 1996 (Japan)	TS-PCR E6/E7 for 6/11/16/18/31/33/52b/58 Restriction enzyme digestion (6. 11. 16. 18. 31. 33. 52b. 58)	32	18.8	(8.9-35.3)	HPV 16 (18.8%)
Higa 2003 (Japan)	TS-PCR E6/E7 for 16/18 Amplification with TS E6/E7 primers (6. 11. 16. 18)	46	80.4	(66.8-89.3)	HPV 16 (52.2%) HPV 18 (52.2%) HPV 6 (21.7%) HPV 11 (2.2%)
Kojima 2002 (Japan)	TS-PCR L1 and E6 for 38 Sequencing	53	66.0	(52.6-77.3)	HPV 38 (66.0%)
Shima 2000 (Japan)	TS-PCR E6/E7 for 6/11/16/18/31/33/52b/58 RFLP (16. 18)	46	73.9	(59.7-84.4)	HPV 18 (54.3%) HPV 16 (19.6%)
Shimizu 2004 (Japan)	TS-PCR L1 for 16/18/31/33/35/39/45/51/52/56/58/59/68/73/75/76/82 Sequencing	24	16.7	(6.7-35.9)	HPV 58 (4.2%) HPV 75 (4.2%) HPV 76 (4.2%) HPV 120 (4.2%)
Sugiyama 2003 (Japan)	TS-PCR E6/E7 for 16/18 Electrophoretic analysis using SiHa DNA and Hela DNA as positive controls for HPV-16 and HPV-18. respectively.	79	35.4	(25.8-46.4)	HPV 16 (32.9%) HPV 18 (2.5%)
Tang 2003 (Japan)	TS-PCR E6 for 16/18/33 Sequencing	30	50.0	(33.2-66.8)	HPV 18 (33.3%) HPV 16 (23.3%)
Tsuhako 2000 (Japan)	TS-PCR E6/E7 for 16/18 and E6 for 6/11 Amplification with TS primers (6. 11. 16. 18)	72	56.9	(45.4-67.7)	HPV 18 (38.9%) HPV 16 (31.9%) HPV 6 (13.9%) HPV 11 (1.4%)
Shin 2002 (Korea, Rep.)	TS-PCR E6 for 16/18/33 Amplification with TS primers (16. 18. 33)	76	14.5	(8.3-24.1)	HPV 18 (10.5%) HPV 16 (5.3%) HPV 33 (2.6%)
Lim 2007 (Malaysia)	GP5+/GP6+ (L1) Amplification with TS primers (16. 18)	20	85.0	(64.0-94.8)	HPV 18 (75.0%) HPV 16 (30.0%)

(Continued on next page)

(Table 28 – continued from previous page)

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPVs HPV type (%)
			%	(95% CI)	
Chang 2003 (Taiwan)	MY09 (L1) and GP5+/GP6+ (L1) Sequencing	103	49.5	(40.1-59.0)	HPV 16 (28.2%) HPV 18 (26.2%) HPV 6 (1.0%) HPV 11 (1.0%) HPV 32 (1.0%)
Chen 2002 (Taiwan)	MY09/MY11 (L1) Hybridization with TS probes (6. 11. 16. 18)	29	93.1	(78.0-98.1)	HPV 16 (82.8%) HPV 18 (75.9%) HPV 6 (10.3%) HPV 11 (3.4%)
Yang 2004 (Taiwan)	MY09/MY11 (L1) Amplification with TS primers (6 . 11 . 16 . 18 . 31 . 33 . 35 . 45 . 58)	37	10.8	(4.3-24.7)	HPV 16 (8.1%) HPV 18 (5.4%)

Data updated on 28 Jun 2017 (data as of 31 Dec 2015).

95% CI: 95% Confidence Interval;

EIA: Enzyme ImmunoAssay; LBA: Line-Blot Assay; PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; SBH: Southern Blot Hybridization; TS: Type Specific;

Data sources: See references in Section 9.

Table 29: Asian studies on HPV prevalence in cases of oropharyngeal cancer

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV's HPV type (%)
			%	(95% CI)	
MEN					
Li 2007 (China)	GP5+/GP6+ (L1). CP65/70ct-CP66/69ct (L1). FAP59/6415 (L1). A5/A10-A6/A8 (L1) and TS-PCR E6 for 16 Sequencing	21	14.3	(5.0-34.6)	HPV 16 (14.3%)
Al-Swiahb 2010 (Taiwan)	MY09/MY11 (L1) and GP5/GP6 (L1) In situ hybridization with TS probes (6. 11. 16. 18. 31) and Roche LBA	260	13.8	(10.2-18.6)	-
Kuo 2008 (Taiwan)	MY09 (L1) and GP5+/GP6+ (L1) Hybridization with HPV gene chip (6 . 11 . 16 . 18 . 26 . 31-33 . 35 . 37 . 39. 42-45 . 51-56 . 58 . 59 . 61 . 62 . 66-70. 72 . 74 . 82 . CP8061 . CP8304 . L1AE5MM4 . MM7 . MM8)	79	70.9	(60.1-79.7)	-
WOMEN					
Li 2007 (China)	GP5+/GP6+ (L1). CP65/70ct-CP66/69ct (L1). FAP59/6415 (L1). A5/A10-A6/A8 (L1) and TS-PCR E6 for 16 Sequencing	10	60.0	(31.3-83.2)	HPV 16 (60.0%)
Al-Swiahb 2010 (Taiwan)	MY09/MY11 (L1) and GP5/GP6 (L1) In situ hybridization with TS probes (6. 11. 16. 18. 31) and Roche LBA	14	64.3	(38.8-83.7)	-
Kuo 2008 (Taiwan)	MY09 (L1) and GP5+/GP6+ (L1) Hybridization with HPV gene chip (6 . 11 . 16 . 18 . 26 . 31-33 . 35 . 37 . 39. 42-45 . 51-56 . 58 . 59 . 61 . 62 . 66-70. 72 . 74 . 82 . CP8061 . CP8304 . L1AE5MM4 . MM7 . MM8)	13	100.0	(77.2-100.0)	-

(Continued on next page)

(Table 29 – continued from previous page)

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV HPV type (%)
			%	(95% CI)	
BOTH OR UNSPECIFIED					
Li 2007 (China)	GP5+/GP6+ (L1). CP65/70ct-CP66/69ct (L1). FAP59/6415 (L1). A5/A10-A6/A8 (L1) and TS-PCR E6 for 16 Sequencing	31	29.0	(16.1-46.6)	HPV 16 (29.0%)
Bahl 2014 (India)	PCR-PGMY09/11, PCR L1-Consensus primer, LBA (HPV 6, 11, 16, 18, 31, 33, 34, 35, 39, 40, 42, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 82, 83, 84, 89)	105	22.9	(15.9-31.8)	HPV 16 (18.1%) HPV 18 (2.9%) HPV 31 (1.0%) HPV 33 (1.0%)
Deng (Japan)	2013 PCR-GP5+/6+, PCR-MY09/11, TS, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	48	50.0	(36.4-63.6)	HPV 16 (37.5%) HPV 33 (4.2%) HPV 58 (4.2%) HPV 35 (2.1%) HPV 67 (2.1%)
Hama (Japan)	2014 HC2, PCR-E6, PCR-E7 (HPV 6, 11, 16, 18, 26, 31, 33, 35, 52, 58)	157	50.3	(42.6-58.0)	HPV 16 (44.6%) HPV 18 (1.9%) HPV 58 (1.3%) HPV 31 (0.6%) HPV 33 (0.6%)
Hatakeyama 2014 (Japan)	PCR- MULTIPLEX (HPV 6, 11, 16, 18, 30, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66)	79	29.1	(20.3-39.9)	HPV 16 (25.3%) HPV 18 (2.5%) HPV 58 (1.3%)
Kim 2007 (Rep. Korea)	RT-PCR E2/E6 for 16 Hybridization with HPV genotyping DNA chip arrayed by multiple oligonucleotide probes (6 . 11 . 16 . 18 . 31 . 33 . 34 . 35 . 39 . 40 . 42. 43 . 44 . 45 . 51 . 52 . 56 . 58 . 59 . 66 . 68 . 69)	52	73.1	(59.7-83.2)	HPV 16 (65.4%) HPV 18 (1.9%) HPV 33 (1.9%) HPV 35 (1.9%) HPV 58 (1.9%)
Oh 2004 (Rep. Ko- rea)	MY09/MY11 (L1) and HMB01 (L1) Microarray hybridization (6. 11. 16. 18. 31. 33. 34. 35. 39. 40. 42. 43. 44. 45. 51. 52. 54. 56. 58. 59. 62. 66. 67. 68. 69. 70. 72)	39	64.1	(48.4-77.3)	HPV 16 (59.0%) HPV 6 (2.6%) HPV 33 (2.6%) HPV 58 (2.6%)
Al-Swiahb (Taiwan)	2010 MY09/MY11 (L1) and GP5/GP6 (L1) In situ hybridization with TS probes (6. 11. 16. 18. 31) and Roche LBA	274	16.4	(12.5-21.3)	HPV 16 (14.2%) HPV 18 (2.6%) HPV 31 (0.7%) HPV 6 (0.4%) HPV 11 (0.4%)
Kuo 2008 (Tai- wan)	MY09 (L1) and GP5+/GP6+ (L1) Hybridization with HPV gene chip (6 . 11 . 16 . 18 . 26 . 31-33 . 35 . 37 . 39. 42-45 . 51-56 . 58 . 59 . 61 . 62 . 66-70. 72 . 74 . 82 . CP8061 . CP8304 . L1AE5MM4 . MM7 . MM8)	92	75.0	(65.3-82.7)	HPV 16 (63.0%) HPV 58 (3.3%) HPV 18 (2.2%) HPV 33 (2.2%) HPV 69 (2.2%)

(Continued on next page)

(Table 29 – continued from previous page)

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPV types HPV type (%)
			%	(95% CI)	
Tural 2013 (Turkey)	PCR-MY09/11, PCR L1-Consensus primer, PCR-E6, PCR-E7, PCR- MULTIPLEX, Sequencing (HPV 6, 11, 16, 18, 26, 30, 31, 33, 34, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 67, 68, 69, 70, 73, 82, 85)	81	51.9	(41.1-62.4)	HPV 16 (44.4%) HPV 18 (6.2%) HPV 33 (1.2%)

Data updated on 29 Jun 2017 (data as of 31 Dec 2015 / 31 Dec 2015).

95% CI: 95% Confidence Interval;

HC2: Hybrid Capture 2; LBA: Line-Blot Assay; PCR: Polymerase Chain Reaction; RT-PCR: Real Time Polymerase Chain Reaction; TS: Type Specific;

Data sources: See references in Section 9.

Table 30: Asian studies on HPV prevalence in cases of hypopharyngeal or laryngeal cancer

Study		HPV detection method and targeted HPV types	No. Tested	HPV prevalence % (95% CI)		Prevalence of 5 most frequent HPV HPV type (%)
MEN						
Liu 2010 (China)		GP5+/GP6+ (L1) and TS-PCR E6/E7 for 16 and E6 for 18 Amplification with TS primers (16, 18)	61	37.7	(26.6-50.3)	-
Anwar (Japan)	1993	TS-PCR for 16/18/33 Hybridization with TS probes (4, 16, 18)	26	38.5	(22.4-57.5)	HPV 18 (34.6%) HPV 16 (3.8%) HPV 33 (3.8%)
Shidara (Japan)	1994	L1C1/L1C2 RFLP (6, 11, 16, 18, 31, 33, 42, 52, 58)	40	20.0	(10.5-34.8)	HPV 16 (17.5%) HPV 18 (2.5%)
Bozdayi (Turkey)	2009	MY09/MY11 (L1) Amplification with GP5+/6+ and TS primers for HPV16 positive; For HPV16 negative cases, sequencing was performed	62	43.5	(31.9-55.9)	-
Dönmez (Turkey)	2000	MY09/MY11 (L1) RFLP (6, 11, 16, 18, 31, 33, 35, 39, 42, 51, 58)	55	12.7	(6.3-24.0)	HPV 11 (7.3%) HPV 6 (5.5%)
WOMEN						
Liu 2010 (China)		GP5+/GP6+ (L1) and TS-PCR E6/E7 for 16 and E6 for 18 Amplification with TS primers (16, 18)	23	34.8	(18.8-55.1)	-
Anwar (Japan)	1993	TS-PCR for 16/18/33 Hybridization with TS probes (4, 16, 18)	4	25.0	(4.6-69.9)	HPV 18 (25.0%)
Shidara (Japan)	1994	L1C1/L1C2 RFLP (6, 11, 16, 18, 31, 33, 42, 52, 58)	5	60.0	(23.1-88.2)	HPV 16 (40.0%) HPV 18 (20.0%)
Bozdayi (Turkey)	2009	MY09/MY11 (L1) Amplification with GP5+/6+ and TS primers for HPV16 positive; For HPV16 negative cases, sequencing was performed	3	0.0	-	-
Dönmez (Turkey)	2000	MY09/MY11 (L1) RFLP (6, 11, 16, 18, 31, 33, 35, 39, 42, 51, 58)	0	-	-	-
BOTH OR UNSPECIFIED						
Liu 2010 (China)		GP5+/GP6+ (L1) and TS-PCR E6/E7 for 16 and E6 for 18 Amplification with TS primers (16, 18)	84	36.9	(27.4-47.6)	HPV 16 (34.5%) HPV 18 (7.1%)

(Continued on next page)

(Table 30 – continued from previous page)

Study	HPV detection method and targeted HPV types	No. Tested	HPV prevalence		Prevalence of 5 most frequent HPVs HPV type (%)
			%	(95% CI)	
Ma 1998 (China)	TS-PCR E6/E7 for 6/11/16/18/31/33/52b/58 SBH (6. 11. 16. 18. 31. 33. 52b. 58)	102	58.8	(49.1-67.9)	HPV 16 (29.4%) HPV 6 (24.5%) HPV 18 (21.6%) HPV 11 (2.0%) HPV 33 (1.0%)
Jacob 2002 (India)	TS-PCR E1 for 6/11/18 and L1 for 16 SBH with TS probes (6. 11. 16. 18)	44	34.1	(21.9-48.9)	HPV 16 (34.1%)
Anwar (Japan) 1993	TS-PCR for 16/18/33 Hybridization with TS probes (4. 16. 18)	30	36.7	(21.9-54.5)	HPV 18 (33.3%) HPV 16 (3.3%) HPV 33 (3.3%)
Deng (Japan) 2013	PCR-GP5+/6+, PCR-MY09/11, TS, Sequencing (HPV 6, 11, 16, 18, 20, 21, 22, 23, 26, 30, 31, 32, 33, 34, 35, 38, 39, 40, 42, 43, 44, 45, 51, 52, 53, 54, 56, 57, 58, 59, 60, 61, 62, 66, 67, 68, 69, 70, 71, 72, 73, 74, 80, 81, 82, 83, 84, 85, 86, 87, 89, 90, 91)	26	15.4	(6.2-33.5)	HPV 16 (11.5%) HPV 33 (3.8%)
Mineta (Japan) 1998	TS-PCR E7 for 16/18 Amplification with TS primers (16. 18)	42	31.0	(19.1-46.0)	HPV 16 (26.2%) HPV 18 (4.8%)
Ogura (Japan) 1991	TS-PCR E6 for 16/18 Hybridization with TS probes (16. 18)	28	10.7	(3.7-27.2)	HPV 16 (10.7%) HPV 18 (3.6%)
Shidara (Japan) 1994	L1C1/L1C2 RFLP (6. 11. 16. 18. 31. 33. 42. 52. 58)	45	24.4	(14.2-38.7)	HPV 16 (20.0%) HPV 18 (4.4%)
Bozdayi (Turkey) 2009	MY09/MY11 (L1) Amplification with GP5+/6+ and TS primers for HPV16 positive; For HPV16 negative cases. sequencing was performed	65	41.5	(30.4-53.7)	HPV 16 (40.0%) HPV 6 (1.5%)
Dönmez (Turkey) 2000	MY09/MY11 (L1) RFLP (6. 11. 16. 18. 31. 33. 35. 39. 42. 51. 58)	55	12.7	(6.3-24.0)	HPV 11 (7.3%) HPV 6 (5.5%)
Gungor (Turkey) 2007	SP10296 (L1) Amplification with mPCR kit (6. 11. 16. 18. 31. 33. 52. 58)	95	7.4	(3.6-14.4)	HPV 11 (7.4%) HPV 6 (2.1%) HPV 16 (1.1%)

Data updated on 28 Jun 2017 (data as of 31 Dec 2015).

