Cervical Cancer Screening in Asia: South Eastern Asia and Eastern Asia

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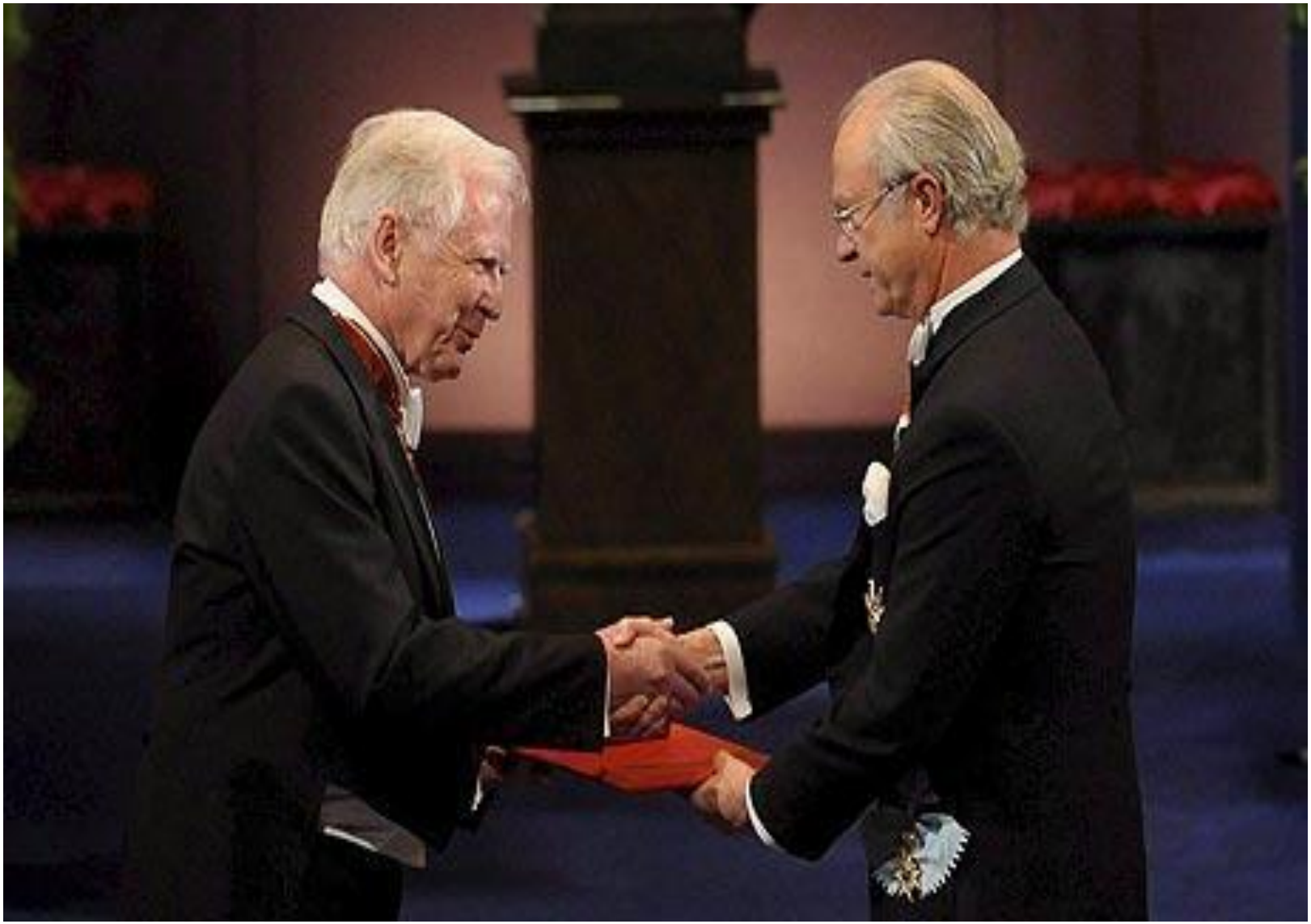
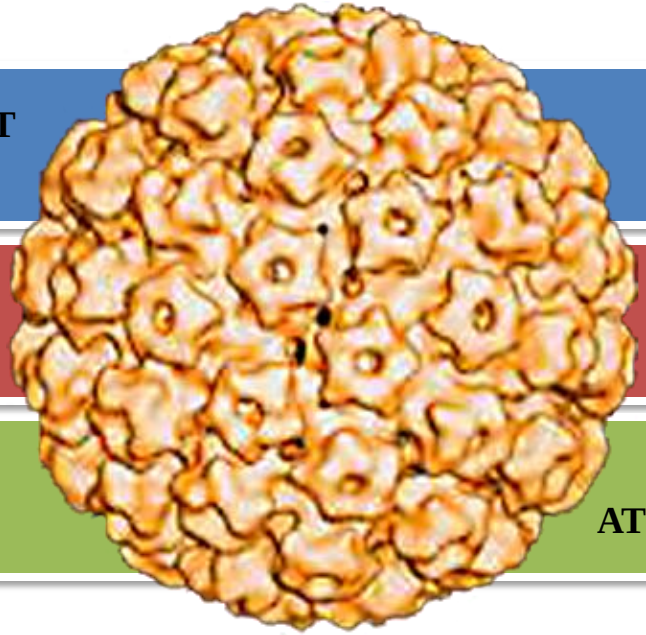


Harald zur Hausen (left), receives his medal and diploma from the Swedish King Carl XVI Gustaf Photo: EPA
The joint winner of the 2008 Nobel Prize for Medicine, Harald zur Hausen, was recognised for his work on the human papilloma virus (HPV), which can lead to cervical cancer.

PAPILLOMAVIRUS INFECTIONS IN HUMAN PATHOLOGY

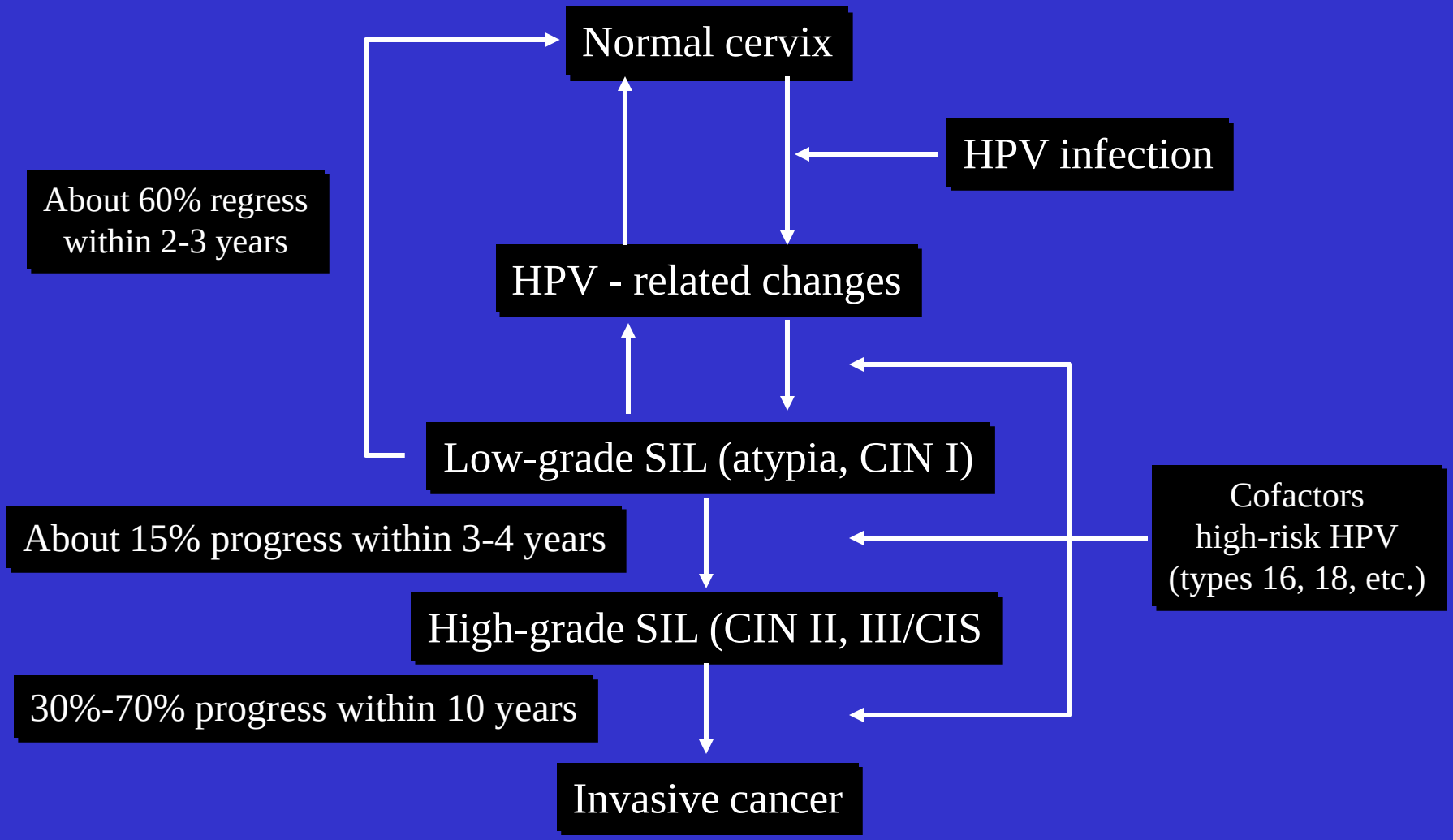
PATHOGENESIS OF HPV INFECTION

	HOST	CELL	
CLINICAL DISEASE	**CLINICAL DISEASE:** WARTS, PRECANCER OR CANCER	KOILOCYTOSIS, DYSKERATOSIS, MULTI-NUCLEATION, DYSKARYOSIS	CYTOPATHIC CHANGES
SUBCLINICAL INFECTION	**EXPOSURE WITHOUT CLINICAL DISEASE**	**SUBTLE CYTOPLASMIC & NUCLEAR CHANGES**	ILL DEFINED CHANGES
LATENT INFECTION	**EXPOSURE WITH LATENT INFECTION**	**NO VIRUS MULTIPLICATION, INCOMPLATE MATURATION?**	NO DETECTABLE CHANGES
LATENT INFECTION	**EXPOSURE WITH LATENT INFECTION**	**EXPOSURE WITHOUT ATTACHMENT OR CELL ENTRY?**	