95% CI: 95% Confidence Interval;

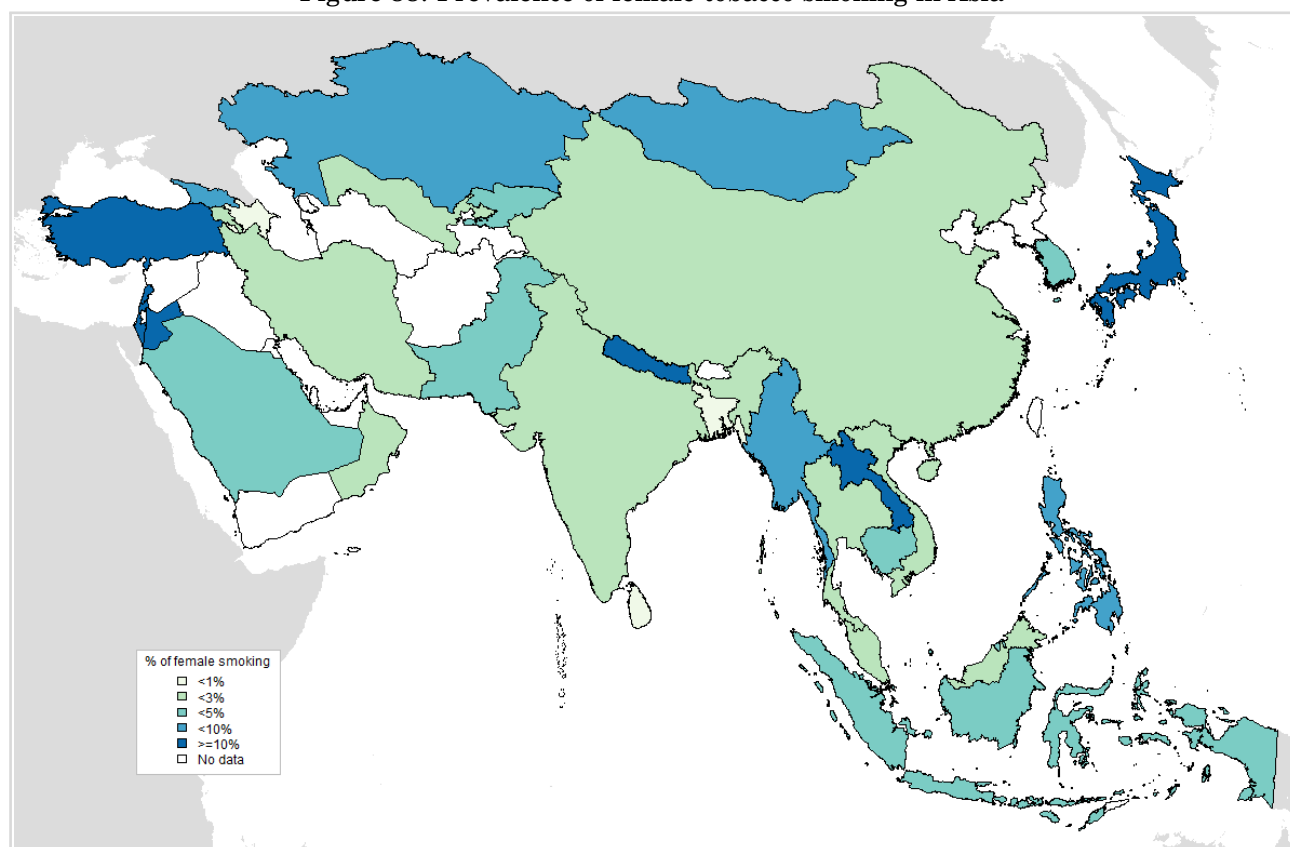
PCR: Polymerase Chain Reaction; RFLP: Restriction Fragment Length Polymorphism; SBH: Southern Blot Hybridization; TS: Type Specific;

Data sources: See references in Section 9.

5 Factors contributing to cervical cancer

HPV is a necessary cause of cervical cancer, but it is not a sufficient cause. Other cofactors are necessary for progression from cervical HPV infection to cancer. Tobacco smoking, high parity, long-term hormonal contraceptive use, and co-infection with HIV have been identified as established cofactors. Co-infection with *Chlamydia trachomatis* and herpes simplex virus type-2, immunosuppression, and certain dietary deficiencies are other probable cofactors. Genetic and immunological host factors and viral factors other than type, such as variants of type, viral load and viral integration, are likely to be important but have not been clearly identified. (Muñoz N, Vaccine 2006; 24(S3): 1-10). In this section, the prevalence of smoking, parity (fertility), oral contraceptive use, and HIV in Asia are presented.

Figure 88: Prevalence of female tobacco smoking in Asia

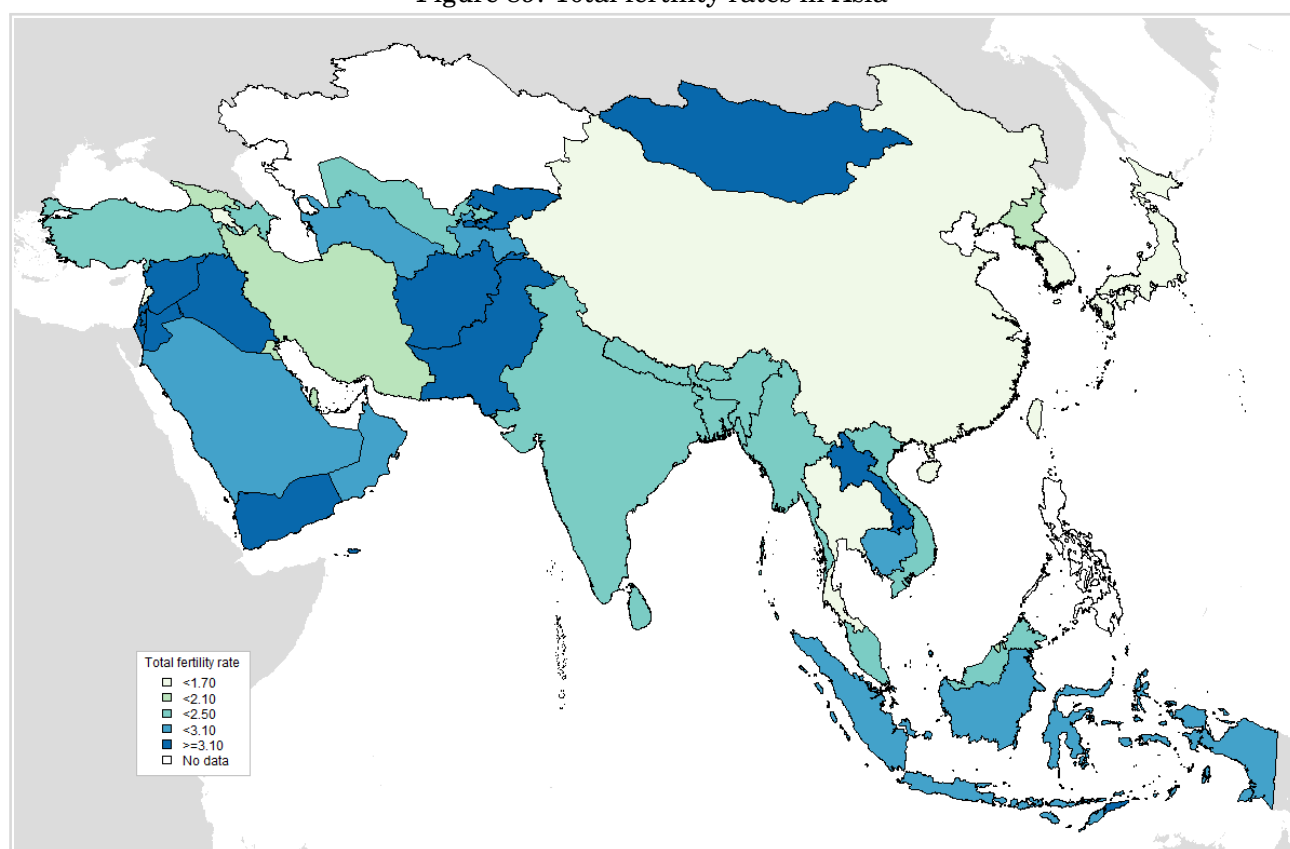


Data accessed on 22 Mar 2017.

Adjusted and age-standardized prevalence estimates of tobacco use by country, for the year 2013. These rates are constructed solely for the purpose of comparing tobacco use prevalence estimates across countries, and should not be used to estimate the number of smokers in the population.

Data sources: WHO report on the global tobacco epidemic, 2015: The MPOWER package. Geneva, World Health Organization, 2015. Available at http://www.who.int/tobacco/global_report/2015/en/index.html

Figure 89: Total fertility rates in Asia

**Data accessed on 22 Mar 2017.**

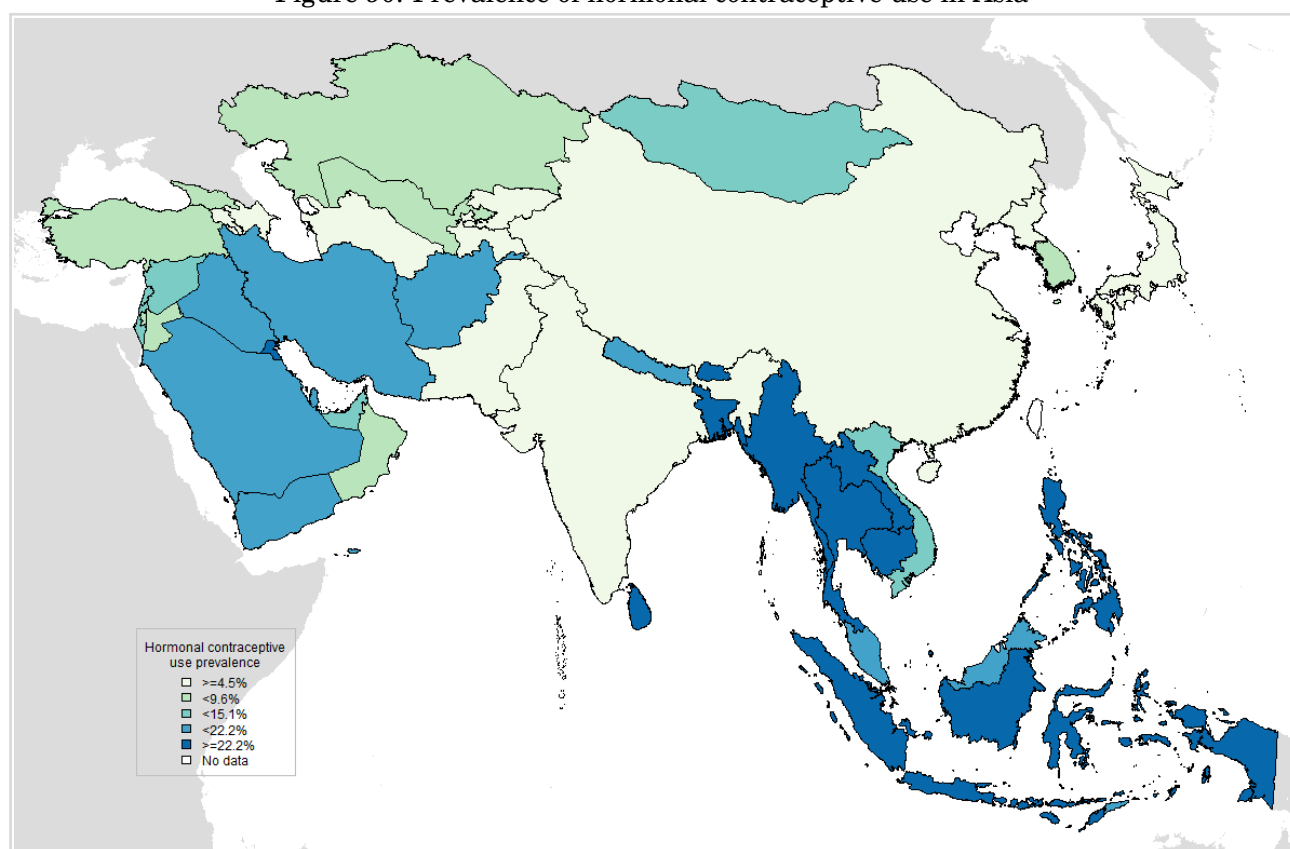
For Brunei, Georgia, Hong Kong SAR, Iran, Japan, Kyrgyzstan, Republic of Korea, Kuwait, Macao SAR, Malaysia, Oman, Qatar: The number of women by age is estimated by the United Nations Population Division and published in World Population Prospects: the 2015 Revision.

Data sources:

For Afghanistan, United Arab Emirates, Armenia, Bangladesh, Bahrain, Brunei, Bhutan, China, Hong Kong SAR, Indonesia, India, Iran, Iraq, Israel, Jordan, Japan, Kazakhstan, Kyrgyzstan, Cambodia, Republic of Korea, Kuwait, Laos, Lebanon, Sri Lanka, Macao SAR, Maldives, Myanmar, Mongolia, Malaysia, Nepal, Oman, Pakistan, Philippines, DPR Korea, Palestine, Qatar, Saudi Arabia, Singapore, Syria, Thailand, Tajikistan, Turkmenistan, Timor-Leste, Taiwan, Uzbekistan, Viet Nam, Yemen: United Nations, Department of Economic and Social Affairs, Population Division (2015). World Fertility Data 2015 (POP/DB/Fert/Rev2015). Available at: <http://www.un.org/en/development/desa/population/publications/datasets/fertility/wfd2015.shtml>. [Accessed on March 22, 2017].

Azerbaijan, Georgia, Turkey: Eurostat - Statistical office of the European Commission [web site]. Luxembourg: European Commission; 2015. Available at: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsdde220&plugin=1>. [Accessed on March 22, 2017].

Figure 90: Prevalence of hormonal contraceptive use in Asia

**Data accessed on 22 Mar 2017.**

Proportion (%) of women using hormonal contraception (pill, injectable or implant), among those of reproductive age who are married or in union.

For United Arab Emirates, Bahrain, Saudi Arabia: Data pertain to nationals of the country.

For Israel: Data pertain to the Jewish population.