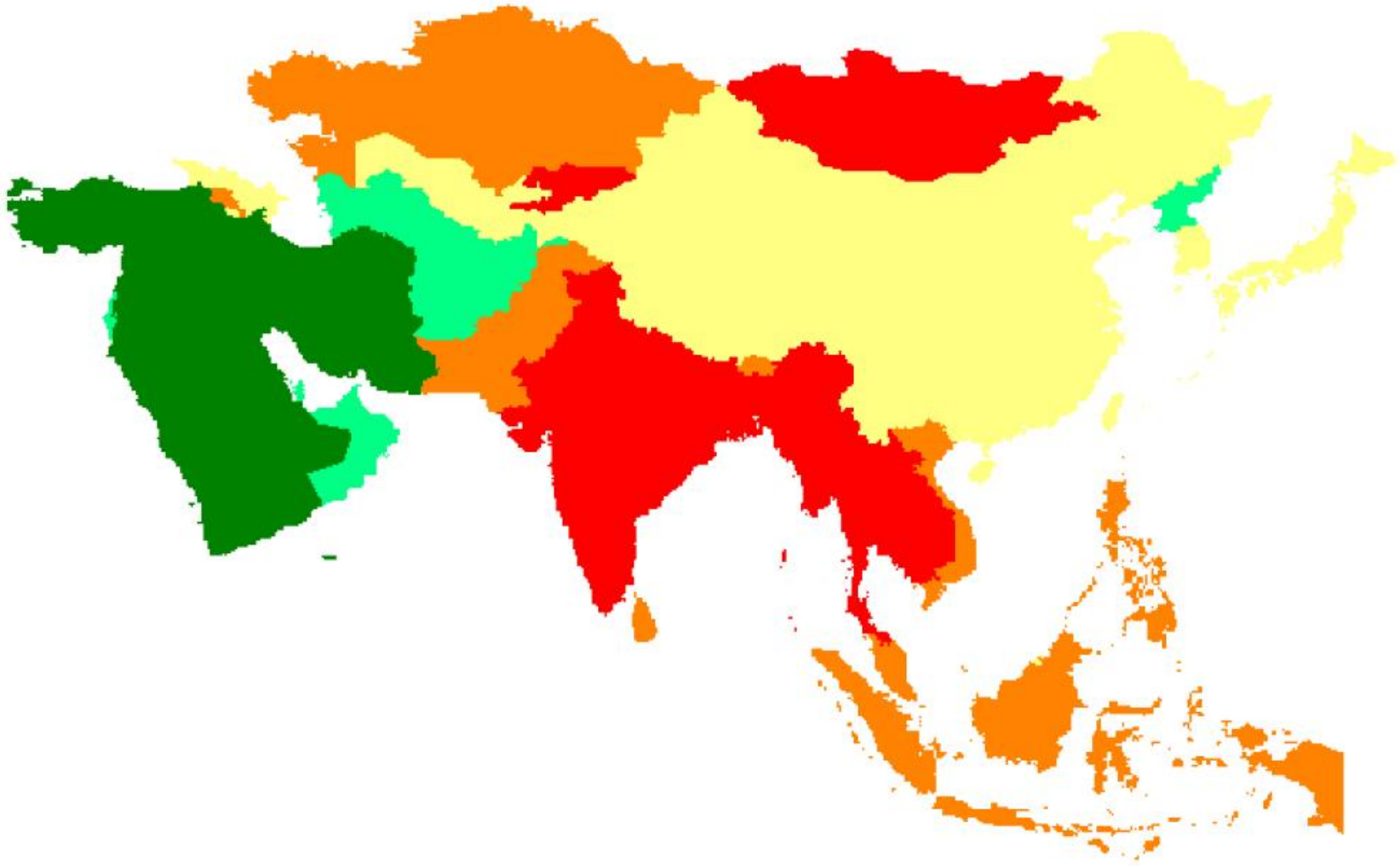
Syrijanen K, Syrijanen S. Papillomavirus Infection in Human Pathology

Natural History of CIN and Cervical Cancer



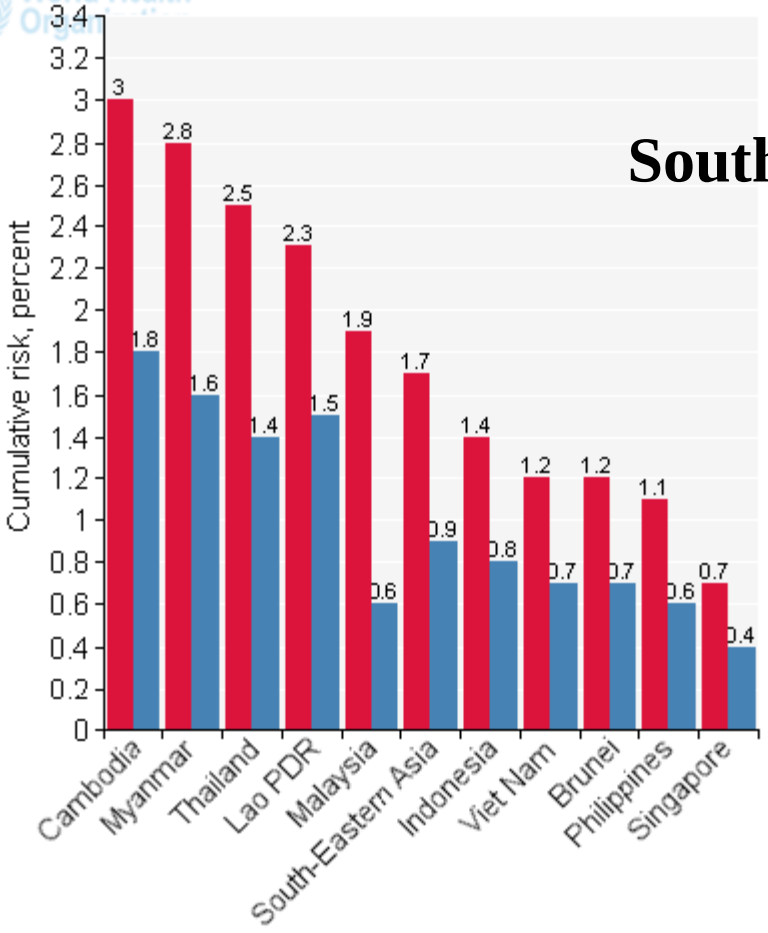
Bishop A, et al. PATH 1995:5

Estimated age-standardised incidence rate per 100,000
Cervix uteri, all ages



GLOBOCAN 2008 (IARC) - 6.7.2010

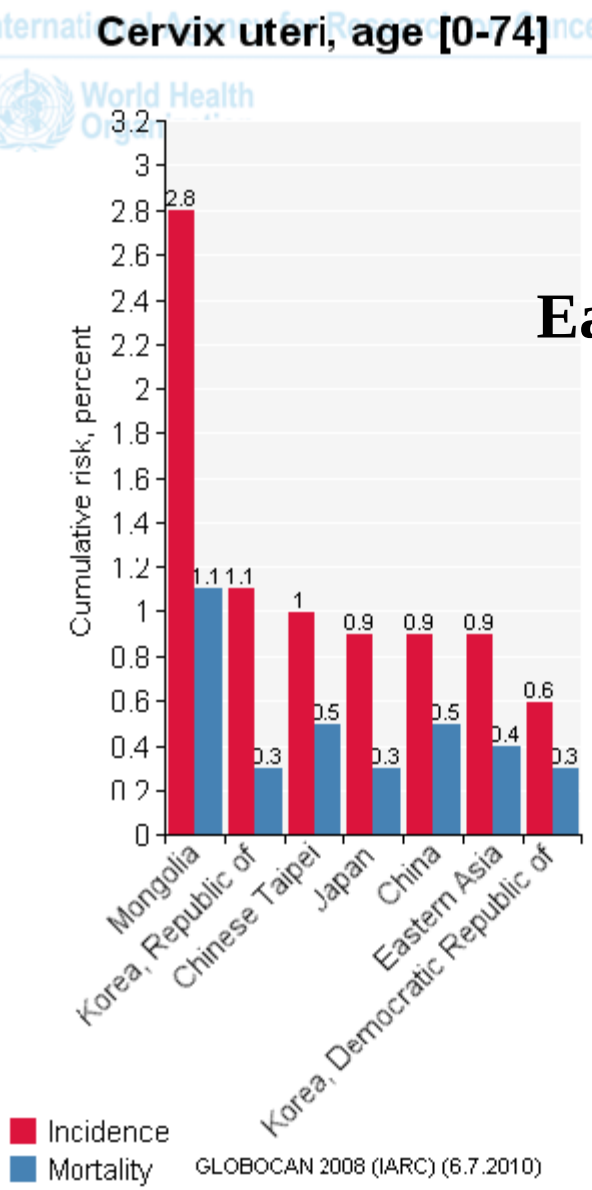
Cervix uteri, age [0-74]



South Eastern Asia

Incidence
Mortality

GLOBOCAN 2008 (IARC) (6.7.2010)