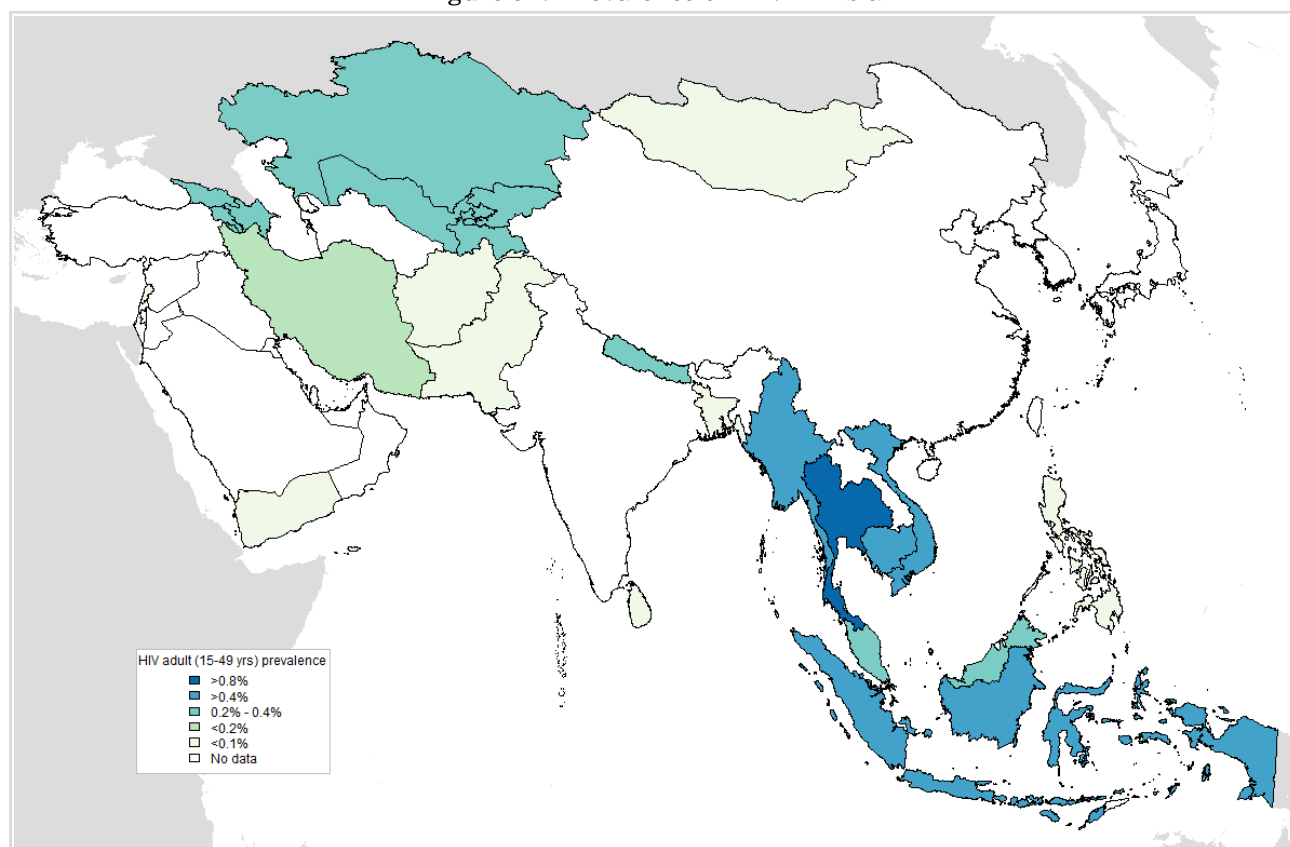
For Kuwait: Data pertain to nationals of the country. Data pertain to non-pregnant women.

For Sri Lanka: Excluding the Northern Province.

For Myanmar: Data pertain to ever-married women of reproductive age.

Data sources: United Nations, Department of Economic and Social Affairs, Population Division (2016). World Contraceptive Use 2016 (POP/DB/CP/Rev2016). <http://www.un.org/en/development/desa/population/publications/dataset/contraception/wcu2016.shtml>. Available at: [Accessed on March 22, 2017].

Figure 91: Prevalence of HIV in Asia

**Data accessed on 22 Mar 2017.**

Estimates include all people with HIV infection, regardless of whether they have developed symptoms of AIDS.

For Armenia, Lebanon: Child estimates not published due to small numbers

For Kyrgyzstan: Approximately 400 children (01-14)

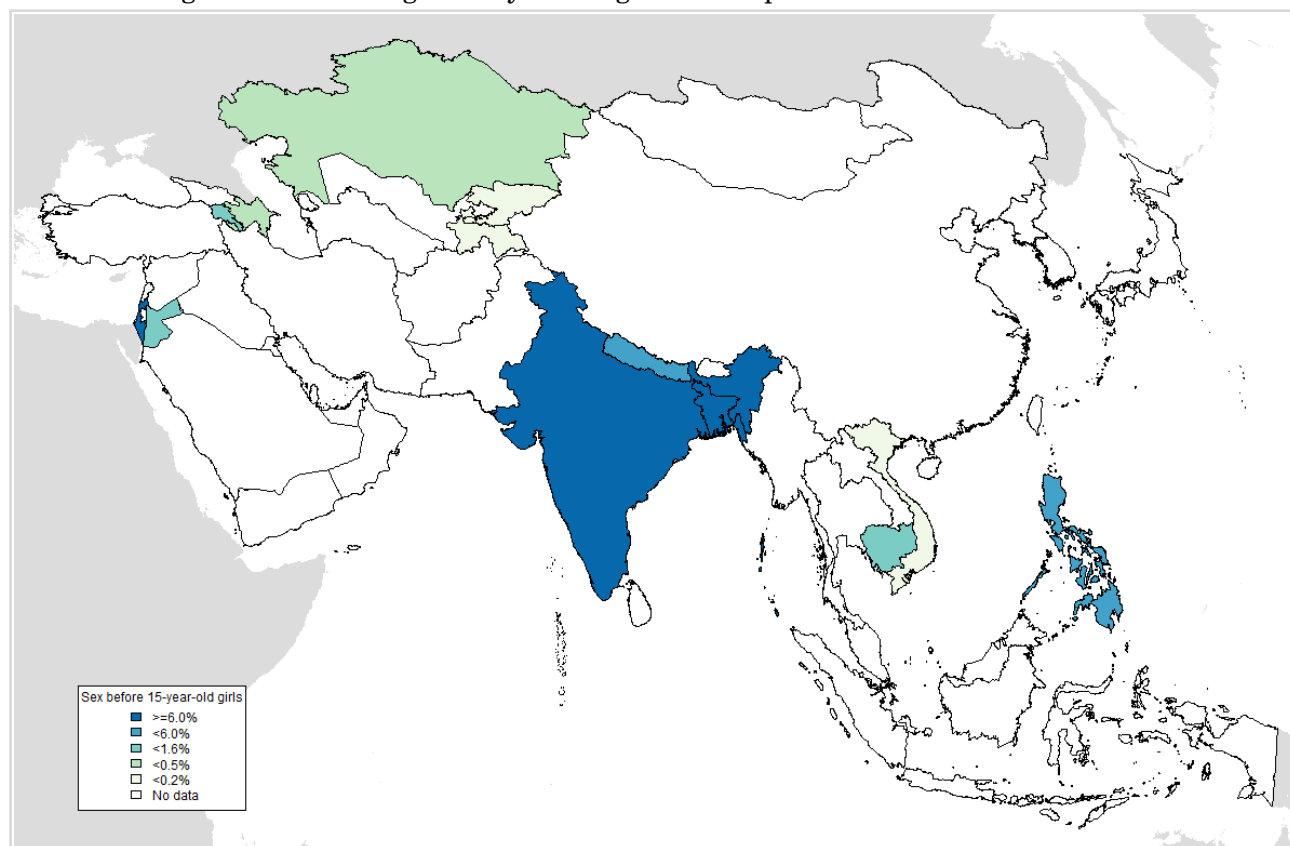
For Cambodia: Child estimates not published

Data sources: UNAIDS database [internet]. Available at: <http://aidsinfo.unaids.org/> [Accessed on March 22, 2017]

6 Sexual behaviour and reproductive health indicators

Sexual intercourse is the primary route of transmission of genital HPV infection. Information about sexual and reproductive health behaviours is essential to the design of effective preventive strategies against anogenital cancers. In this section, we describe sexual and reproductive health indicators that may be used as proxy measures of risk for HPV infection and anogenital cancers. Several studies have reported that earlier sexual debut is a risk factor for HPV infection, although the reason for this relationship is still unclear. In this section, information on sexual and reproductive health behaviour in Asia is presented.

Figure 92: Percentage of 15-year-old girls who report sexual intercourse in Asia



Data accessed on 16 Mar 2017.

For Armenia, Israel: Fifteen-year-olds teenagers only were asked whether they had ever had sexual intercourse.

For Armenia, Israel: Indicates a significant gender difference (at $p < 0.05$).

For Armenia, Israel: Year of estimation: 2013-2014

For Azerbaijan, Bangladesh, India, Jordan, Kyrgyzstan, Cambodia, Nepal, Philippines, Tajikistan: Percentage of all 15- to 19-year-olds who report having had sex before the age of 15 years.

For Azerbaijan: Year of estimation: 2006

For Bangladesh, Cambodia: Year of estimation: 2014

For China: Year of estimation: 1997

For India: Year of estimation: 2005-2006

For Jordan, Kyrgyzstan, Tajikistan: Year of estimation: 2012

For Kazakhstan, Viet Nam: The main sources of data were surveys by the MEASURE DHS (Demographic and Health Surveys) project and published estimates from Reproductive National Health Surveys.

For Kazakhstan, Viet Nam: Year of estimation: not reported

For Nepal: Year of estimation: 2011

For Philippines: Year of estimation: 2013

Data sources:

For Armenia, Israel: Growing up unequal: gender and socioeconomic differences in young people's health and well-being. Health Behaviour in School-aged Children (HBSC) study: international report from the 2013/2014 survey. Inchley J, Currie D, Young T, et al. Copenhagen, WHO Regional Office for Europe, 2016 (Health Policy for Children and Adolescents, No. 7). Available at: http://www.euro.who.int/_data/assets/pdf_file/0003/303438/HBSC-No.7-Growing-up-unequal-Full-Report.pdf?ua=1

Azerbaijan, Bangladesh, India, Jordan, Kyrgyzstan, Cambodia, Nepal, Philippines, Tajikistan: ICF International, 2015. The DHS (Demographic and Health Surveys) Program STATcompiler. Funded by USAID. <http://www.statcompiler.com>. Accessed on March 16 2017.

Kazakhstan, Viet Nam: Sexual behaviour in context: a global perspective. Wellings K, Collumbien M, Slaymaker E, et al. Lancet. 2006 Nov 11;368(9548):1706-28. Review. Erratum in: Lancet. 2007 Jan 27;369(9558):274. PMID:17098090.

7 HPV preventive strategies

It is established that well-organised cervical screening programmes or widespread good quality cytology can reduce cervical cancer incidence and mortality. The introduction of HPV vaccination could also effectively reduce the burden of cervical cancer in the coming decades. This section presents indicators on basic characteristics and performance of cervical cancer screening, status of HPV vaccine licensure, and introduction in Asia.

7.1 Cervical cancer screening practices

Screening strategies differ between countries. Some countries have population-based programmes, where in each round of screening women in the target population are individually identified and invited to attend screening. This type of programme can be implemented nationwide or only in specific regions of the country. In opportunistic screening, invitations depend on the individual's decision or on encounters with health-care providers. The most frequent method for cervical cancer screening is cytology, and there are alternative methods such as HPV DNA tests and visual inspection with acetic acid (VIA). VIA is an alternative to cytology-based screening in low-resource settings (the 'see and treat' approach). HPV DNA testing is being introduced into some countries as an adjunct to cytology screening ('co-testing') or as the primary screening test to be followed by a secondary, more specific test, such as cytology.

Table 31: Cervical cancer screening policies in Asia

Country	Availability of cervical cancer screening programme ^a	Quality assurance structure and mandate to supervise and to monitor the screening process ^b	Active invitation to screening ^c	Main screening test used for primary screening	Demonstration projects	Screening ages (years)	Screening interval or frequency of screenings
Afghanistan	Yes	No	No	Cytology	VIA	15-49	5 years
Armenia	Yes	No	No	Cytology		30-60	3 years
Azerbaijan	No	-	-	-		-	-
Bahrain	Yes	No	No	Cytology		30-65	3 years after 2-3 consecutive annual negative tests
Bangladesh	Yes	No	No	VIA		Above 30	-
Bhutan	No	-	-	-	VIA	-	-
Brunei	Yes	No	Yes	Cytology		22-65	3 years
Cambodia	Yes	No ^d	No	VIA		30-49	5 years
China	Yes	No	No	Cytology /VIA	HPV test	30-59	Cytology every 3 years (ages 35-59). VIA in rural women (ages 30-54)
Georgia	Yes	No	No	Cytology	HPV test	25-60	3 years
India	Yes	No	No	Cytology	VIA/HPV test	35-64 (cytology)	3 years
Indonesia	Yes	Yes	No	VIA		30-50	5 years

(Continued on next page)

(Table 31 – continued from previous page)

Country	Availability of cervical cancer screening programme ^a	Quality assurance structure and mandate to supervise and to monitor the screening process ^b	Active invitation to screening ^c	Main screening test used for primary screening	Demonstration projects	Screening ages (years)	Screening interval or frequency of screenings
Iran	Yes	No	No	Cytology		Married	3 years after 3 consecutive annual negative tests
Iraq	Yes	-	-	-		Above 20	-
Israel	Yes	No	No	Cytology		35-54	3 years
Japan	Yes	Yes	Yes	Cytology		Above 20	2 years
Jordan	Yes	No	No	Cytology		25-35	-
Kazakhstan	Yes	No	No	Cytology		30-60	5 years
Korea DPR	Yes	No	No	Cytology		30-60	1 year
Korea Rep.	Yes	No	No	Cytology		Above 30	2 years
Kuwait	Yes	No	No	Cytology		Married	5 years
Kyrgyzstan	Yes	No	No	Cytology		-	5 year
Laos	No	-	-	-		-	-
Lebanon	Yes	No	No	Cytology		3 years after becoming sexually active	2-3 years
Malaysia	Yes	No	No	Cytology		20-65	3 years
Maldives	Yes	-	-	VIA		30-50	5 years
Mongolia	Yes	No	No	VIA		30-60	3 years
Myanmar	No	-	-	-	VIA	-	-
Nepal	Yes	No	No	VIA		30-60	5 years
Oman	Yes	No	No	Cytology		20-69	3 Years
Pakistan	Yes	No	No	VIA		30-60	5 years
Philippines	Yes	No	No	VIA		25-55	5-7 years
Qatar	Yes	No	No	Cytology		21-65	1 year
Saudi Arabia	Yes	No	No	Cytology		21-65 (married women)	3 Years
Singapore	Yes	No	No	Cytology		25-69	3 years
Sri Lanka	Yes	No	No	Cytology		30-65	5 years
Syria	Yes	No	No	Cytology		15-55	-
Tajikistan	Yes	No	No	Cytology		Above 20	-
Thailand	Yes	Yes ^A	No	Cytology/VIA		30-65	5 years
Timor-Leste	No	-	-	-		-	-
Turkey	Yes	Yes ^A	Yes	Cytology	VIA	30-65 (cytology)	5 Years
Turkmenistan	Yes	No	No	Cytology		Above 20	1 year
UAE	Yes	No	No	Cytology		30-64	3 years
Uzbekistan	Yes	No	No	Cytology		25-49	-
Viet Nam	Yes	-	No	Cytology/VIA		-	-
Yemen	No	-	-	-		-	-

Data accessed on 31 Dec 2016.