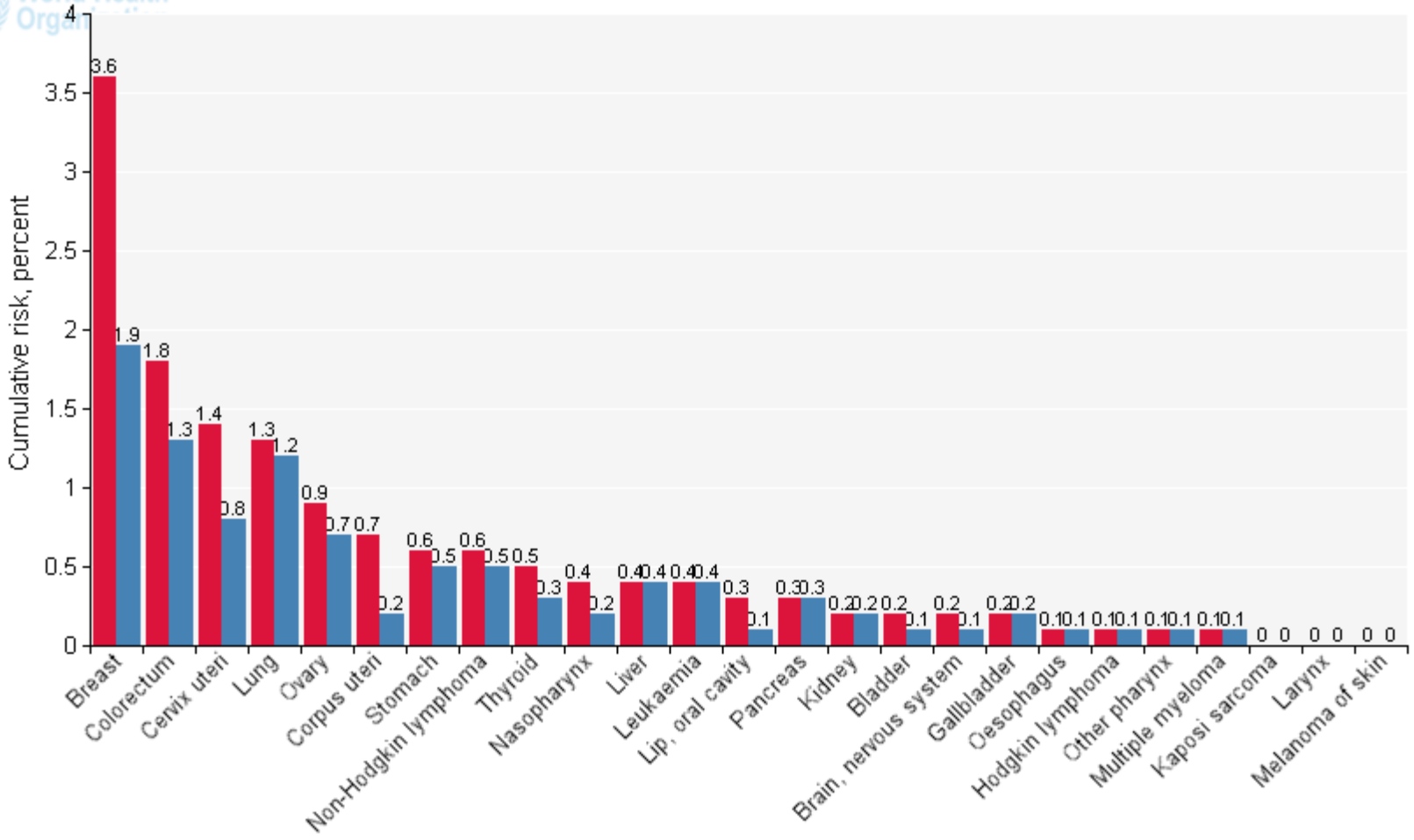
Eastern Asia

Estimated Age-standardised Incidence Rate, cumulative incidence and mortality risks

Country	Estimated Age SIR per 100,000	Cumulative Risk (%)	
		Incidence	Mortality
South Asia		**1.7**	**0.9**
Singapore	6.83	0.7	0.4
Philippines	11.73	1.1	0.6
Indonesia	12.65	1.4	0.8
Malaysia	17.90	1.9	0.6
Thailand	24.51	2.5	1.4
Eastern Asia		**0.9**	**0.4**
Japan	9.77	0.9	0.3
Chinese Taipei	10.24	1.0	0.5
Republic of Korea	10.78	1.1	0.3
Hongkong	7.70	0.7	0.2

Indonesia

Indonesia Globocan 2008



GLOBOCAN 2008 (IARC) (6.7.2010)

Gynecological cancer in Indonesia

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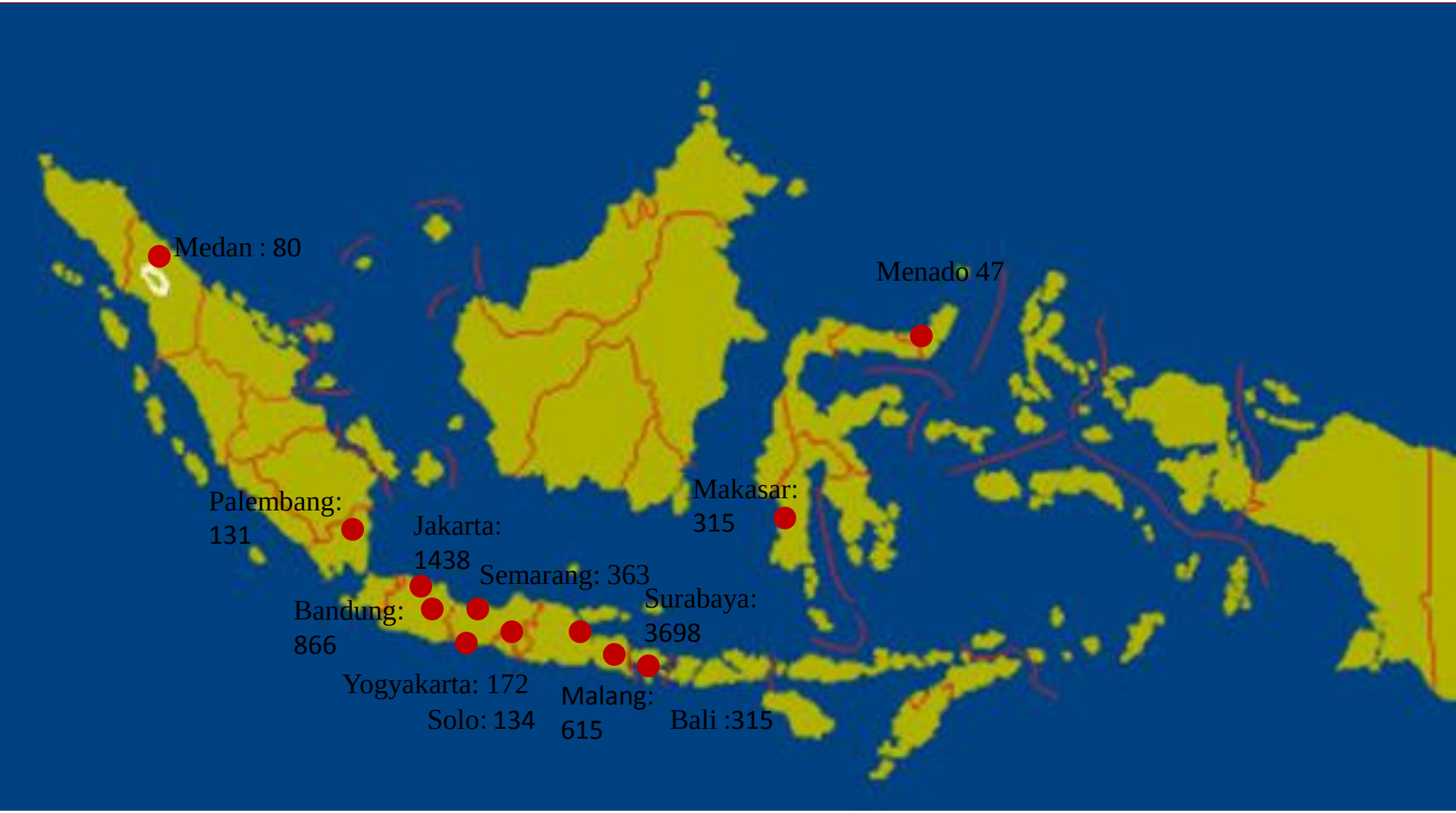
Table 2. The ten most frequent primary cancer in female and male, Indonesia, 2002 (based on pathologic report)

No.	Male & Female		Female	
	Site	Total	Site	Total
1	Cervix	2,532	Cervix	2,532
2	Breast	2,254	Breast	2,254
3	Skin	1,043	Ovary	829
4	Rectum	837	Skin	546
5	Nasopharynx	836	Thyroid	412
6	Ovary	829	Rectum	403
7	Lymph node	763	Lymph node	318
8	Colon	650	Corpus Uteri	316
9	Thyroid	522	Colon	314
10	Soft tissue	480	Nasopharynx	289

J Gynecol Oncol Vol. 20, No. 1:8-10, March 2009 DOI:10.3802/jgo.2009.20.1.8


Medan : 80
Menado 47
Palembang: 131
Jakarta: 1438
Semarang: 363
Makasar: 315
Surabaya: 3698
Bandung: 866
Yogyakarta: 172
Solo: 134
Malang: 615
Bali :315

Gynecological cancer in Indonesia

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Table 5. HPV prevalence in 3 countries

	Indonesia	Netherlands	Suriname
Number	74	128	130
Positive	71 (96%)	111 (87%)	52 (82%)
HPV 16	31 (43.7%)	75 (68%)	52 (49%)
HPV 18	28 (39.4%)	20 (18%)	20 (19%)
Other HPV types	31, 33, 39, 45, 52, 56, 58, 59	31, 33, 35, 45, 51, 56, 58, 59, 68, 70	31, 33, 35, 45, 51, 56, 58, 59, 68, 70

J Gynecol Oncol *Vol. 20, No. 1:8-10, March 2009 DOI:10.3802/jgo.2009.20.1.8*

Cervical Cancer Screening (VIA), Indonesia 2107-2009

Number of Districs	**11**
Target for 5 year	674.888
Screened	74.941 (11,10%)
VIA positive	2.634 (3,31%)
Suspect of cancer	207 (0.28)
Cervical cancer	42 (0,015%)

Source: Depart of Health Republic of Indonesia

See and Treat Program 2008-2009

Number of Regions	**7**
Total Achievment	122,995
VIA positive	7,089 (5.8%)
Treatment of VIA positive	6,555 (92.5%)

Source: Setyawati Budiningsih, Laila Nuranna and Gatot Purwoto See and Treat Program . FcP Indonesia- Leiden University)

Singapore

CANCER REGISTRY REPORT FOR THE PERIOD 2003 – 2007

Table 5: TEN MOST FREQUENT CANCERS IN FEMALES, 2003-2007

Rank	Site	No.	%	CR*	ASR**
1	Breast	6798	29.3	77.8	58.5
2	Colo-rectum	3375	14.5	38.6	29.0
3	Lung	1868	8.0	21.4	16.0
4	Corpus uteri	1332	5.7	15.2	11.7
5	Ovary	1327	5.7	15.2	12.0
6	Cervix uteri	1009	4.3	11.5	8.8
7	Stomach	885	3.8	10.1	7.4
8	Skin (Including melanoma)	840	3.6	9.6	7.0
9	Lymphoma	698	3.0	8.0	6.7
10	Thyroid	645	2.8	7.4	5.8
	Other sites	4437	19.1		
	All Sites	23214	100	265.5	203.5

*CR Crude rate per 100,000 per year

** ASR Age-standardized rate per 100,000 per year. ASR derived by the direct method using the "World Population".

CANCER REGISTRY REPORT FOR THE PERIOD 2003 – 2007

Table 10: CRUDE AND AGE STANDARDIZED MORTALITY RATES FOR HIGHEST RANKING CANCERS IN FEMALES, 2003-2007 *

S. No.	Site	Number	CR**	ASR***
1	Breast	1566	17.9	13.6
2	Lung	1561	17.9	13.1
3	Colo-rectum	1485	17.0	12.2
4	Stomach	624	7.1	5.1
5	Ovary	471	5.4	4.1
6	Cervix Uteri	382	4.4	3.4
7	Lymphoma	227	2.6	2.0
8	Corpus Uteri	117	1.3	1.1
9	Thyroid	72	0.8	0.6
10	Skin (including Melanoma)	38	0.4	0.3

* Derived from data provided by the Registry of Births and Deaths, Ministry of Home Affairs
**CR Crude rate per 100,000 per year
*** ASR Age-standardized rate per 100,000 per year. ASR derived by the direct method using the "World Population".

Malaysia

Malaysia

Age standardised incidence rates	19.7 (2003) 17.9 (2008)
Cumulative risk sincidence rate	1.9 %
Cumulative risk mortality rates	1.6 %
HPV infection	16, 18, 31, 51, 52, 56, 58 and 66
Risk factors	Age of the first sexual intercourse
Sreening	Pap smear; opportunistic and National Program, coverage 26%; target group 20-65 yr, if 2 consecutive negative every 3 yr

Lim GC, 2002; Dominggo EJ et al., 2008; Globocan 2008

Thailand

Cervical cancer screening in Thailand: an overview

Supannee Sriamporn, Thiravud Khuhaprema and Max Parkin

J Med Screen 2006;**13** (Suppl 1):S39–S43

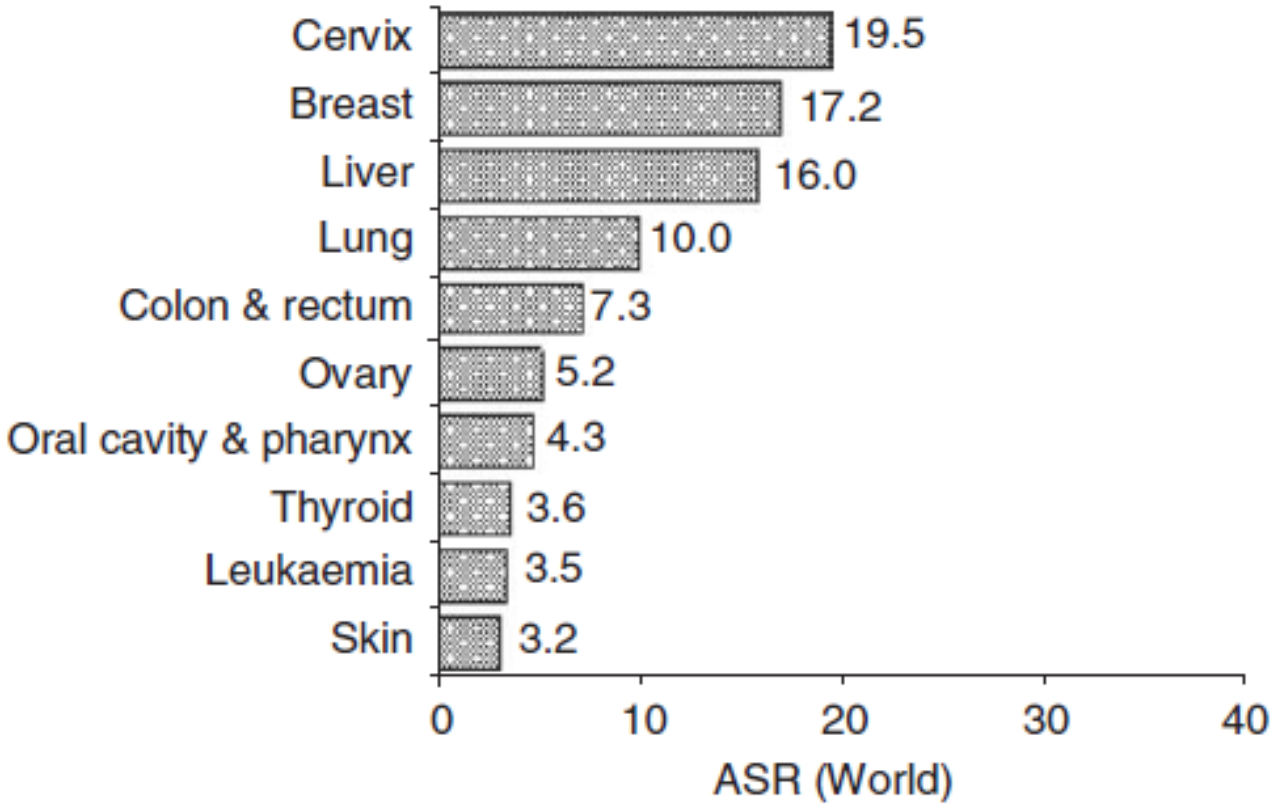

Figure 2 Leading cancers in women in Thailand, estimated age-standardized incidence rates (ASR) per 100,000, 1996

Cervical cancer screening in Thailand: an overview

Supannee Sriamporn, Thiravud Khuhaprema and Max Parkin

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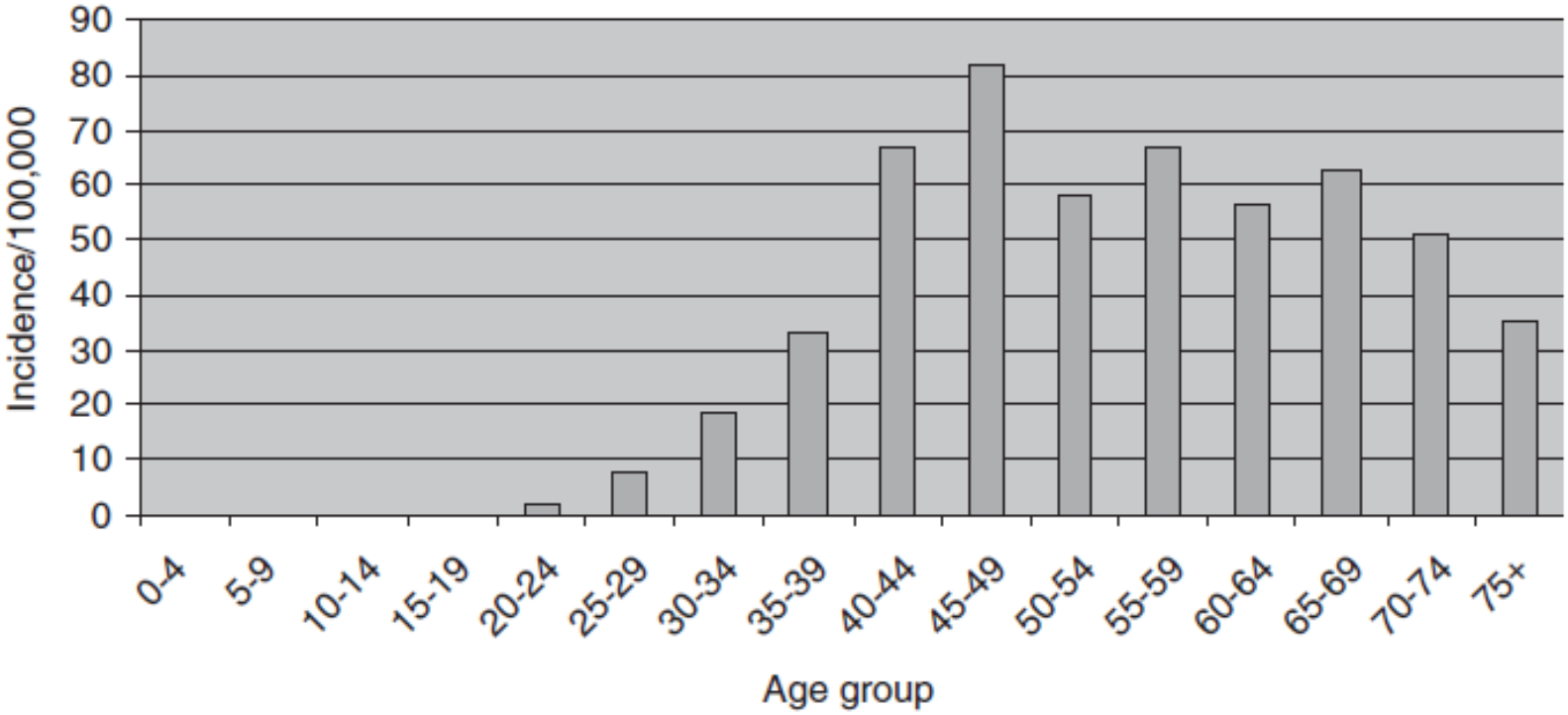


Figure 3 Age-specific incidence rates per 100,000 of cervical cancer in Lampang, 1993–1997

Philipinnes

Philippines

	2005	2006	2008
Annual standardised incidence rate	22.5		11.73
New cases	7,277	466	
Deaths	3,807		
Mortality rate per 10,000		1.0	
Cumulative risks incidence rate (%)			1.1
Cumulative mortality risks rate (%)			0.6

Domingo EJ, et al , 2009; and Globocan 2008

Philippines

HPV infection (decreasing frequency)	Squamous cell carcinoma (93.8% positive) : 16, 18, 45, 52, 51 Adenocarcinoma (90.9% positive): 18, 16, 45 Normal cervix (9.2% positive): 45, 16, 18
Risk factors	Smoking, oral contraceptive use, fertility, STI, early sexual debut
Screening	Pap smear opprtunistic; coverage 7.7% target 18-69 yr; VIA in no Pap smear facilities, 25-55 yr every 5-7 yr; “See and Treat” (JHPIEGO)