^A Implementation is in progress.^B Single visit approach (VIA + cryotherapy). From January 2007 to December 2011 the project was piloted in the district of Karawang, and after the pilot it was up-scaled.^C Annual Pap smear if risk factors (such as HPV positive, HIV positive, risky sexual behaviour).

(Continued on next page)

(Table 31 – continued from previous page)

D Pap smear within 3 years after woman got married or sexually active - whatever comes first- regularly every 2-3 years until a woman has 3 or more normal exams.

E The national screening program started in January 2014.

a Public national cervical cancer screening program in place (Cytology/VIA/HPV testing). Countries may have clinical guidelines or protocols, and cervical cancer screening services in a private sector but without a public national program. Publicly mandated programmes have a law, official regulation, decision, directive or recommendation that provides the public mandate to implement the programme with an authorised screening test, examination interval, target group and funding and co-payment determined.

β Self-reported quality assurance: Organised programmes provide for a national or regional team responsible for implementation and require providers to follow guidelines, rules, or standard operating procedures. They also define a quality assurance structure and mandate supervision and monitoring of the screening process. To evaluate impact, organised programmes also require ascertainment of the population disease burden. Quality assurance consists of the management and coordination of the programme throughout all levels of the screening process (invitation, testing, diagnosis and follow-up of screen-positives) to assure that the programme performs adequately and provides services that are effective and in-line with programme standards. The quality assurance structure is self-reported as part of the national cancer programs or plans.

γ Self-reported active invitation or recruitment, as organised population-based programmes, identify and personally invite each eligible person in the target population to attend a given round of screening.

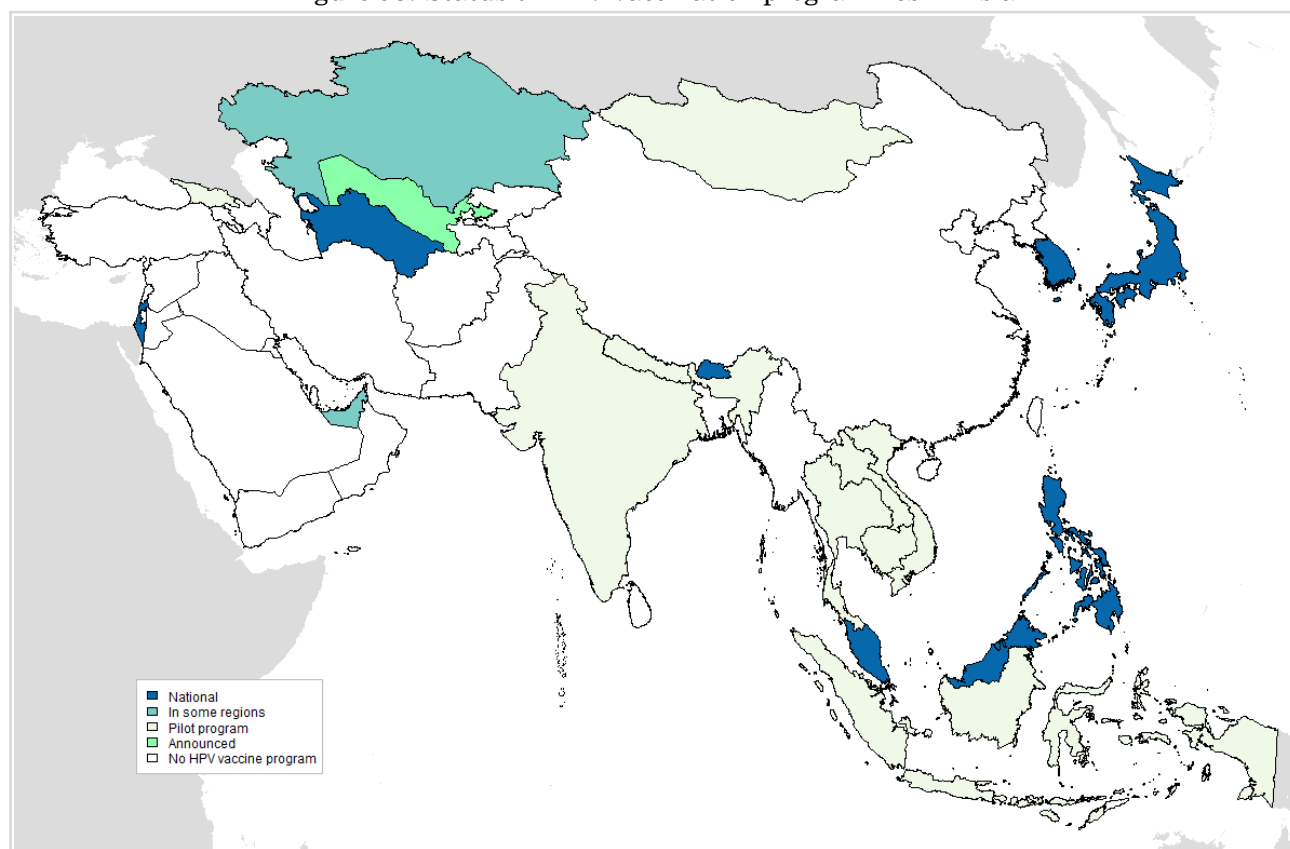
Data sources:

Data sources are detailed at the country-specific report

7.2 HPV vaccination

7.2.1 HPV vaccine licensure and introduction

Figure 93: Status of HPV vaccination programmes in Asia



Data accessed on 31 Dec 2016.

Data sources: Adapted from Bruni L, Diaz M, Barrionuevo-Rosas L, Herrero R, Bray F, Bosch FX, de Sanjosé S, Castellsagué X. Global estimates of human papillomavirus vaccination coverage by region and income level: a pooled analysis. *Lancet Glob Health*. 2016 Jul;4(7):e453-63

Table 32: HPV vaccination policies for the female population in Asia

Country	Routine Immunization	
	HPV vaccination programme	Date of start
Afghanistan	No program	-
Armenia	No program	-
Azerbaijan	No program	-
Bahrain	No program	-
Bangladesh	No program	-
Bhutan	National program	2010
Brunei Darussalam	National program	2012
Cambodia	Pilot	-
China	No program	-
Democratic People's Republic of Korea	No program	-
Georgia	Pilot	-
India	Pilot	-
Indonesia	Pilot	-
Iran (Islamic Republic of)	No program	-
Iraq	No program	-
Israel	National program	2013
Japan	National program	2011
Jordan	No program	-
Kazakhstan	Partial program	2013
Kuwait	No program	-
Kyrgyzstan	No program	-
Lao People's Democratic Republic	Pilot	-
Lebanon	No program	-
Malaysia	National program	2010
Maldives	No program	-
Mongolia	Pilot	-
Myanmar	No program	-
Nepal	Pilot	-
Oman	No program	-
Pakistan	No program	-
Philippines	National program	2016
Qatar	No program	-
Republic of Korea	National program	2016
Saudi Arabia	No program	-
Singapore	National program	2010
Sri Lanka	No program	-
State of Palestine	No program	-
Syrian Arab Republic	No program	-
Taiwan	No program	-
Tajikistan	No program	-
Thailand	Pilot	-
Timor-Leste	No program	-
Turkey	No program	-
Turkmenistan	National program	2016
United Arab Emirates	Partial program	2008
Uzbekistan	Announced	-
Viet Nam	Pilot	-
Yemen	No program	-

Data accessed on 31 Dec 2016.

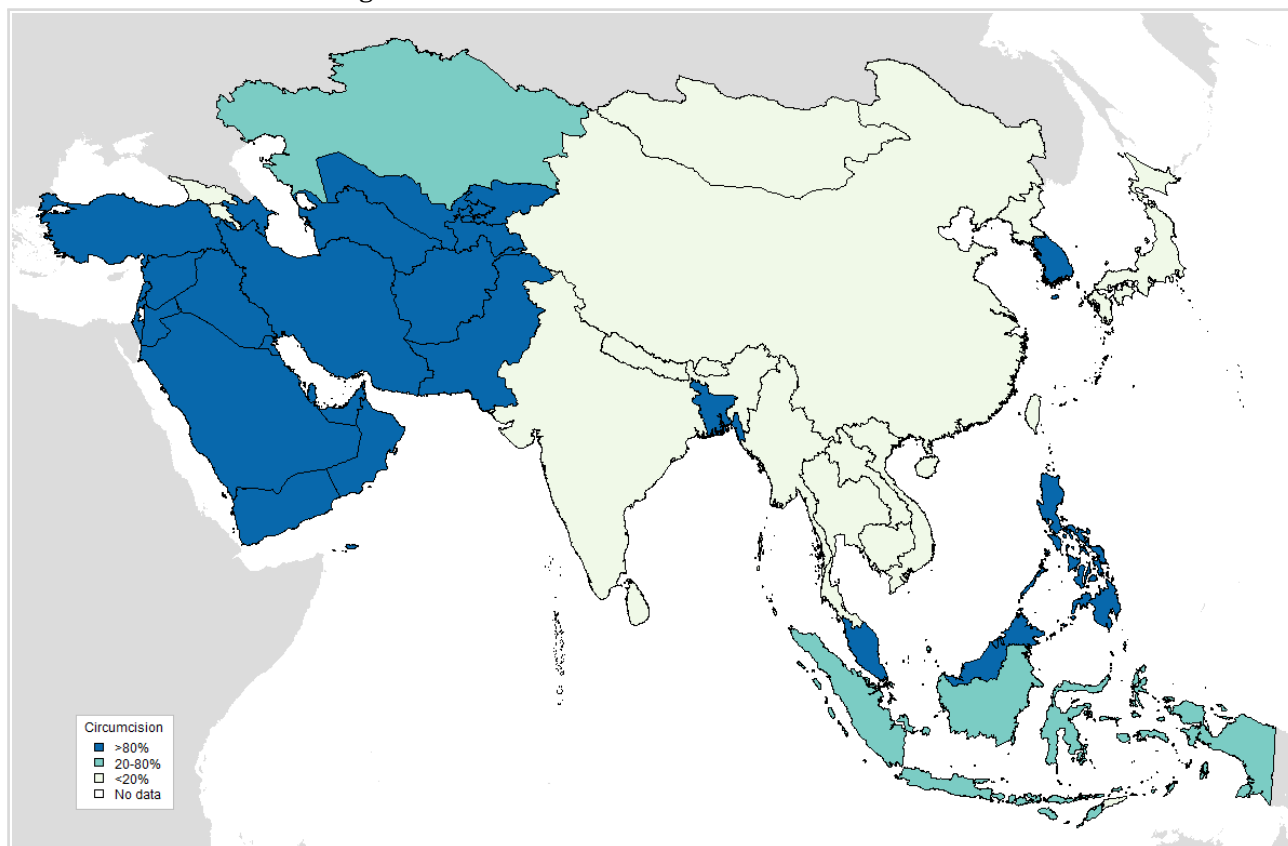
Data sources:

Adapted from Bruni L, Diaz M, Barrionuevo-Rosas L, Herrero R, Bray F, Bosch FX, de Sanjosé S, Castellsagué X. Global estimates of human papillomavirus vaccination coverage by region and income level: a pooled analysis. *Lancet Glob Health*. 2016 Jul;4(7):e453-63

8 Protective factors for cervical cancer

Male circumcision and the use of condoms have shown a significant protective effect against HPV transmission.

Figure 94: Prevalence of male circumcision in Asia



Data accessed on 31 Aug 2015.

Data from Demographic and Health Surveys (DHS) and other publications to categorise the country-wide prevalence of male circumcision as <20%, 20-80%, or >80%.

Please refer to country-specific reference(s) for full methodologies.

Data sources: Based on systematic reviews and meta-analysis performed by ICO. The ICO HPV Information Centre has updated data until August 2015. Reference publication: Albero G, Sex Transm Dis. 2012 Feb;39(2):104-13.

For Afghanistan, Bhutan, Georgia, Indonesia, Iran, Jordan, Kazakhstan, Laos, Lebanon, Sri Lanka, Maldives, Myanmar, Mongolia, Nepal, Oman, Pakistan, DPR Korea, Saudi Arabia, Syria, Tajikistan, Turkmenistan, Turkey, Uzbekistan, Viet Nam, Yemen: Drain PK, BMC Infect Dis 2006; 6: 172 | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

United Arab Emirates, Armenia, Bahrain, Brunei, Israel, Kuwait, Qatar, Taiwan: WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

Azerbaijan, India: 2006 Demographic and Health Surveys (DHS) | Drain PK, BMC Infect Dis 2006; 6: 172 | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

Bangladesh: Ashraf H, BMC Infect Dis 2010; 10: 208 | Drain PK, BMC Infect Dis 2006; 6: 172 | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

China: Drain PK, BMC Infect Dis 2006; 6: 172 | Wan S, Pediatrics 2014; 133: e624 | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability | Zeng Y, Biomed Res Int 2014; 2014: 498987

Iraq: Drain PK, BMC Infect Dis 2006; 6: 172 | Naji H, Front Med 2013; 7: 122 | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

Japan: WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability | Yamagishi T, Sex Transm Infect 2012; 88: 534

Kyrgyzstan: 2012 Demographic and Health Surveys (DHS) | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

Cambodia: 2005 Demographic and Health Surveys (DHS) | Drain PK, BMC Infect Dis 2006; 6: 172 | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

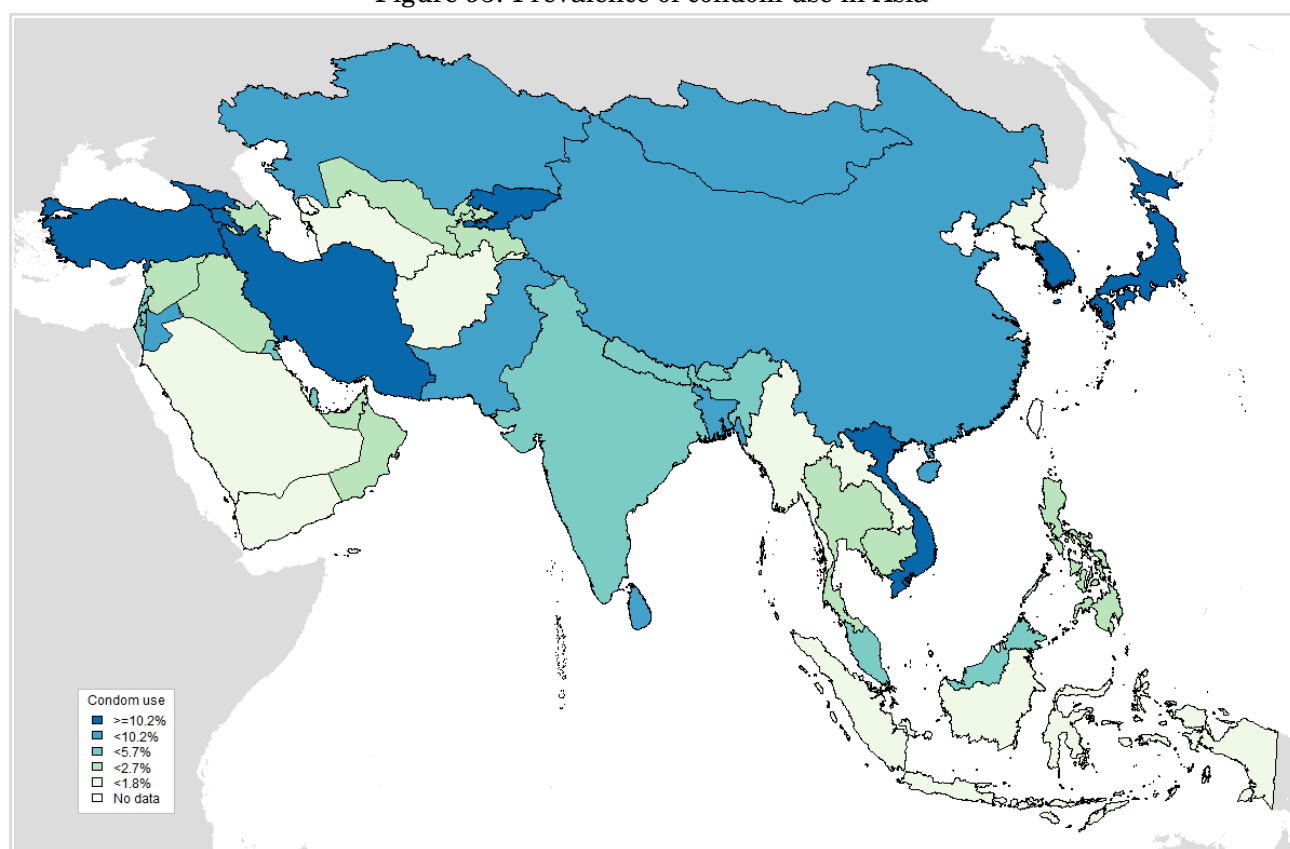
Republic of Korea: Ku JH, Sex Transm Infect 2003; 79: 65 | Shin HR, J Infect Dis 2004; 190: 468 | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