Domingo EJ, et al, 2009

Hongkong

Incidence & Mortality Data *2007*

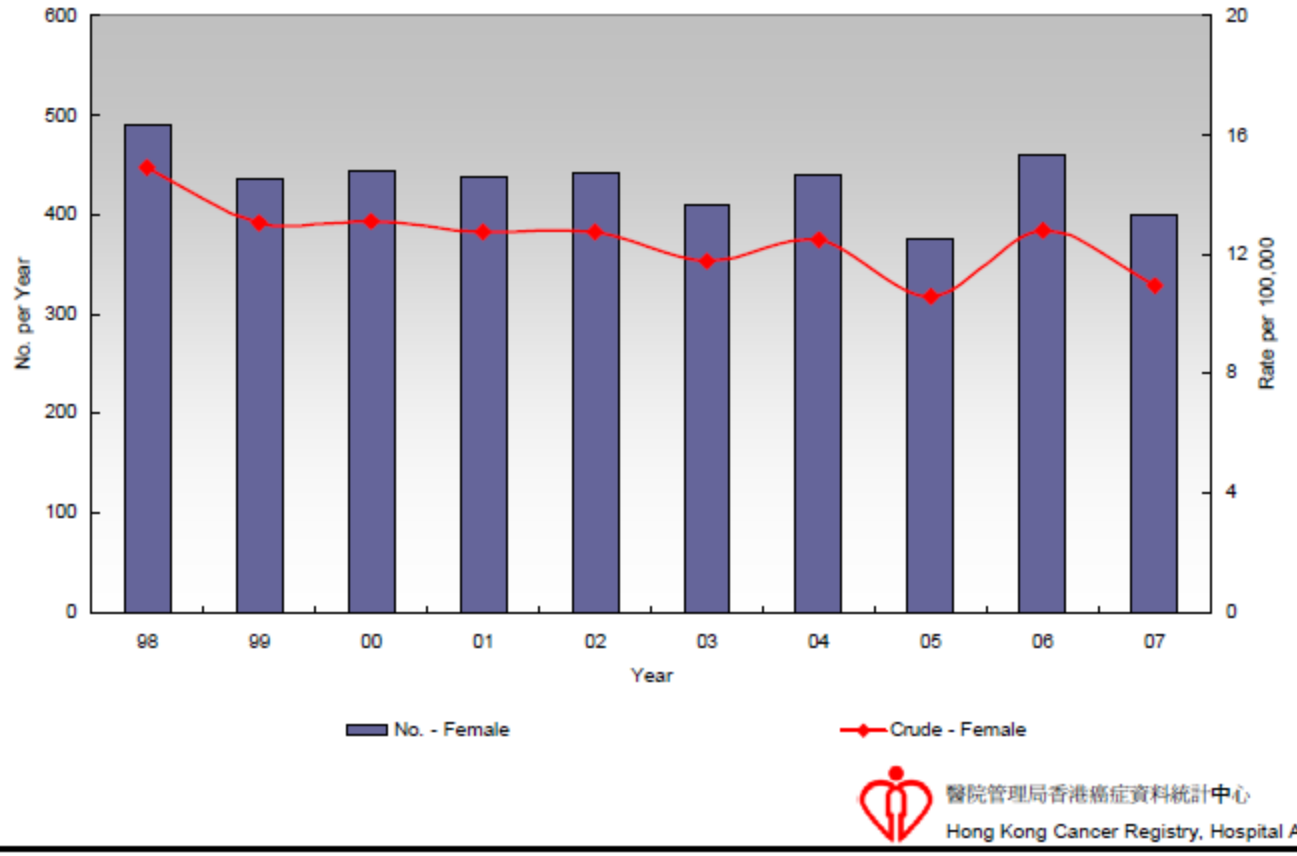
	New Case	Death
Number of cases registered	399	129
Rank	7	8
Relative Frequency (%)	3.5	2.7
Median age (years)	52	70
Crude Rate	11	3.5
Age-standardized rate (World)*	7.7	2.3
Cumulative life-time risk (0-74 yrs)	1 in 139	1 in 463
Mortality : Incidence Ratio	0.3	

•The age-standardized rate (World) is calculated based on the world standard population published in the 1997-99 World Health Statistics Annual, WHO.
•All rates are expressed per 100,000.

醫院管理局香港癌症資料統計中心
Hong Kong Cancer Registry, Hospital Authority

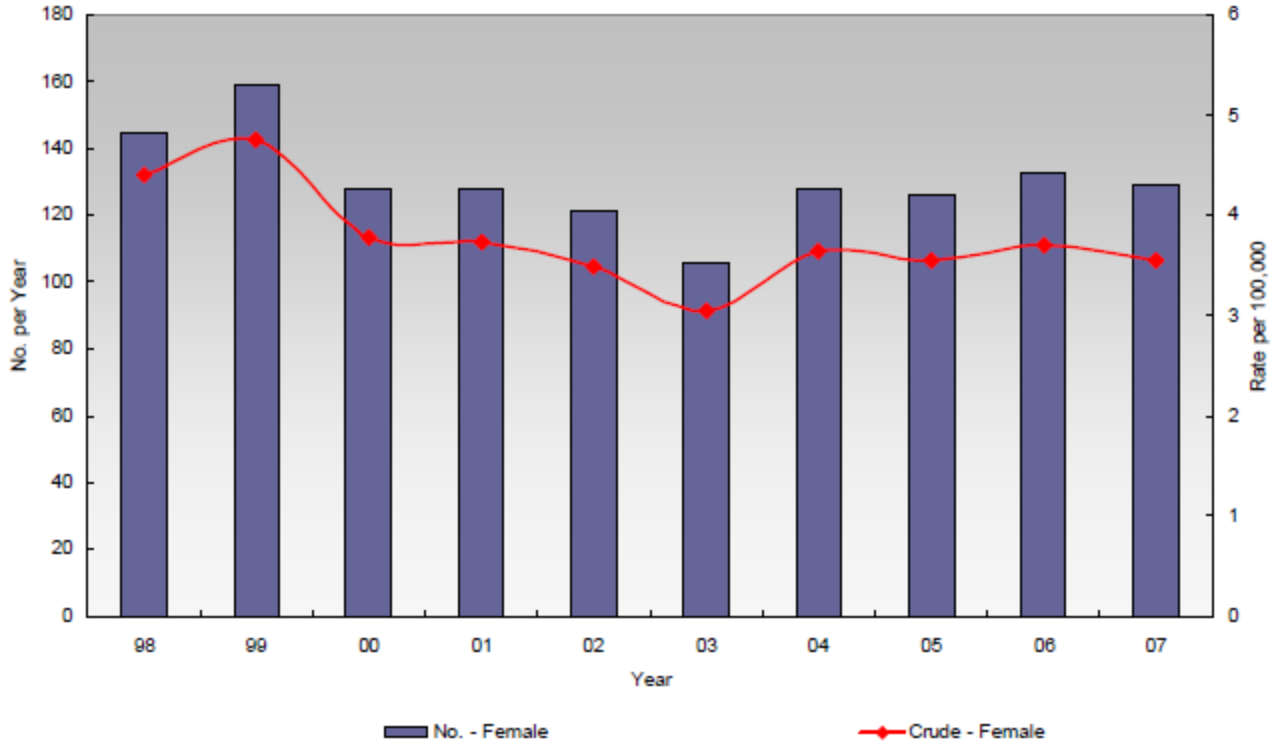
Hongkong

Incidence Trend 1998-2007



Hongkong

Mortality Trend 1998-2007



醫院管理局香港癌症資料統計中心
Hong Kong Cancer Registry, Hospital Authority

ICO Monograph Series on HPV and Cervical Cancer: Asia Pacific Regional Report

Epidemiology of Human Papillomavirus Infection and Cervical Cancer and Future Perspectives in Hong Kong, Singapore and Taiwan

Sun Kuie Tay[a,*], Hextan Y.S. Ngan[b], Tang-Yuan Chu[c], Annie N.Y. Cheung[d], Eng Hseon Tay[e]