Malaysia: Drain PK, BMC Infect Dis 2006; 6: 172 | Tang WS, J Sex Med 2011; 8: 2071 | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

Philippines, Thailand: Castellsagué X, Am J Epidemiol 2005; 162: 907 | Drain PK, BMC Infect Dis 2006; 6: 172 | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

Timor-Leste: 2009 Demographic and Health Surveys (DHS) | WHO 2007: Male circumcision: Global trends and determinants of prevalence, safety and acceptability

Figure 95: Prevalence of condom use in Asia

**Data accessed on 21 Mar 2017.**

Please refer to original source for methods of estimation.

Condom use: Proportion of male partners who are using condoms with their female partners of reproductive age (15-49 years) to whom they are married or in union by country.

For Sri Lanka: Excluding the Northern Province.

Data sources: United Nations, Department of Economic and Social Affairs, Population Division (2016). World Contraceptive Use 2016 (POP/DB/CP/Rev2016). <http://www.un.org/en/development/desa/population/publications/dataset/contraception/wcu2016.shtml>. Available at: [Accessed on March 22, 2017].

For Afghanistan: Afghanistan 2010-2011 Multiple Indicator Cluster Survey

United Arab Emirates: United Arab Emirates 1995 Family Health Survey

Armenia: Armenia 2010 Demographic and Health Survey

Azerbaijan: Azerbaijan 2006 Demographic and Health Survey

Bangladesh: Bangladesh 2014 Demographic and Health Survey (DHS)

Bahrain: Bahrain 1995 Family Health Survey

Bhutan: Bhutan 2010 Multiple Indicator Survey

China: China 2006 National Family Planning and Reproductive Health Survey

Georgia: Georgia 2010 Reproductive Health Survey

Hong Kong SAR: China, Hong Kong (SAR) 2012 Family Planning Knowledge, Attitude and Practice

Indonesia: Indonesia 2015 PMA2020 Round 1

India: India 2007-2008 District Level Household Survey

Iran: Iran (Islamic Republic of) 2010 Multiple-Indicator Demographic and Health Survey

Iraq: Iraq 2011 Multiple Indicator Cluster Survey

Israel: Israel 1987-1988 Study of Fertility and Family Formation Survey

Jordan: Jordan 2012 Demographic and Health Survey

Japan: Japan 2005 13th National Fertility Survey

Kazakhstan: Kazakhstan 2010-2011 Multiple Indicator Cluster Survey

Kyrgyzstan: Kyrgyzstan 2014 Multiple Indicator Cluster Survey

Cambodia: Cambodia 2014 Demographic and Health Survey

Republic of Korea: Republic of Korea 2009 National Fertility and Family Health Survey

Kuwait: Kuwait 1999 Desired Fertility and Contraceptive Use

Laos: Lao People's Democratic Republic 2011-2012 Social Indicator Survey (MICS/DHS)

Lebanon: Lebanon 2009 Multiple Indicator Cluster Survey

Sri Lanka: Sri Lanka 2006-2007 Demographic and Health Survey

Maldives: Maldives 2009 Demographic and Health Survey

Myanmar: Myanmar 2009-2010 Multiple Indicator Cluster Survey

Mongolia: Mongolia 2013 Multiple Indicator Cluster Survey

Malaysia: Malaysia 2014 Population and Family Survey

Nepal: Nepal 2014 Multiple Indicator Cluster Survey

Oman: Oman 2014 Multiple Indicator Cluster Survey

Pakistan: Pakistan 2012-2013 Demographic and Health Survey

Philippines: Philippines 2013 Demographic and Health Survey

DPR Korea: Democratic People's Republic of Korea 2010 Reproductive Health Survey

Palestine: State of Palestine 2014 MICS

Qatar: Qatar 2012 Multiple Indicator Cluster Survey

Saudi Arabia: Saudi Arabia 2007 Demographic Survey

Singapore: Singapore 1997 National Family Planning and Population Survey

Syria: Syrian Arab Republic 2009-2010 Family Health Survey

Thailand: Thailand 2012 Multiple Indicator Cluster Survey

Tajikistan: Tajikistan 2012 Demographic and Health Survey

Turkmenistan: Turkmenistan 2006 Multiple Indicator Cluster Survey

Timor-Leste: Timor-Leste 2009-2010 Demographic and Health Survey

Turkey: Turkey 2013 Demographic and Health Survey

Uzbekistan: Uzbekistan 2006 Multiple Indicator Cluster Survey

Viet Nam: Viet Nam 2013-2014 Multiple Indicator Cluster Survey

(Continued on next page)

Yemen: Yemen 2013 Demographic and Health Survey

(Figure 95 – continued from previous page)

9 References

HPV-related statistics were gathered from specific databases created at the Institut Català d'Oncologia and the International Agency for Research on Cancer.

Systematic collection of published literature from peer-reviewed journals is stored in these databases. Data correspond to results from the following reference papers as well as updated results from continuous monitoring of the literature by the HPV Information Centre:

Table 33: References of studies included

Country	Study
HPV prevalence and HPV type distribution for cytologically normal women	
General sources	Based on systematic reviews and meta-analysis performed by ICO. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bruni L, J Infect Dis 2010; 202: 1789. 2) De Sanjosé S, Lancet Infect Dis 2007; 7: 453
Asia	
Bangladesh	Nahar Q, PLoS ONE 2014; 9: e107675
Bahrain	Hajjaj AA, Saudi Med J 2006; 27: 487
Bhutan	Tshomo U, BMC Infect Dis 2014; 14: 408
China	Belinson J, Gynecol Oncol 2001; 83: 439 Belinson JL, Am J Clin Pathol 2011; 135: 790 Belinson JL, Int J Gynecol Cancer 2003; 13: 819 Bian ML, Exp Ther Med 2013; 6: 1332 Chan PK, J Infect Dis 2002; 185: 28 Chan PK, J Med Virol 2009; 81: 1635 Chen Q, PLoS ONE 2012; 7: e32149 Chen Z, Exp Ther Med 2013; 6: 85 Chui SH, Public Health 2012; 126: 600 Dai M, Br J Cancer 2006; 95: 96 Ding X, J Med Virol 2014; 86: 1937 DU H, Zhonghua Liu Xing Bing Xue Za Zhi 2012; 33: 799 He X, Eur J Epidemiol 2008; 23: 403 Hu SY, Chin J Cancer Res 2011; 23: 25 Jin Q, Chin Med J 2010; 123: 2004 Li C, Cancer Epidemiol Biomarkers Prev 2010; 19: 2655 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Li LK, Br J Cancer 2006; 95: 1593 Lin M, Aust N Z J Obstet Gynaecol 2008; 48: 189 Lu S, J Med Virol 2015; 87: 504 Mai RQ, Asian Pac J Cancer Prev 2014; 15: 4945 Moy LM, Int J Cancer 2010; 127: 646 Qiao YL, Lancet Oncol 2008; 9: 929 Sui S, Asian Pac J Cancer Prev 2013; 14: 5861 Sun LL, Virol J 2012; 9: 153 Sun ZR, Int J Gynaecol Obstet 2010; 109: 105 Wang S, BMC Cancer 2012; 12: 160 Wang X, Int J Gynaecol Obstet 2013; 120: 37 Wang XC, Asian Pac J Cancer Prev 2014; 15: 7333 Wang YY, Asian Pac J Cancer Prev 2013; 14: 7483 Wei H, Int J Gynaecol Obstet 2014; 126: 28 Wu D, Eur J Obstet Gynecol Reprod Biol 2010; 151: 86 Wu EQ, Cancer Causes Control 2013; 24: 795 Wu R, Int J Gynecol Cancer 2010; 20: 1411 Wu RF, Int J Cancer 2007; 121: 1306 Ye J, Int J Gynecol Cancer 2010; 20: 1374 Ye J, Virol J 2010; 7: 66 Yeoh GP, Acta Cytol 2006; 50: 627 Yip YC, J Med Virol 2010; 82: 1724 Yu XW, J Low Genit Tract Dis 2013; 17: 17 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhang L, Arch Gynecol Obstet 2012; 286: 695 Zhang R, J Clin Virol 2013; 58: 144 Zhang WY, Chin Med J 2008; 121: 1578 Zhao FH, Cancer Prev Res (Phila) 2013; 6: 938 Zhao FH, Int J Cancer 2014; 135: 2604
Georgia	Alibegashvili T, Cancer Epidemiol 2011; 35: 465
Indonesia	de Boer MA, Int J Gynecol Cancer 2006; 16: 1809 Rachmadi L, Acta Cytol 2012; 56: 171 Vet JN, Br J Cancer 2008; 99: 214

(Continued)

Table 33 – Continued

Country	Study
India	Aggarwal R, Indian J Cancer 2006; 43: 110 Arora R, Eur J Obstet Gynecol Reprod Biol 2005; 121: 104 Basu P, Int J Cancer 2013; 132: 1693 Bhatla N, Int J Gynecol Pathol 2008; 27: 426 Datta P, Cancer Epidemiol 2010; 34: 157 Dutta S, Int J Gynecol Pathol 2012; 31: 178 Franceschi S, Br J Cancer 2005; 92: 601 Gravitt PE, PLoS ONE 2010; 5: e13711 Gupta S, Cytopathology 2009; 20: 249 Jeronimo J, Int J Gynecol Cancer 2014; 24: 576 Kashyap V, J Cytol 2013; 30: 190 Kerkar SC, Sex Reprod Healthc 2011; 2: 7 Laikangbam P, Int J Gynecol Cancer 2007; 17: 107 Mittal S, Int J Gynaecol Obstet 2014; 126: 227 Pandey S, Asian Pac J Cancer Prev 2012; 13: 2643 Sankaranarayanan R, Int J Cancer 2004; 112: 341 Sankaranarayanan R, Int J Cancer 2005; 116: 617 Sarkar K, BMC Infect Dis 2011; 11: 72 Singh A, Int J Gynecol Cancer 2009; 19: 1642 Srivastava S, J Biosci 2012; 37: 63 Vinodhini K, Int J Gynaecol Obstet 2012; 119: 253
Iran	Eghbali SS, Virol J 2012; 9: 194 Khodakarami N, Int J Cancer 2012; 131: E156 Moradi A, Iran J Cancer Prev 2011; 3: 135 Safaei A, Indian J Pathol Microbiol 2010; 53: 681 Shahramian I, Iran J Public Health 2011; 40: 113 Zandi K, Virol J 2010; 7: 65 Zavarei 2008: reported in Vaccarella S, Vaccine 2013; 31 Suppl 6: G32
Japan	Asato T, J Infect Dis 2004; 189: 1829 Chen L, J Med Virol 2013; 85: 1229 Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Ishi K, J Obstet Gynaecol Res 2004; 30: 380 Konno R, Cancer Sci 2011; 102: 877 Maehama T, Infect Dis Obstet Gynecol 2005; 13: 77 Masumoto N, Gynecol Oncol 2004; 94: 509 Nishiwaki M, J Clin Microbiol 2008; 46: 1161 Onuki M, Cancer Sci 2009; 100: 1312 Saito J, Int J Gynaecol Obstet 1995; 51: 43 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Sasagawa T, Jpn J Cancer Res 1997; 88: 376 Sasagawa T, Sex Transm Infect 2005; 81: 280 Satoh T, J Virol Methods 2013; 188: 83 Takehara K, Patholog Res Int 2011; 2011: 246936 Yoshikawa H, Br J Cancer 1999; 80: 621
Kazakhstan	Buleshov 2011: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32
Republic of Korea	An HJ, Cancer 2003; 97: 1672 Bae J, Gynecol Oncol 2009; 115: 75 Bae JH, J Microbiol Biotechnol 2009; 19: 1051 Bae JM, Arch Virol 2014; 159: 1909 Cho EJ, J Med Microbiol 2011; 60: 162 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang HS, Cancer Epidemiol Biomarkers Prev 2004; 13: 2153 Hwang Y, Ann Lab Med 2012; 32: 201 Kim J, Int J Gynecol Cancer 2012; 22: 1570 Kim JH, Oncol Rep 2013; 29: 1645 Kim JK, J Microbiol Biotechnol 2014; 24: 1143 Kim K, Asian Pac J Cancer Prev 2012; 13: 269 Kim MA, J Korean Med Sci 2012; 27: 922 Kim MA, Obstet Gynecol 2010; 116: 932 Kim MJ, Obstet Gynecol Sci 2013; 56: 110 Kim TE, Korean J Pathol 2014; 48: 24 Kim Y, J Infect Chemother 2014; 20: 74 Kim YJ, J Microbiol 2013; 51: 665 Lee EH, J Korean Med Sci 2012; 27: 1091 Lee H, Epidemiol Infect 2014; 142: 1579 Lee HP, J Med Virol 2011; 83: 471 Lee SA, Cancer Lett 2003; 198: 187 Lee SJ, Int J Med Sci 2012; 9: 103 Oh JK, Eur J Cancer Prev 2009; 18: 56 Oh YL, Cytopathology 2001; 12: 75 Park EK, J Korean Med Sci 2014; 29: 32 Shim HS, BMC Infect Dis 2010; 10: 284 Shin HR, Int J Cancer 2003; 103: 413 Shin HR, J Infect Dis 2004; 190: 468 Um TH, Ann Clin Lab Sci 2011; 41: 48
Kuwait	Al-Awadhi R, J Med Virol 2011; 83: 453
Laos	Phongsavan K, Int J Gynecol Cancer 2012; 22: 1398
Lebanon	Karam WG, Lebanese Medical Journal 2005; 53: 132 Mroueh AM, Eur J Gynaecol Oncol 2002; 23: 429
Mongolia	Chimeddorj B, Asian Pac J Cancer Prev 2008; 9: 563 Dondog B, Cancer Epidemiol Biomarkers Prev 2008; 17: 1731
Malaysia	Chong PP, Asian Pac J Cancer Prev 2010; 11: 1645 Othman N, Asian Pac J Cancer Prev 2014; 15: 2245 Tay SK, Aust N Z J Obstet Gynaecol 2009; 49: 323
Nepal	Johnson DC, PLoS ONE 2014; 9: e101255 Sherpa AT, Cancer Causes Control 2010; 21: 323
Pakistan	Raza SA, Br J Cancer 2010; 102: 1657

(Continued)

Table 33 – Continued

Country	Study
Philippines	Ngelangel C, J Natl Cancer Inst 1998; 90: 43
Saudi Arabia	Al-Ahdal MN, J Infect Dev Ctries 2014; 8: 320
Thailand	Chaiwongkot A, Asian Pac J Cancer Prev 2007; 8: 279 Chandeying V, Sex Health 2006; 3: 11 Chansaenroj J, Asian Pac J Cancer Prev 2010; 11: 117 Chichareon S, J Natl Cancer Inst 1998; 90: 50 Chopjitt P, Int J Infect Dis 2009; 13: 212 Ekalaksananan T, J Obstet Gynaecol Res 2010; 36: 1037 Laowahutanont P, Asian Pac J Cancer Prev 2014; 15: 5879 Marks M, Int J Cancer 2011; 128: 2962 Natphopsuk S, Asian Pac J Cancer Prev 2013; 14: 6961 Paengchit K, Asian Pac J Cancer Prev 2014; 15: 6151 Settheetham-Ishida W, Microbiol Immunol 2005; 49: 417 Siriaunkgul S, Asian Pac J Cancer Prev 2014; 15: 6837 Siritantikorn S, Southeast Asian J Trop Med Public Health 1997; 28: 707 Sriamporn S, Int J Gynecol Cancer 2006; 16: 266 Sukvirach S, J Infect Dis 2003; 187: 1246 Suwannarurk K, Cancer Epidemiol 2009; 33: 56 Swangvaree SS, Asian Pac J Cancer Prev 2010; 11: 1465 Thomas DB, Am J Epidemiol 2001; 153: 723 Wongworapat K, Sex Transm Dis 2008; 35: 172
Turkey	Akcali S, Asian Pac J Cancer Prev 2013; 14: 503 Altun 2011: reported in Vaccarella S, Vaccine 2013; 31 Suppl 6: G32 Bayram A, J Med Virol 2011; 83: 1997 Demir ET, J Med Virol 2012; 84: 1242 Dursun P, BMC Infect Dis 2009; 9: 191 Eren F, Int J Gynaecol Obstet 2010; 109: 235 Inal MM, Int J Gynecol Cancer 2007; 17: 1266 Kasap B, Eur J Obstet Gynecol Reprod Biol 2011; 159: 168 Ozalp SS, J Turk Ger Gynecol Assoc 2012; 13: 8 Oztürk S, Mikrobiyol Bul 2004; 38: 223 Sahiner F, Diagn Microbiol Infect Dis 2014; 80: 43 Sahiner F, J Microbiol Methods 2014; 97: 44 Tezcan S, Asian Pac J Cancer Prev 2014; 15: 3997 Yuce K, Arch Gynecol Obstet 2012; 286: 203 Özcan ES, J Obstet Gynaecol 2011; 31: 656
Taiwan	Chen HC, Int J Cancer 2011; 128: 1192 Huang YK, Br J Cancer 2008; 98: 863 Jeng CJ, Clin Invest Med 2005; 28: 261 Lai CH, Epidemiol Infect 2012; 140: 466 Liaw KL, Int J Cancer 1995; 62: 565 Lin H, Gynecol Oncol 2005; 96: 84 Lin H, Gynecol Oncol 2006; 101: 40 Tsai HT, Cancer Epidemiol Biomarkers Prev 2005; 14: 2544 Wang CH, J Med Virol 2010; 82: 1416
Uzbekistan	Inamova 2009: reported in De Vuyst H, Vaccine 2013; 31 Suppl 5: F32
Viet Nam	Pham TH, Int J Cancer 2003; 104: 213 Vu LT, Asian Pac J Cancer Prev 2011; 12: 561 Vu LT, Asian Pac J Cancer Prev 2012; 13: 37 Vu LT, Western Pac Surveill Response J 2012; 3: 57
HPV type distribution for invasive cervical cancer (ICC)	
General sources	Based on meta-analysis performed by IARC's Infections and Cancer Epidemiology Group up to November 2011, the ICO HPV Information Centre has updated data until June 2014. Reference publications: 1) Guan P, Int J Cancer 2012;131:2349 2) Li N, Int J Cancer 2011;128:927 3) Smith JS, Int J Cancer 2007;121:621 4) Clifford GM, Br J Cancer 2003;88:63 5) Clifford GM, Br J Cancer 2003;89:101.

(Continued)

Table 33 – Continued

Country	Study
Asia	
China	Contributing studies: Cai HB, Eur J Gynaecol Oncol 2008; 29: 72 Cai HB, Oncology 2009; 76: 157 Chan PK, Int J Cancer 2009; 125: 1671 Chan PK, Int J Cancer 2012; 131: 692 Chen W, Cancer Causes Control 2009; 20: 1705 Ding X, J Med Virol 2014; 86: 1937 Gao YE, Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao 2003; 35: 1029 Hong D, Int J Gynecol Cancer 2008; 18: 104 Huang S, Int J Cancer 1997; 70: 408 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Lin QQ, Int J Cancer 1998; 75: 484 Liu GB, J First Mil Med Univ 2005; 25: 1236 Liu J, Gynecol Oncol 2004; 94: 803 Liu SS, Tumour Biol 2008; 29: 105 Liu X, Int J Gynecol Cancer 2010; 20: 147 Lo KW, Gynecol Obstet Invest 2001; 51: 202 Lo KW, Int J Cancer 2002; 100: 327 Peng HQ, Int J Cancer 1991; 47: 711 Qiu AD, Gynecol Oncol 2007; 104: 77 Serrano B, Cancer Epidemiol 2014 Shah W, Clin Oncol (R Coll Radiol) 2009; 21: 768 Stephen AL, Int J Cancer 2000; 86: 695 Tao PP, Zhonghua Fu Chan Ke Za Zhi 2006; 41: 43 Wang L, J Med Virol 2015; 87: 516 Wu EQ, BMC Cancer 2008; 8: 202 Wu EQ, Int J Gynecol Cancer 2009; 19: 919 Wu Y, J Med Virol 2008; 80: 1808 Yu MY, Int J Cancer 2003; 105: 204 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhao Y, Pathol Int 2008; 58: 643
Georgia	Contributing studies: Alibegashvili T, Cancer Epidemiol 2011; 35: 465
Indonesia	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 De Boer MA, Int J Cancer 2005; 114: 422 Schellekens MC, Gynecol Oncol 2004; 93: 49 Tobing MD, Asian Pac J Cancer Prev 2014; 15: 5781
India	Contributing studies: Basu P, Asian Pac J Cancer Prev 2009; 10: 27 Bhatla N, Int J Gynecol Pathol 2006; 25: 398 Deodhar K, J Med Virol 2012; 84: 1054 Franceschi S, Int J Cancer 2003; 107: 127 Gheit T, Vaccine 2009; 27: 636 Munagala R, Int J Oncol 2009; 34: 263 Munirajan AK, Gynecol Oncol 1998; 69: 205 Munjal K, Int J Gynecol Pathol 2014; 33: 531 Nagpal JK, Eur J Clin Invest 2002; 32: 943 Nair P, Pathol Oncol Res 1999; 5: 95 Nambaru L, Asian Pac J Cancer Prev 2009; 10: 355 Neyaz MK, Biomarkers 2008; 13: 597 Peedicayil A, Int J Gynecol Cancer 2006; 16: 1591 Peedicayil A, J Low Genit Tract Dis 2009; 13: 102 Serrano B, Cancer Epidemiol 2014 Sowjanya AP, BMC Infect Dis 2005; 5: 116
Iran	Contributing studies: Esmaeili M, Gynecol Obstet Invest 2008; 66: 68 Hamkar R, East Mediterr Health J 2002; 8: 805 Khodakarami N, Int J Cancer 2012; 131: E156 Mortazavi S, Asian Pac J Cancer Prev 2002; 3: 69 Salehi-Vaziri M, Arch Virol 2015; 160: 1181
Israel	Contributing studies: Bassal R, J Low Genit Tract Dis 2015; 19: 161 Laskov I, Int J Gynecol Cancer 2013; 23: 730
Jordan	Contributing studies: Sughayer MA, Int J Gynaecol Obstet 2010; 108: 74
Japan	Contributing studies: Asato T, J Infect Dis 2004; 189: 1829 Azuma Y, Jpn J Clin Oncol 2014 Fujinaga Y, J Gen Virol 1991; 72 (Pt 5): 1039 Harima Y, Int J Radiat Oncol Biol Phys 2002; 52: 1345 Imajoh M, Virol J 2012; 9: 154 Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Ishikawa H, Cancer 2001; 91: 80 Kanao H, Cancer Lett 2004; 213: 31 Kashiwabara K, Acta Pathol Jpn 1992; 42: 876 Maehama T, Infect Dis Obstet Gynecol 2005; 13: 77 Maki H, Jpn J Cancer Res 1991; 82: 411 Nakagawa H, Anticancer Res 2002; 22: 1655 Nakagawa S, Cancer 1996; 78: 1935 Nawa A, Cancer 1995; 75: 518 Onuki M, Cancer Sci 2009; 100: 1312 Saito J, Gynecol Obstet Invest 2000; 49: 190 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Takehara K, Patholog Res Int 2011; 2011: 246936 Tsuda H, Gynecol Oncol 2003; 91: 476 Watari H, Pathobiology 2011; 78: 220 Yamakawa Y, Gynecol Oncol 1994; 53: 190 Yamasaki K, J Obstet Gynaecol Res 2011; 37: 1666 Yoshida T, Cancer 2004; 102: 100 Yoshida T, Virchows Arch 2009; 455: 253

(Continued)

Table 33 – Continued

Country	Study
Republic of Korea	Contributing studies: An HJ, Cancer 2003; 97: 1672 An HJ, Mod Pathol 2005; 18: 528 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang T, J Korean Med Sci 1999; 14: 593 Hwang TS, Gynecol Oncol 2003; 90: 51 Kim JY, J Clin Oncol 2009; 27: 5088 Kim KH, Yonsei Med J 1995; 36: 412 Lee HS, Int J Gynecol Cancer 2007; 17: 497 Oh JK, Asian Pac J Cancer Prev 2010; 11: 993 Quek SC, Int J Gynecol Cancer 2013; 23: 148 Song ES, J Korean Med Sci 2007; 22: 99 Tong SY, Int J Gynecol Cancer 2007; 17: 1307
Sri Lanka	Contributing studies: Karunaratne K, BMC Cancer 2014; 14: 116 Samarawickrema NA, Int J Gynaecol Obstet 2011; 115: 180
Mongolia	Contributing studies: Chimeddorj B, Asian Pac J Cancer Prev 2008; 9: 563
Malaysia	Contributing studies: Cheah PL, Malays J Pathol 2008; 30: 37 Hamzi Abdul Raub S, Asian Pac J Cancer Prev 2014; 15: 651 Quek SC, Int J Gynecol Cancer 2013; 23: 148 Sharifah NA, Asian Pac J Cancer Prev 2009; 10: 303 Yadav M, Med J Malaysia 1995; 50: 64
Nepal	Contributing studies: Sherpa AT, Cancer Causes Control 2010; 21: 323
Pakistan	Contributing studies: Khan S, Int J Infect Dis 2007; 11: 313 Raza SA, Br J Cancer 2010; 102: 1657
Philippines	Contributing studies: Bosch FX, J Natl Cancer Inst 1995; 87: 796 de Sanjose S, Lancet Oncol 2010; 11: 1048 Ngelangel C, J Natl Cancer Inst 1998; 90: 43 Quek SC, Int J Gynecol Cancer 2013; 23: 148
Saudi Arabia	Contributing studies: Alsbeih G, Gynecol Oncol 2011; 121: 522
Singapore	Contributing studies: Quek SC, Int J Gynecol Cancer 2013; 23: 148
Syria	Contributing studies: Darnel AD, Clin Microbiol Infect 2010; 16: 262
Thailand	Contributing studies: Bhattarakosol P, J Med Assoc Thai 1996; 79 Suppl 1: S56 Bosch FX, J Natl Cancer Inst 1995; 87: 796 Chansaenroj J, J Med Virol 2014; 86: 601 Chichareon S, J Natl Cancer Inst 1998; 90: 50 Chopjitt P, Int J Infect Dis 2009; 13: 212 Natphopsuk S, Asian Pac J Cancer Prev 2013; 14: 6961 Settheetham-Ishida W, Microbiol Immunol 2005; 49: 417 Siriaunkgul S, Gynecol Oncol 2008; 108: 555 Siritantikorn S, Southeast Asian J Trop Med Public Health 1997; 28: 707
Turkey	Contributing studies: Ozgul N, J Obstet Gynaecol Res 2008; 34: 865 Usubütin A, Int J Gynecol Pathol 2009; 28: 541
Taiwan	Contributing studies: Chao A, Int J Gynecol Pathol 2009; 28: 279 Chen SL, Cancer 1993; 72: 1939 Chen TM, Int J Cancer 1994; 57: 181 Ding DC, Eur J Obstet Gynecol Reprod Biol 2008; 140: 245 Ho CM, Gynecol Oncol 2005; 99: 615 Huang HJ, Int J Gynecol Cancer 2004; 14: 639 Huang LW, J Clin Virol 2004; 29: 271 Lai CH, Int J Cancer 2007; 120: 1999 Lai HC, Int J Cancer 1999; 84: 553 Lin H, Gynecol Oncol 2005; 96: 84 Su TH, Carcinogenesis 2007; 28: 1237 Yang YC, Gynecol Oncol 1997; 64: 59 Yang YY, J Microbiol Immunol Infect 2004; 37: 282
Viet Nam	Contributing studies: Quek SC, Int J Gynecol Cancer 2013; 23: 148
HPV type distribution for cervical high grade squamous intraepithelial lesions	
General sources	Based on meta-analysis performed by IARC's Infections and Cancer Epidemiology Group up to November 2011, the ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Guan P, Int J Cancer 2012;131:2349 2) Smith JS, Int J Cancer 2007;121:621 3) Clifford GM, Br J Cancer 2003;89:101.
Asia	
Bangladesh	Contributing studies: Banik U, Cytojournal 2013; 10: 14

(Continued)