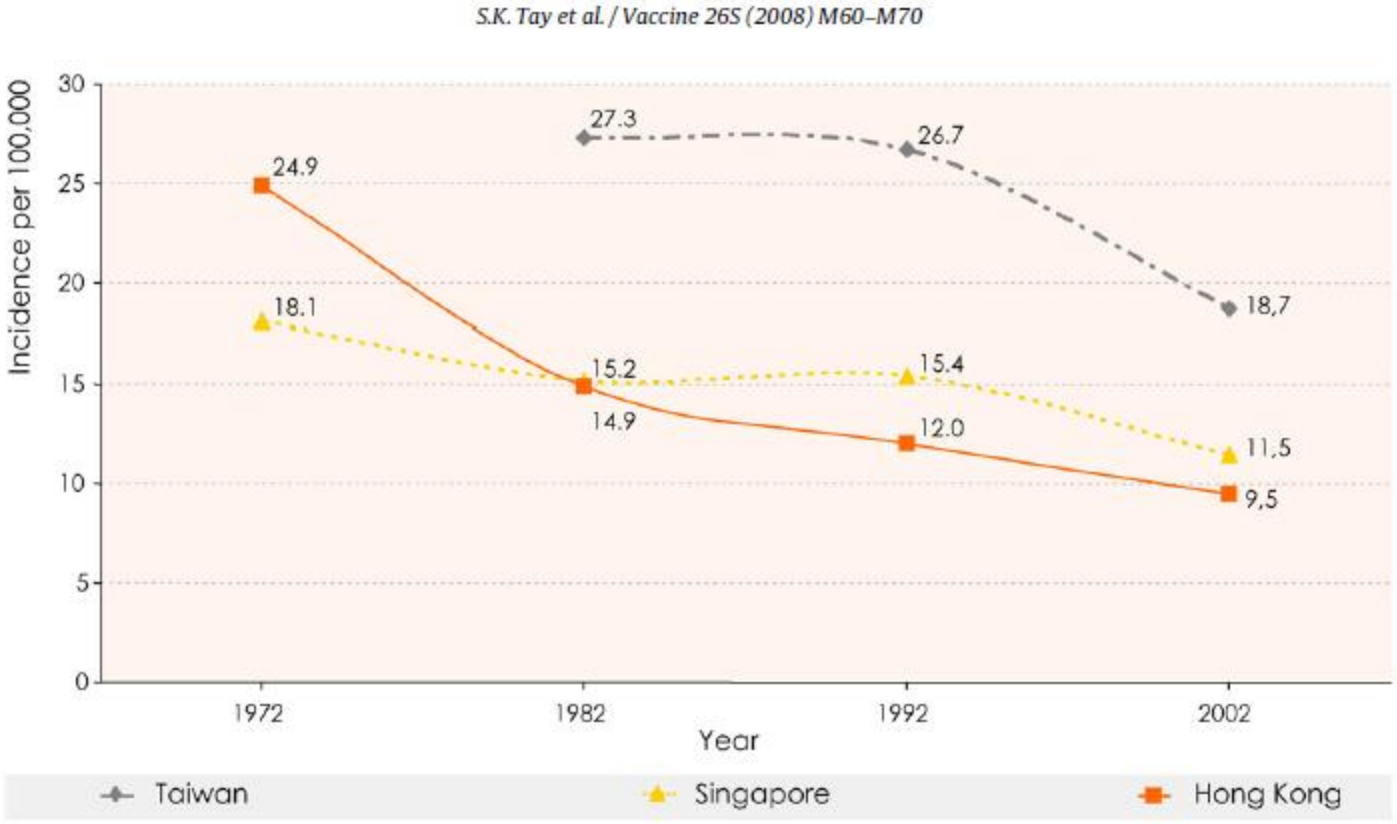
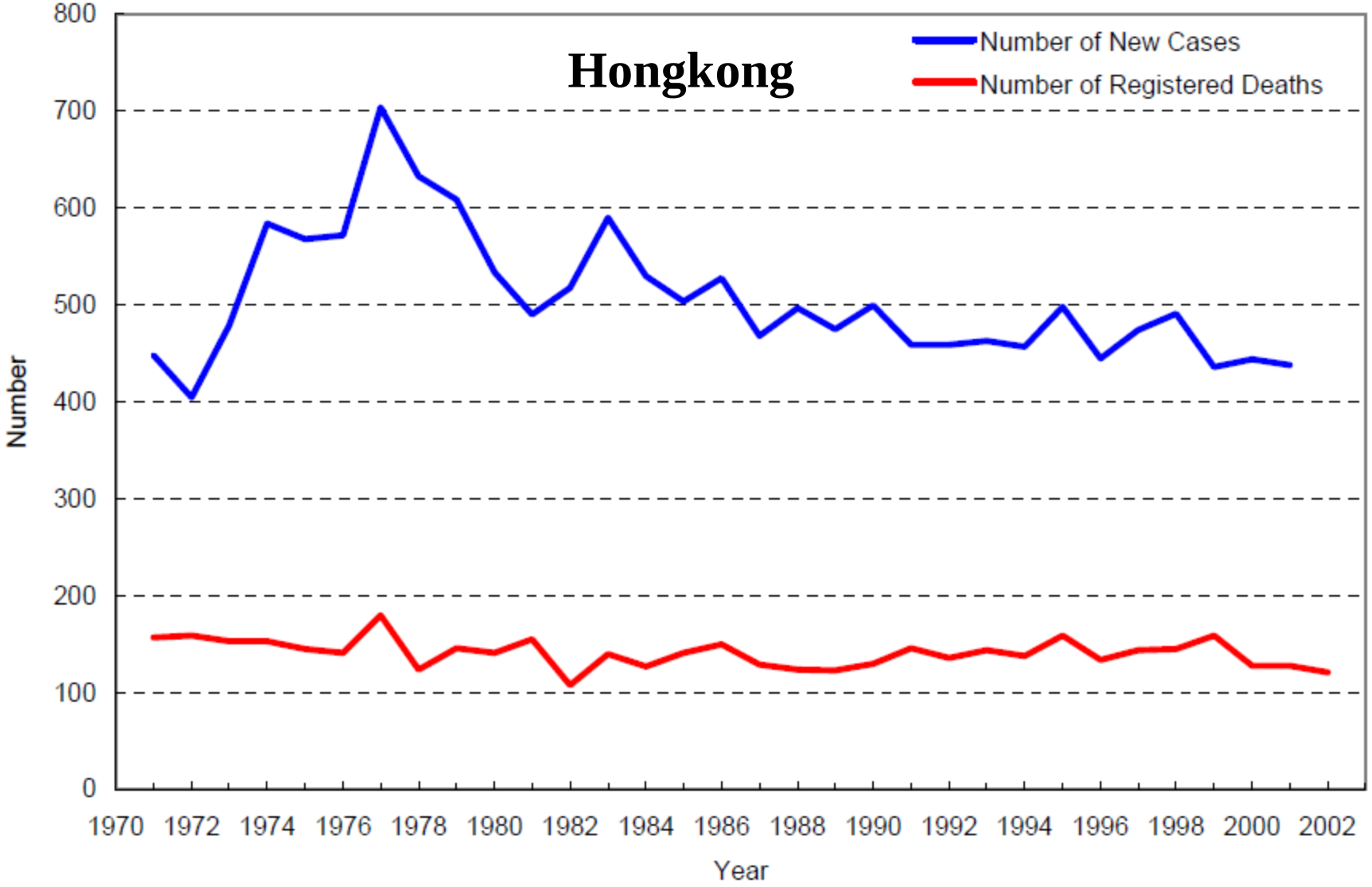


Fig. 1. Trends of cervical cancer incidence in Hong Kong, Singapore and Taiwan [1–3].

Figure 1.2 **Number of Registered Deaths and Number of New Cases of Malignant Neoplasm of Cervix Uteri, 1971-2002**



Taiwan

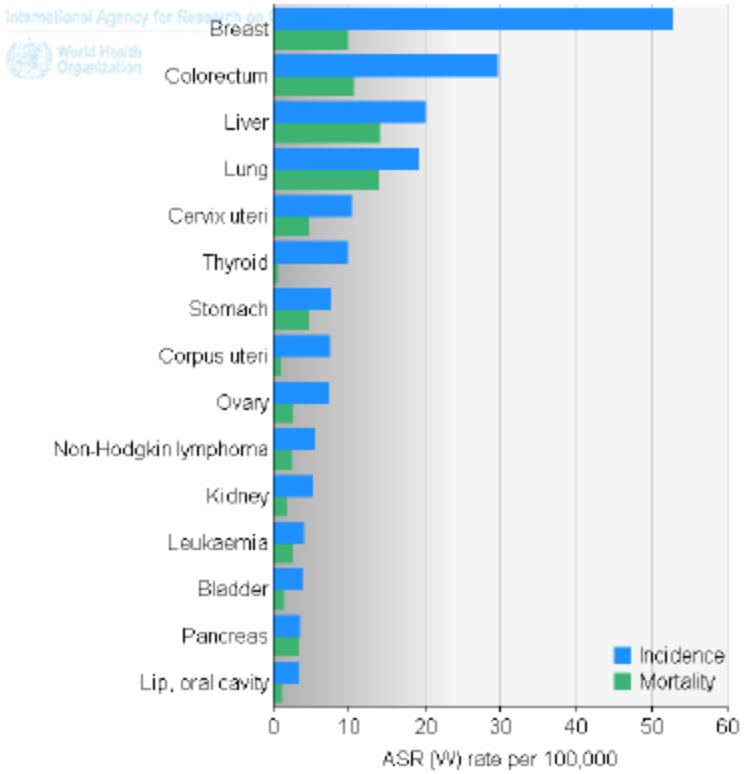
GLOBOCAN 2008

FAST STATS

Men
Women
Both sexes
Summary statistics

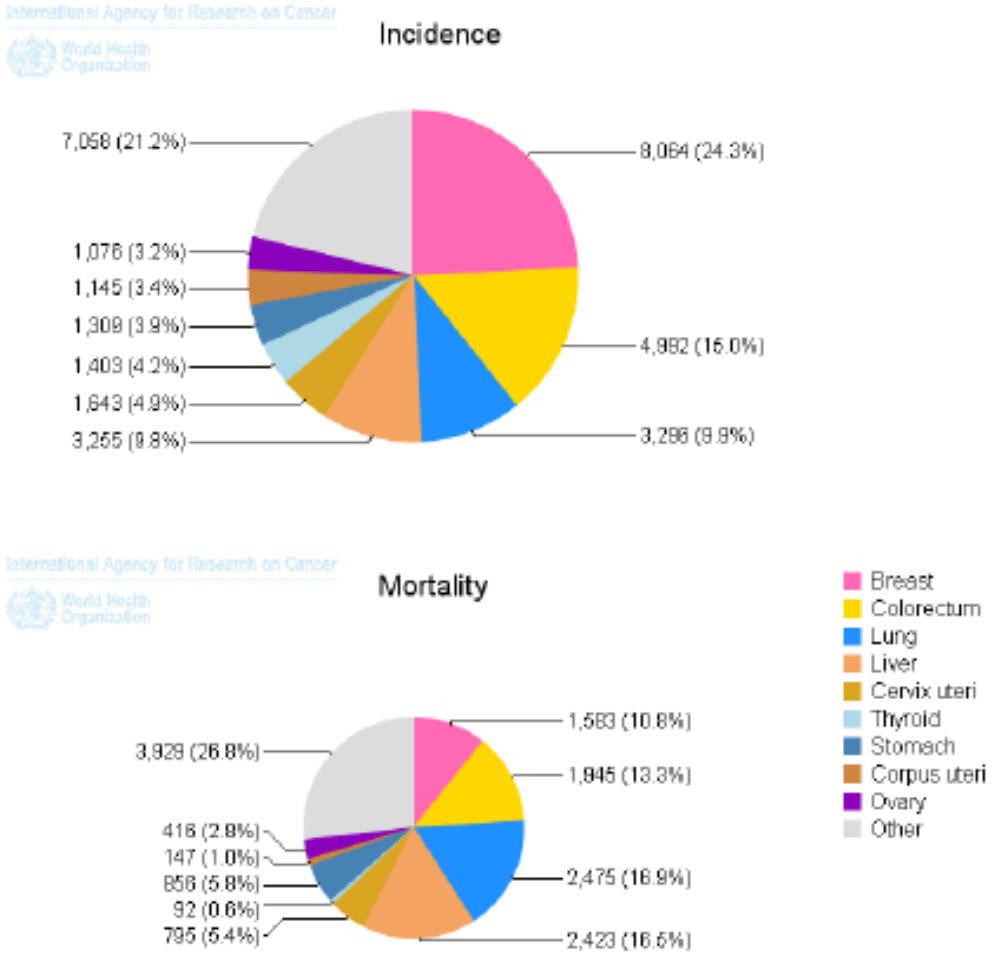
CHINESE TAIPEI

Most frequent cancers: women



Cancer	Incidence		Mortality	
	Number	ASR (W)	Number	ASR (W)
Lip, oral cavity	515	3.3	166	0.9
Nasopharynx	351	2.3	184	1.1
Other pharynx	72	0.5	32	0.2
Oesophagus	108	0.6	73	0.4
Stomach	1309	7.6	856	4.7
Colorectum	4992	29.7	1945	10.6
Liver	3255	20.0	2423	14.1
Gallbladder	370	2.1	180	1.0
Pancreas	597	3.4	587	3.3
Larynx	33	0.2	11	0.1
Lung	3296	19.3	2475	13.9
Melanoma of skin	89	0.6	77	0.4
Breast	8064	52.8	1583	9.9
Cervix uteri	1643	10.2	795	4.6
Corpus uteri	1145	7.3	147	0.9
Ovary	1076	7.1	416	2.6
Kidney	853	5.2	293	1.6
Bladder	640	3.7	282	1.4
Brain, nervous system	309	2.4	214	1.5
Thyroid	1403	9.7	92	0.5
Hodgkin lymphoma	47	0.4	6	0.1
Non-Hodgkin lymphoma	846	5.4	393	2.4
Multiple myeloma	195	1.2	131	0.8
Leukaemia	519	4.0	379	2.6
All cancers excl. non-melanoma skin cancer	33241	208.5	14661	85.0