Table 33 – Continued

Country	Study
China	Contributing studies: Chan MK, <i>Gynecol Oncol</i> 1996; 60: 217 Chan PK, <i>Int J Cancer</i> 2006; 118: 243 Chan PK, <i>Int J Cancer</i> 2012; 131: 692 Chan PK, <i>J Med Virol</i> 1999; 59: 232 Ding X, <i>J Med Virol</i> 2014; 86: 1937 Guo J, <i>Scand J Infect Dis</i> 2010; 42: 72 Jin Q, <i>Chin Med J</i> 2010; 123: 2004 Li H, <i>Eur J Obstet Gynecol Reprod Biol</i> 2013; 170: 202 Li J, <i>Int J Gynaecol Obstet</i> 2011; 112: 131 Li J, <i>J Clin Microbiol</i> 2012; 50: 1079 Liu SS, <i>Tumour Biol</i> 2008; 29: 105 Singh S, <i>Int J Clin Exp Pathol</i> 2015; 8: 11901 Sun B, <i>Arch Virol</i> 2014; 159: 1027 Tao PP, <i>Zhonghua Fu Chan Ke Za Zhi</i> 2006; 41: 43 Wu CH, <i>Sex Transm Dis</i> 1994; 21: 309 Wu EQ, <i>Cancer Causes Control</i> 2013; 24: 795 Yuan X, <i>Arch Gynecol Obstet</i> 2011; 283: 1385 Zhang R, <i>Cancer Epidemiol</i> 2013; 37: 939 Zhao FH, <i>Int J Cancer</i> 2014; 135: 2604 Zhao Y, <i>Pathol Int</i> 2008; 58: 643
India	Contributing studies: Deodhar K, <i>J Med Virol</i> 2012; 84: 1054 Franceschi S, <i>Br J Cancer</i> 2005; 92: 601 Nagpal JK, <i>Eur J Clin Invest</i> 2002; 32: 943 Singh M, <i>Tumour Biol</i> 2009; 30: 276
Iran	Contributing studies: Esmaeili M, <i>Gynecol Obstet Invest</i> 2008; 66: 68 Ghaffari SR, <i>Asian Pac J Cancer Prev</i> 2006; 7: 529 Khodakarami N, <i>Int J Cancer</i> 2012; 131: E156
Israel	Contributing studies: Bassal R, <i>J Low Genit Tract Dis</i> 2015; 19: 161 Laskov I, <i>Int J Gynecol Cancer</i> 2013; 23: 730
Japan	Contributing studies: Azuma Y, <i>Jpn J Clin Oncol</i> 2014 Ichimura H, <i>Int J Clin Oncol</i> 2003; 8: 322 Inoue M, <i>Int J Gynecol Cancer</i> 2006; 16: 1007 Konno R, <i>Cancer Sci</i> 2011; 102: 877 Matsumoto K, <i>Int J Cancer</i> 2011; 128: 2898 Nagai Y, <i>Gynecol Oncol</i> 2000; 79: 294 Nakamura Y, <i>Int J Clin Oncol</i> 2015; 20: 974 Nishiwaki M, <i>J Clin Microbiol</i> 2008; 46: 1161 Niwa K, <i>Oncol Rep</i> 2003; 10: 1437 Okadome M, <i>J Obstet Gynaecol Res</i> 2014; 40: 561 Onuki M, <i>Cancer Sci</i> 2009; 100: 1312 Sasagawa T, <i>Cancer Epidemiol Biomarkers Prev</i> 2001; 10: 45 Takehara K, <i>Patholog Res Int</i> 2011; 2011: 246936 Tsuda H, <i>Gynecol Oncol</i> 2003; 91: 476 Yamasaki K, <i>J Obstet Gynaecol Res</i> 2011; 37: 1666 Yoshida T, <i>Cancer</i> 2004; 102: 100
Republic of Korea	Contributing studies: Cho NH, <i>Am J Obstet Gynecol</i> 2003; 188: 56 Hwang TS, <i>Gynecol Oncol</i> 2003; 90: 51 Kahng J, <i>Ann Lab Med</i> 2014; 34: 127 Kang WD, <i>Int J Gynecol Cancer</i> 2009; 19: 924 Oh YL, <i>Cytopathology</i> 2001; 12: 75 Quek SC, <i>Int J Gynecol Cancer</i> 2013; 23: 148
Kuwait	Contributing studies: Al-Awadhi R, <i>Diagn Cytopathol</i> 2013; 41: 107 Al-Awadhi R, <i>J Med Virol</i> 2011; 83: 453
Sri Lanka	Contributing studies: Karunaratne K, <i>BMC Cancer</i> 2014; 14: 116
Myanmar	Contributing studies: Mu-Mu-Shwe, <i>Acta Med Okayama</i> 2014; 68: 79
Malaysia	Contributing studies: Quek SC, <i>Int J Gynecol Cancer</i> 2013; 23: 148
Pakistan	Contributing studies: Raza SA, <i>Br J Cancer</i> 2010; 102: 1657
Philippines	Contributing studies: Quek SC, <i>Int J Gynecol Cancer</i> 2013; 23: 148
Singapore	Contributing studies: Quek SC, <i>Int J Gynecol Cancer</i> 2013; 23: 148
Thailand	Contributing studies: Chansaenroj J, <i>Asian Pac J Cancer Prev</i> 2010; 11: 117 Chansaenroj J, <i>J Med Virol</i> 2014; 86: 601 Limpaboon T, <i>Southeast Asian J Trop Med Public Health</i> 2000; 31: 66 Sukasem C, <i>J Med Virol</i> 2011; 83: 119 Suwannarurk K, <i>Cancer Epidemiol</i> 2009; 33: 56 Swangvaree SS, <i>Asian Pac J Cancer Prev</i> 2013; 14: 1023
Turkey	Contributing studies: Baser E, <i>Int J Gynaecol Obstet</i> 2014; 125: 275 Sahiner F, <i>Mikrobiyol Bul</i> 2012; 46: 624 Tezcan S, <i>Asian Pac J Cancer Prev</i> 2014; 15: 3997 Yuce K, <i>Arch Gynecol Obstet</i> 2012; 286: 203
Taiwan	Contributing studies: Chao A, <i>Int J Cancer</i> 2008; 122: 2835 Chao A, <i>Int J Cancer</i> 2010; 126: 191 Ho CM, <i>Gynecol Oncol</i> 2005; 99: 615 Lai HC, <i>Int J Cancer</i> 2003; 103: 221 Lin H, <i>Gynecol Oncol</i> 2005; 96: 84 Yang YY, <i>J Microbiol Immunol Infect</i> 2004; 37: 282
Viet Nam	Contributing studies: Quek SC, <i>Int J Gynecol Cancer</i> 2013; 23: 148

(Continued)

Table 33 – Continued

Country	Study
HPV type distribution for cervical low grade squamous intraepithelial lesions	
General sources	Based on meta-analysis performed by IARC's Infections and Cancer Epidemiology Group up to November 2011, the ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Guan P, Int J Cancer 2012;131:2349 2) Clifford GM, Cancer Epidemiol Biomarkers Prev 2005;14:1157
Asia	
Bangladesh	Contributing studies: Banik U, Cytojournal 2013; 10: 14
China	Contributing studies: Chan PK, Int J Cancer 2006; 118: 243 Chan PK, Int J Cancer 2012; 131: 692 Chan PK, J Med Virol 1999; 59: 232 Ding X, J Med Virol 2014; 86: 1937 Guo J, Scand J Infect Dis 2010; 42: 72 Hong D, Int J Gynecol Cancer 2008; 18: 104 Jin Q, Chin Med J 2010; 123: 2004 Li H, Eur J Obstet Gynecol Reprod Biol 2013; 170: 202 Li J, J Clin Microbiol 2012; 50: 1079 Liu SS, Tumour Biol 2008; 29: 105 Liu X, Int J Gynecol Cancer 2010; 20: 147 Sun B, Arch Virol 2014; 159: 1027 Tao PP, Zhonghua Fu Chan Ke Za Zhi 2006; 41: 43 Wu D, Eur J Obstet Gynecol Reprod Biol 2010; 151: 86 Wu EQ, Cancer Causes Control 2013; 24: 795 Yuan X, Arch Gynecol Obstet 2011; 283: 1385 Zhang R, Cancer Epidemiol 2013; 37: 939 Zhao FH, Int J Cancer 2014; 135: 2604 Zhao Y, Pathol Int 2008; 58: 643
India	Contributing studies: Berlin Grace VM, Indian J Cancer 2009; 46: 203 Franceschi S, Br J Cancer 2005; 92: 601 Nagpal JK, Eur J Clin Invest 2002; 32: 943 Nair P, Pathol Oncol Res 1999; 5: 95 Singh M, Tumour Biol 2009; 30: 276
Iran	Contributing studies: Esmaeili M, Gynecol Obstet Invest 2008; 66: 68 Ghaffari SR, Asian Pac J Cancer Prev 2006; 7: 529 Khodakarami N, Int J Cancer 2012; 131: E156
Japan	Contributing studies: Inoue M, Int J Gynecol Cancer 2006; 16: 1007 Konno R, Cancer Sci 2011; 102: 877 Matsumoto K, Int J Cancer 2011; 128: 2898 Nishiwaki M, J Clin Microbiol 2008; 46: 1161 Onuki M, Cancer Sci 2009; 100: 1312 Saito J, Jap J Obstet Gynecol Pract 2001; 50: 871 Sasagawa T, Cancer Epidemiol Biomarkers Prev 2001; 10: 45 Takehara K, Patholog Res Int 2011; 2011: 246936 Tsuda H, Gynecol Oncol 2003; 91: 476 Yamasaki K, J Obstet Gynaecol Res 2011; 37: 1666 Yoshida T, Cancer 2004; 102: 100
Republic of Korea	Contributing studies: An HJ, Cancer 2003; 97: 1672 Cho NH, Am J Obstet Gynecol 2003; 188: 56 Hwang TS, Gynecol Oncol 2003; 90: 51 Kang WD, Int J Gynecol Cancer 2009; 19: 924 Lee HS, Int J Gynecol Cancer 2007; 17: 497 Oh YL, Cytopathology 2001; 12: 75
Kuwait	Contributing studies: Al-Awadhi R, Diagn Cytopathol 2013; 41: 107 Al-Awadhi R, J Med Virol 2011; 83: 453
Myanmar	Contributing studies: Mu-Mu-Shwe, Acta Med Okayama 2014; 68: 79
Malaysia	Contributing studies: Sharifah NA, Asian Pac J Cancer Prev 2009; 10: 303
Pakistan	Contributing studies: Raza SA, Br J Cancer 2010; 102: 1657
Thailand	Contributing studies: Bhattarakosol P, J Med Assoc Thai 2002; 85 Suppl 1: S360 Chaiwongkot A, Asian Pac J Cancer Prev 2007; 8: 279 Chansaenroj J, Asian Pac J Cancer Prev 2010; 11: 117 Chansaenroj J, J Med Virol 2014; 86: 601 Ekalaksananan T, J Obstet Gynaecol Res 2001; 27: 117 Suwannarurk K, Cancer Epidemiol 2009; 33: 56
Turkey	Contributing studies: Ergünay K, Mikrobiyol Bul 2008; 42: 273 Ozgul N, J Obstet Gynaecol Res 2008; 34: 865 Sahiner F, Mikrobiyol Bul 2012; 46: 624 Tezcan S, Asian Pac J Cancer Prev 2014; 15: 3997 Yuce K, Arch Gynecol Obstet 2012; 286: 203
Taiwan	Contributing studies: Chao A, Int J Cancer 2008; 122: 2835 Ding DC, Eur J Obstet Gynecol Reprod Biol 2008; 140: 245 Huang YK, Br J Cancer 2008; 98: 863

(Continued)

Table 33 – Continued

Country	Study
HPV type distribution for invasive anal cancer	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Asia	
Bangladesh	Aleman L, Int J Cancer 2015; 136: 98
India	Aleman L, Int J Cancer 2015; 136: 98
Republic of Korea	Aleman L, Int J Cancer 2015; 136: 98 Yhim HY, Int J Cancer 2011; 129: 1752 Youk EG, Dis Colon Rectum 2001; 44: 236
HPV type distribution for anal intraepithelial neoplasia (AIN)	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Asia	
Thailand	Phanuphak N, PLoS ONE 2013; 8: e78291
HPV type distribution for invasive vulvar cancer	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Asia	
Bangladesh	de Sanjosé S, Eur J Cancer 2013; 49: 3450
India	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Israel	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Japan	Nagano H, J Obstet Gynaecol Res 1996; 22: 1 Osakabe M, Pathol Int 2007; 57: 322
Republic of Korea	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Kuwait	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Lebanon	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Philippines	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Thailand	Ngamkham J, Asian Pac J Cancer Prev 2013; 14: 2355
Turkey	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Taiwan	de Sanjosé S, Eur J Cancer 2013; 49: 3450
HPV type distribution for vulvar intraepithelial neoplasia (VIN)	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Asia	
Bangladesh	de Sanjosé S, Eur J Cancer 2013; 49: 3450
India	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Israel	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Republic of Korea	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Kuwait	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Lebanon	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Philippines	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Turkey	de Sanjosé S, Eur J Cancer 2013; 49: 3450
Taiwan	de Sanjosé S, Eur J Cancer 2013; 49: 3450

(Continued)

Table 33 – Continued

Country	Study
HPV type distribution for invasive vaginal cancer	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Asia	
Bangladesh	Alemanly L, Eur J Cancer 2014; 50: 2846
India	Alemanly L, Eur J Cancer 2014; 50: 2846
Israel	Alemanly L, Eur J Cancer 2014; 50: 2846
Republic of Korea	Alemanly L, Eur J Cancer 2014; 50: 2846
Kuwait	Alemanly L, Eur J Cancer 2014; 50: 2846
Lebanon	Alemanly L, Eur J Cancer 2014; 50: 2846
Philippines	Alemanly L, Eur J Cancer 2014; 50: 2846
Turkey	Alemanly L, Eur J Cancer 2014; 50: 2846
Taiwan	Alemanly L, Eur J Cancer 2014; 50: 2846
HPV type distribution for vaginal intraepithelial neoplasia (VAIN)	
General sources	Based on systematic reviews (up to 2008) performed by ICO for the IARC Monograph on the Evaluation of Carcinogenic Risks to Humans volume 100B and IARC's Infections and Cancer Epidemiology Group. The ICO HPV Information Centre has updated data until June 2015. Reference publications: 1) Bouvard V, Lancet Oncol 2009;10:321 2) De Vuyst H, Int J Cancer 2009;124:1626
Asia	
Bangladesh	Alemanly L, Eur J Cancer 2014; 50: 2846
India	Alemanly L, Eur J Cancer 2014; 50: 2846
Israel	Alemanly L, Eur J Cancer 2014; 50: 2846
Japan	Sugase M, Int J Cancer 1997; 72: 412
Republic of Korea	Alemanly L, Eur J Cancer 2014; 50: 2846
Kuwait	Alemanly L, Eur J Cancer 2014; 50: 2846
Lebanon	Alemanly L, Eur J Cancer 2014; 50: 2846
Philippines	Alemanly L, Eur J Cancer 2014; 50: 2846
Turkey	Alemanly L, Eur J Cancer 2014; 50: 2846
Taiwan	Alemanly L, Eur J Cancer 2014; 50: 2846
HPV type distribution for invasive penile cancer	
General sources	The ICO HPV Information Centre has updated data until June 2015. Reference publications (up to 2008): 1) Bouvard V, Lancet Oncol 2009;10:321 2) Miralles-Guri C, J Clin Pathol 2009;62:870
Asia	
China	Chan KW, J Clin Pathol 1994; 47: 823
Japan	Iwasawa A, J Urol 1993; 149: 59 Suzuki H, Jpn J Clin Oncol 1994; 24: 1 Yanagawa N, Pathol Int 2008; 58: 477
Thailand	Senba M, J Med Virol 2006; 78: 1341
Viet Nam	Do HT, Br J Cancer 2013; 108: 229
HPV type distribution for penile intraepithelial neoplasia (PEIN)	
General sources	The ICO HPV Information Centre has updated data until June 2014. Reference publication (up to 2008): Bouvard V, Lancet Oncol 2009;10:321
The anogenital prevalence of HPV-DNA in men: HPV in men	
General sources	Based on published systematic reviews, the ICO HPV Information Centre has updated data until October 2015. Reference publications: 1) Dunne EF, J Infect Dis 2006; 194: 1044 2) Smith JS, J Adolesc Health 2011; 48: 540 3) Olesen TB, Sex Transm Infect 2014; 90: 455 4) Hebnes JB, J Sex Med 2014; 11: 2630.
Asia	
China	Liu F, Sci Rep 2015; 5: 27
India	Gupta A, J Clin Virol 2006; 37: 190

(Continued)

Table 33 – Continued

Country	Study
Japan	Takahashi S, Sex Transm Dis 2003; 30: 629
Republic of Korea	Shin HR, J Infect Dis 2004; 190: 468
Philippines	Franceschi S, Br J Cancer 2002; 86: 705
Thailand	Franceschi S, Br J Cancer 2002; 86: 705
The anogenital prevalence of HPV-DNA in men: HPV in special subgroups (HIV, MSM, etc)	
General sources	Based on published systematic reviews, the ICO HPV Information Centre has updated data until October 2015. Reference publications: 1) Dunne EF, J Infect Dis 2006; 194: 1044 2) Smith JS, J Adolesc Health 2011; 48: 540 3) Olesen TB, Sex Transm Infect 2014; 90: 455 4) Hebnes JB, J Sex Med 2014; 11: 2630.
Asia	
China	Gao L, PLoS ONE 2010; 5: 125 Li Z, PLoS One 2015; 10: 122 Tang X, Biomed Environ Sci 2006; 19: 153 Yang Y, PLoS ONE 2012; 7: 126 Zhang DY, PLoS ONE 2014; 9: 134
India	Gupta A, J Clin Virol 2006; 37: 190
Japan	Nagata N, PLoS One 2015; 10: 123 Shigehara K, Int J Urol 2010; 17: 563 Takahashi S, Sex Transm Dis 2003; 30: 629 Takahashi S, J Infect Chemother 2005; 11: 270
Philippines	Franceschi S, Br J Cancer 2002; 86: 705
Thailand	Franceschi S, Br J Cancer 2002; 86: 705 Leaungwutiwong P, Sex Transm Dis 2015; 42: 208 Phanuphak N, J Acquir Immune Defic Syndr 2013; 63: 472 Supindham T, PLoS One 2015; 10: 121
HPV prevalence and type distribution in oral specimens collected from healthy population	
General sources	Systematic review and meta-analysis was performed by ICO HPV Information Centre until July 2012. Pubmed was searched using the keywords oral and papillomavirus. Inclusion criteria: studies reporting oral HPV prevalence in healthy population in Europe; n > 50. Exclusion criteria: focused only in children or immunosuppressed population; not written in English; case-control studies; commentaries and systematic reviews and studies that did not use HPV DNA detection methods.
HPV prevalence and type distribution in invasive oral cavity squamous cell carcinoma	
General sources	Based on systematic reviews and meta-analysis performed by ICO. Reference publications: 1) Ndiaye C, Lancet Oncol 2014; 15: 1319 2) Kreimer AR, Cancer Epidemiol Biomarkers Prev 2005; 14: 467
Asia	
China	Gan LL, Asian Pac J Cancer Prev 2014; 15: 5861 Lee LA, Medicine (Baltimore) 2015; 94: e2069 Tang X, J Oral Pathol Med 2003; 32: 393 Wen S, Anticancer Res 1997; 17: 307 Zhang ZY, Int J Oral Maxillofac Surg 2004; 33: 71
India	Balaram P, Int J Cancer 1995; 61: 450 Bhattacharya N, J Oral Pathol Med 2009; 38: 759 Chaudhary AK, Virol J 2010; 7: 253 D'Costa J, Oral Oncol 1998; 34: 413 Herrero R, J Natl Cancer Inst 2003; 95: 1772 Laprise C, Int J Cancer 2016; 138: 912 Mishra A, Int J Cancer 2006; 119: 2840 Sebastian P, J Oral Pathol Med 2014; 43: 593
Iran	Saghravanian N, Acta Odontol Scand 2011; 69: 406
Japan	Bhawal UK, Arch Otolaryngol Head Neck Surg 2008; 134: 1055 Chiba I, Oncogene 1996; 12: 1663 Deng Z, Head Neck 2013; 35: 800 Higa M, Oral Oncol 2003; 39: 405 Kojima A, Oral Oncol 2002; 38: 591 Shima K, Br J Oral Maxillofac Surg 2000; 38: 445 Shimizu M, J Dermatol Sci 2004; 36: 33 Sugiyama M, Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2003; 95: 594 Tang X, J Oral Pathol Med 2003; 32: 393 Tsuchiko K, J Oral Pathol Med 2000; 29: 70
Republic of Korea	Shin KH, Int J Oncol 2002; 21: 297
Malaysia	Lim KP, Oncol Rep 2007; 17: 1321
Taiwan	Chang JY, Am J Clin Pathol 2003; 120: 909 Chen PC, J Oral Pathol Med 2002; 31: 317 Yang YY, Jpn J Clin Oncol 2004; 34: 176

(Continued)

Table 33 – Continued

Country	Study
HPV prevalence and type distribution in invasive oropharyngeal squamous cell carcinoma	
General sources	Based on systematic reviews and meta-analysis performed by ICO. Reference publications: 1) Ndiaye C, Lancet Oncol 2014; 15: 1319 2) Kreimer AR, Cancer Epidemiol Biomarkers Prev 2005; 14: 467
Asia	
China	Li W, Pathology 2007; 39: 217
India	Bahl A, Head Neck 2014; 36: 505
Japan	Deng Z, Head Neck 2013; 35: 800 Hama T, Oncology 2014; 87: 173 Hatakeyama H, Oncol Rep 2014; 32: 2673
Republic of Korea	Kim SH, Int J Cancer 2007; 120: 1418 Oh TJ, J Clin Microbiol 2004; 42: 3272
Turkey	Tural D, Asian Pac J Cancer Prev 2013; 14: 6065
Taiwan	Al-Swiahb JN, Arch Otolaryngol Head Neck Surg 2010; 136: 502 Kuo KT, Mod Pathol 2008; 21: 376
HPV prevalence and type distribution in invasive hypopharyngeal squamous cell carcinoma	
General sources	Based on systematic reviews and meta-analysis performed by ICO. Reference publications: 1) Ndiaye C, Lancet Oncol 2014; 15: 1319 2) Kreimer AR, Cancer Epidemiol Biomarkers Prev 2005; 14: 467
Asia	
China	Liu B, Neoplasma 2010; 57: 594 Ma XL, J Med Virol 1998; 54: 186
India	Jacob SE, J Surg Oncol 2002; 79: 142
Japan	Anwar K, Int J Cancer 1993; 53: 22 Deng Z, Head Neck 2013; 35: 800 Mineta H, Anticancer Res 1998; 18: 4765 Ogura H, Jpn J Cancer Res 1991; 82: 1184 Shidara K, Laryngoscope 1994; 104: 1008
Turkey	Bozdayi G, J Otolaryngol Head Neck Surg 2009; 38: 119 Dönmez M, Kuwait Med J 2000 Gungor A, J Laryngol Otol 2007; 121: 772

10 Glossary

Table 34: Glossary

Term	Definition
Incidence	Incidence is the number of new cases arising in a given period in a specified population. This information is collected routinely by cancer registries. It can be expressed as an absolute number of cases per year or as a rate per 100,000 persons per year (see Crude rate and ASR below). The rate provides an approximation of the average risk of developing a cancer.
Mortality	Mortality is the number of deaths occurring in a given period in a specified population. It can be expressed as an absolute number of deaths per year or as a rate per 100,000 persons per year.
Prevalence	The prevalence of a particular cancer can be defined as the number of persons in a defined population who have been diagnosed with that type of cancer, and who are still alive at the end of a given year, the survivors. Complete prevalence represents the number of persons alive at certain point in time who previously had a diagnosis of the disease, regardless of how long ago the diagnosis was, or if the patient is still under treatment or is considered cured. Partial prevalence, which limits the number of patients to those diagnosed during a fixed time in the past, is a particularly useful measure of cancer burden. Prevalence of cancers based on cases diagnosed within one, three and five years are presented as they are likely to be of relevance to the different stages of cancer therapy, namely, initial treatment (one year), clinical follow-up (three years) and cure (five years). Patients who are still alive five years after diagnosis are usually considered cured since the death rates of such patients are similar to those in the general population. There are exceptions, particularly breast cancer. Prevalence is presented for the adult population only (ages 15 and over), and is available both as numbers and as proportions per 100,000 persons.
Crude rate	Data on incidence or mortality are often presented as rates. For a specific tumour and population, a crude rate is calculated simply by dividing the number of new cancers or cancer deaths observed during a given time period by the corresponding number of person years in the population at risk. For cancer, the result is usually expressed as an annual rate per 100,000 persons at risk.
ASR (age-standardised rate)	An age-standardised rate (ASR) is a summary measure of the rate that a population would have if it had a standard age structure. Standardization is necessary when comparing several populations that differ with respect to age because age has a powerful influence on the risk of cancer. The ASR is a weighted mean of the age-specific rates; the weights are taken from population distribution of the standard population. The most frequently used standard population is the World Standard Population. The calculated incidence or mortality rate is then called age-standardised incidence or mortality rate (world). It is also expressed per 100,000. The world standard population used in GLOBOCAN is as proposed by Segi [1] and modified by Doll and al. [2]. The age-standardised rate is calculated using 10 age-groups. The result may be slightly different from that computed using the same data categorised using the traditional 5 year age bands.
Cumulative risk	Cumulative incidence/mortality is the probability or risk of individuals getting/dying from the disease during a specified period. For cancer, it is expressed as the number of new born children (out of 100, or 1000) who would be expected to develop/die from a particular cancer before the age of 75 if they had the rates of cancer observed in the period in the absence of competing causes.
Cytologically normal women	No abnormal cells are observed on the surface of their cervix upon cytology.

(Continued)

Table 34 – Continued

Term	Definition
Cervical Intraepithelial Neoplasia (CIN) / Squamous Intraepithelial Lesions (SIL)	SIL and CIN are two commonly used terms to describe precancerous lesions or the abnormal growth of squamous cells observed in the cervix. SIL is an abnormal result derived from cervical cytological screening or Pap smear testing. CIN is a histological diagnosis made upon analysis of cervical tissue obtained by biopsy or surgical excision. The condition is graded as CIN 1, 2 or 3, according to the thickness of the abnormal epithelium (1/3, 2/3 or the entire thickness).
Low-grade cervical lesions (LSIL/CIN-1)	Low-grade cervical lesions are defined by early changes in size, shape, and number of ab-normal cells formed on the surface of the cervix and may be referred to as mild dysplasia, LSIL, or CIN-1.
High-grade cervical lesions (HSIL / CIN-2 / CIN-3 / CIS)	High-grade cervical lesions are defined by a large number of precancerous cells on the sur-face of the cervix that are distinctly different from normal cells. They have the potential to become cancerous cells and invade deeper tissues of the cervix. These lesions may be referred to as moderate or severe dysplasia, HSIL, CIN-2, CIN-3 or cervical carcinoma in situ (CIS).
Carcinoma in situ (CIS)	Preinvasive malignancy limited to the epithelium without invasion of the basement membrane. CIN 3 encompasses the squamous carcinoma in situ.
Invasive cervical cancer (ICC) / Cervical cancer	If the high-grade precancerous cells invade the basement membrane is called ICC. ICC stages range from stage I (cancer is in the cervix or uterus only) to stage IV (the cancer has spread to distant organs, such as the liver).
Invasive squamous cell carcinoma	Invasive carcinoma composed of cells resembling those of squamous epithelium
Adenocarcinoma	Invasive tumour with glandular and squamous elements intermingled.
Eastern Europe	References included in Belarus, Bulgaria, Czech Republic, Hungary, Poland, Republic of Moldova, Romania, Russian Federation, Slovakia, and Ukraine.
Northern Europe	References included in Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Lithuania, Norway, Sweden, and United Kingdom of Great Britain and Northern Ireland.
Southern Europe	References included in Albania, Bosnia and Herzegovina, Croatia, Greece, Italy, Malta, Montenegro, Portugal, Serbia, Slovenia, Spain, The former Yugoslav Republic of Macedonia.
Western Europe	References included in Austria, Belgium, France, Germany, Liechtenstein, Luxembourg, Netherlands, and Switzerland.
Europe PREHDICT	References included in Albania, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, and United Kingdom of Great Britain and Northern Ireland.

Acknowledgments

This report has been developed by the Unit of Infections and Cancer, Cancer Epidemiology Research Program, at the Institut Català d'Oncologia (ICO, Catalan Institute of Oncology) within the PREHDICT project (7th Framework Programme grant HEALTH-F3-2010-242061, PREHDICT). The HPV Information Centre is being developed by the Institut Català d'Oncologia (ICO). The Centre was originally launched by ICO with the collaboration of WHO's Immunisation, Vaccines and Biologicals (IVB) department and support from the Bill and Melinda Gates Foundation.

Institut Català d'Oncologia (ICO), in alphabetic order

Albero G, Barrionuevo-Rosas L, Bosch FX, Bruni L, de Sanjosé S, Gómez D, Mena M, Muñoz J, Serrano B.

7th Framework Programme grant PREHDICT project: health-economic modelling of PREvention strategies for Hpv-related Diseases in European Countries. Coordinated by Drs. Johannes Berkhof and Chris Meijer at VUMC, Vereniging Voor Christelijk Hoger Onderwijs Wetenschappelijk Onderzoek En Patientenzorg, the Netherlands.
(http://cordis.europa.eu/projects/rcn/94423_en.html)

7th Framework Programme grant HPV AHEAD project: Role of human papillomavirus infection and other co-factors in the aetiology of head and neck cancer in India and Europe. Coordinated by Dr. Massimo Tommasino at IARC, International Agency of Research on Cancer, Lyon, France.
(http://cordis.europa.eu/project/rcn/100268_en.html)

International Agency for Research on Cancer (IARC)

Note to the reader

Anyone who is aware of relevant published data that may not have been included in the present report is encouraged to contact the HPV Information Centre for potential contributions.

Although efforts have been made by the HPV Information Centre to prepare and include as accurately as possible the data presented, mistakes may occur. Readers are requested to communicate any errors to the HPV Information Centre, so that corrections can be made in future volumes.

Disclaimer

The information in this database is provided as a service to our users. Any digital or printed publication of the information provided in the web site should be accompanied by an acknowledgment of the HPV Information Centre as the source. Systematic retrieval of data to create, directly or indirectly, a scientific publication, collection, database, directory or website requires a permission from the HPV Information Centre.

The responsibility for the interpretation and use of the material contained in the HPV Information Centre lies on the user. In no event shall the HPV Information Centre be liable for any damages arising from the use of the information.

Licensed Logo Use

Use, reproduction, copying, or redistribution of PREHDICT or HPV Information Centre logos are strictly prohibited without explicit written permission from the HPV Information Centre.

Contact information:

ICO/IARC HPV Information Centre
Institut Català d'Oncologia
Avda. Gran Via de l'Hospitalet, 199-203
08908 L'Hospitalet de Llobregat (Barcelona, Spain)
e-mail: info@hpvcentre.net
internet address: www.hpvcentre.net