GLOBOCAN: Country Fast Stat



GLOBOCAN 2008 (IARC) *Section of Cancer Information (6/7/2010)*

Chinese Taipeh

Taiwan

Ten Lading Female Cancer Ranked by Incidence and Mortality Rate in Taiwan, 2006 (Sorting by AIR[2])

Ten Leading Invasive Female Cancer by Incidence Rate in 2006

Rank	ICD-O-3	Organs	No	CIR	AIR[1]	AIR[2]
1	C50	Female Breast	6,895	61.10	46.29	49.99
2	C18-C21	Colon-rectum	4,455	39.48	28.33	32.17
3	C22	Liver	2,925	25.92	19.31	21.58
4	C33-C34	Lung	2,992	26.51	18.86	21.50
5	C53	Cervix uteri	1,828	16.20	11.89	13.18
6	C16	Stomach	1,339	11.87	8.38	9.62
7	C73	Thyroid	1,257	11.14	8.69	9.45
8	C54	Corpus uteri	1,159	10.27	7.87	8.45
9	C44[5]	Skin	1,129	10.00	6.94	8.11
10	C56, C57.0-C57.4	Ovary, other and unspecified female genital organs	1,000	8.86	6.94	7.47
	M959[6]	Non-Hodgkin's lymphoma	771	6.83	5.31	5.82
	C00-C80	All Sites	31,276	277.15	206.36	228.84

Taiwan

Ten Leading Female Cancer by Mortality Rate in 2006

Rank	ICD-9	Organs	No	CMR	AMR[1]	AMR[2]
1	162	Lung	2,330	20.65	14.19	16.59
2	155	Liver	2,032	18.01	12.81	14.74
3	153-154	Colon-rectum	1,799	15.94	10.70	12.64
4	174	Female Breast	1,439	12.75	9.54	10.41
5	151	Stomach	827	7.33	4.94	5.83
6	180	Cervix uteri	792	7.02	4.87	5.61
7	157	Pancreas	498	4.41	3.03	3.55
8	156	Gallbladder and Extrahepatic Bile Ducts	467	4.14	2.92	3.36
9	204-208	Leukemia	364	3.23	2.59	2.82
10	183	Ovary	380	3.37	2.53	2.78
	200, 202-203[8]	Non-Hodgkin's lymphoma	478	4.24	3.02	3.46
	140-208	All Sites	13,570	120.25	84.95	97.55

Note:
1. Age-Standardized Rate [1] is calculated based on the 1976 world standard population.
2. Age-Standardized Rate [2] is calculated based on the 2000 world standard population.
5. Anatomic site skin includes melanoma and non-melanoma skin neoplasm.
6. Non-Hodgkin's lymphoma, including M959-970 (except M965-966), is not ranked.
7. In-situ cancer: the behavior code for neoplasm is 2.
8. Non-Hodgkin's lymphoma, including topographic sites of 200, 202-203, is not ranked.

HPV in Taiwan

S.K. Tay et al. / Vaccine 26S (2008) M60–M70

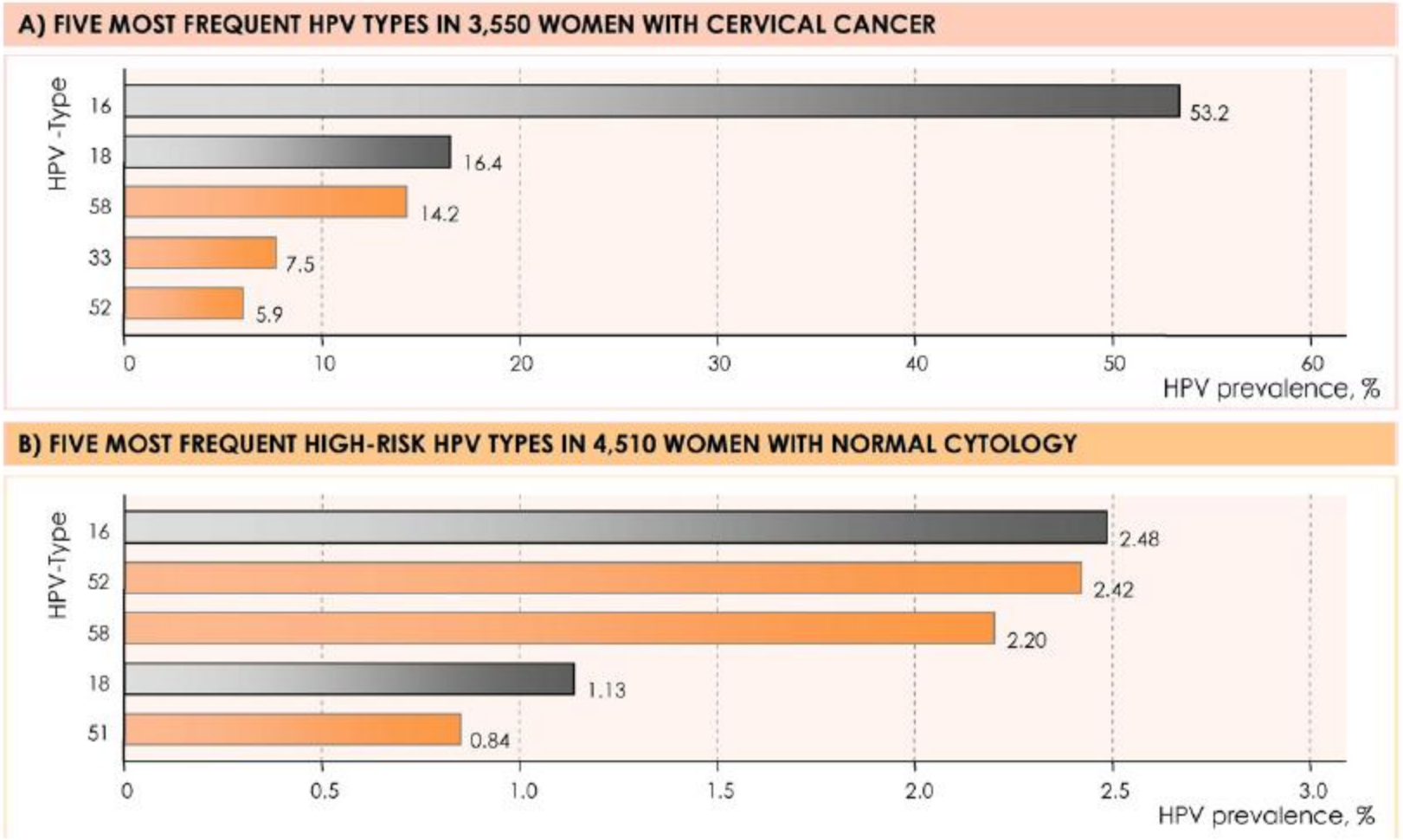


Fig. 4. The five most frequent HPV types in women with cervical cancer and normal cytology in Taiwan [8–13].

Japan

J Gynecol Oncol Vol. 20, No. 2:67-71, June 2009 DOI:10.3802/jgo.2009.20.2.67

Current status of gynecologic cancer in Japan

Kimio Ushijima

Department of Obstetrics and Gynecology, Kurume University School of Medicine, Kurume, Japan

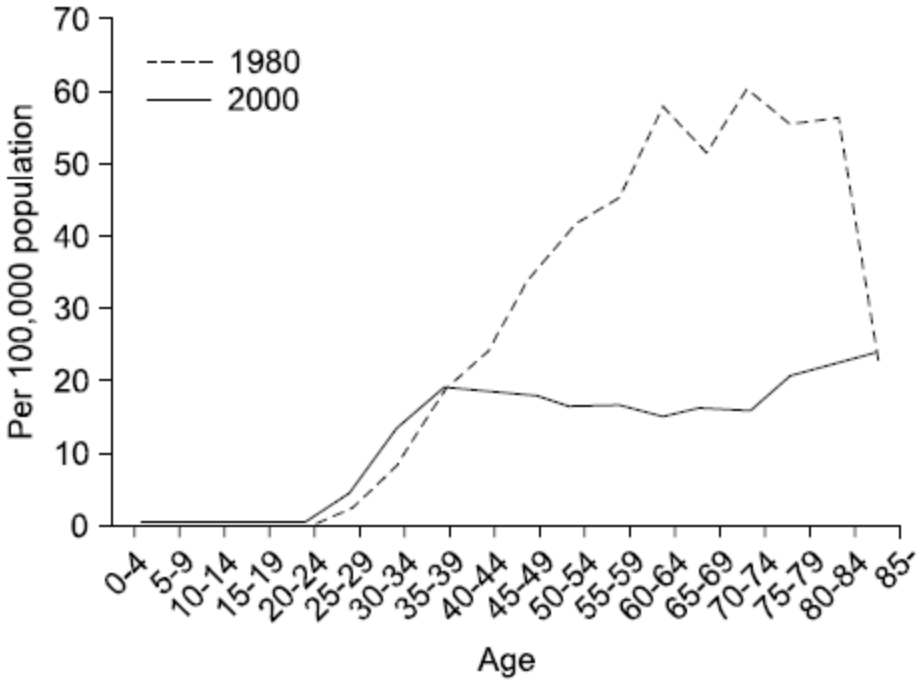


Fig. 2. Changes in the age-specific incidence rate of cervical cancer in Japanese women. The total number of incidences decreased remarkably between 1980 and 2000. Nevertheless, there was an obvious elevation in the incidence rate for women in their 20's and 30's in 2000 (Source: center for cancer control and information services, National Cancer Center, Japan).

ICO Monograph Series on HPV and Cervical Cancer: Asia Pacific Regional Report

Human Papillomavirus Infection and Cervical Cancer Prevention in Japan and Korea

Ryo Konno[a,*,1], Hai-Rim Shin[b,c,**,1], Young-Tak Kim[d], Yong Sang Song[e], Toshiyuki Sasagawa[f], Masaki Inoue[g], Jong-Sup Park[h]

R. Konno et al. / Vaccine 26S (2008) M30–M42

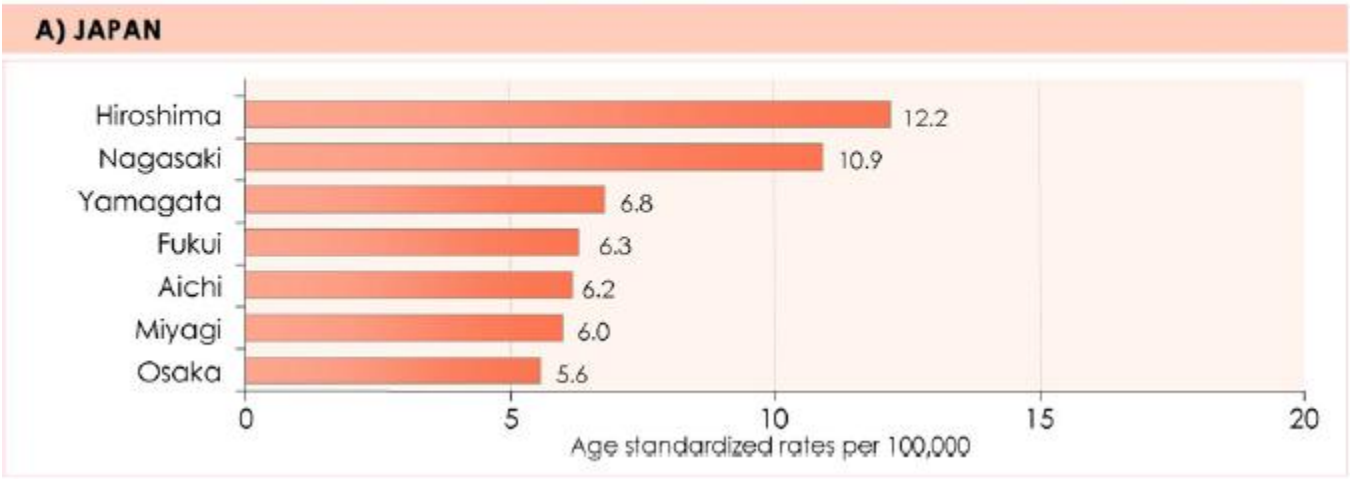


Fig. 1. Age-standardized incidence rates of cervical cancer in Japan (1998–2002).

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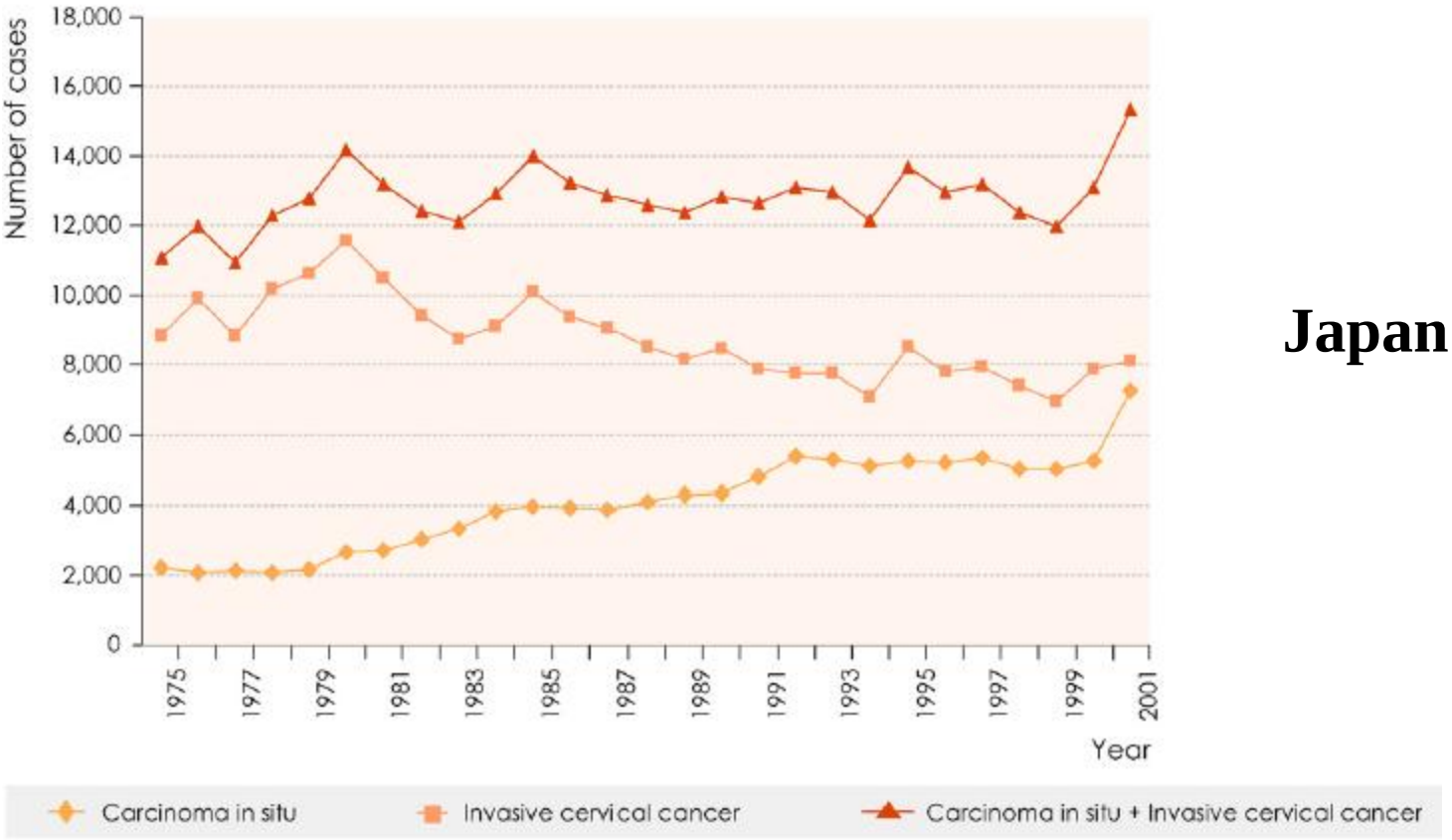

Japan

Fig. 2. Annual number of invasive cervical cancer and carcinoma in situ cases in Japan (1974–2001). [4].

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Japan

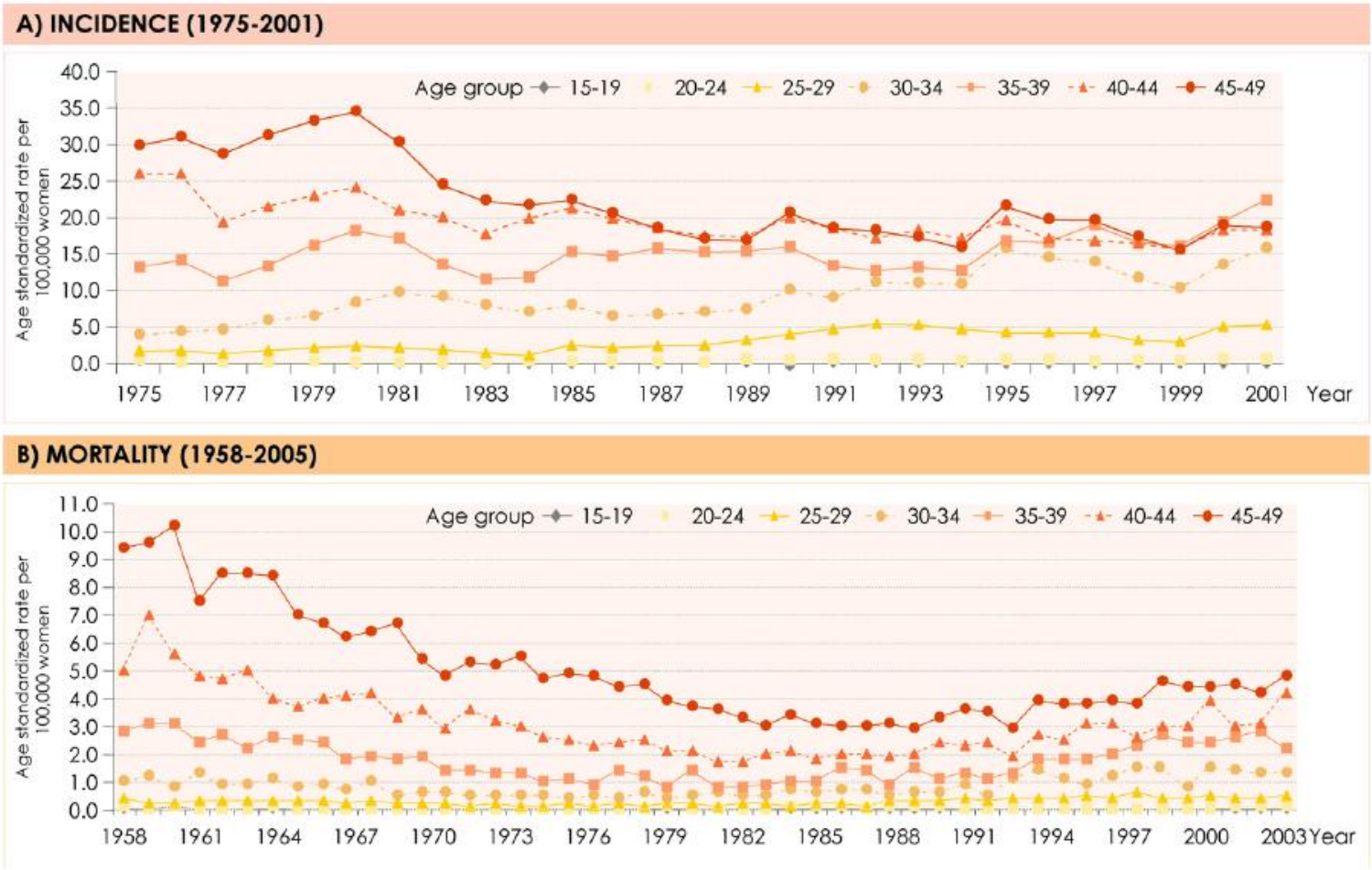

Fig. 3. Age-standardized incidence (1975–2001) and mortality (1958–2005) of cervical cancer in women aged 15-49 years in Japan. [4].

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Human Papillomavirus Infection and Cervical Cancer Prevention in Japan and Korea

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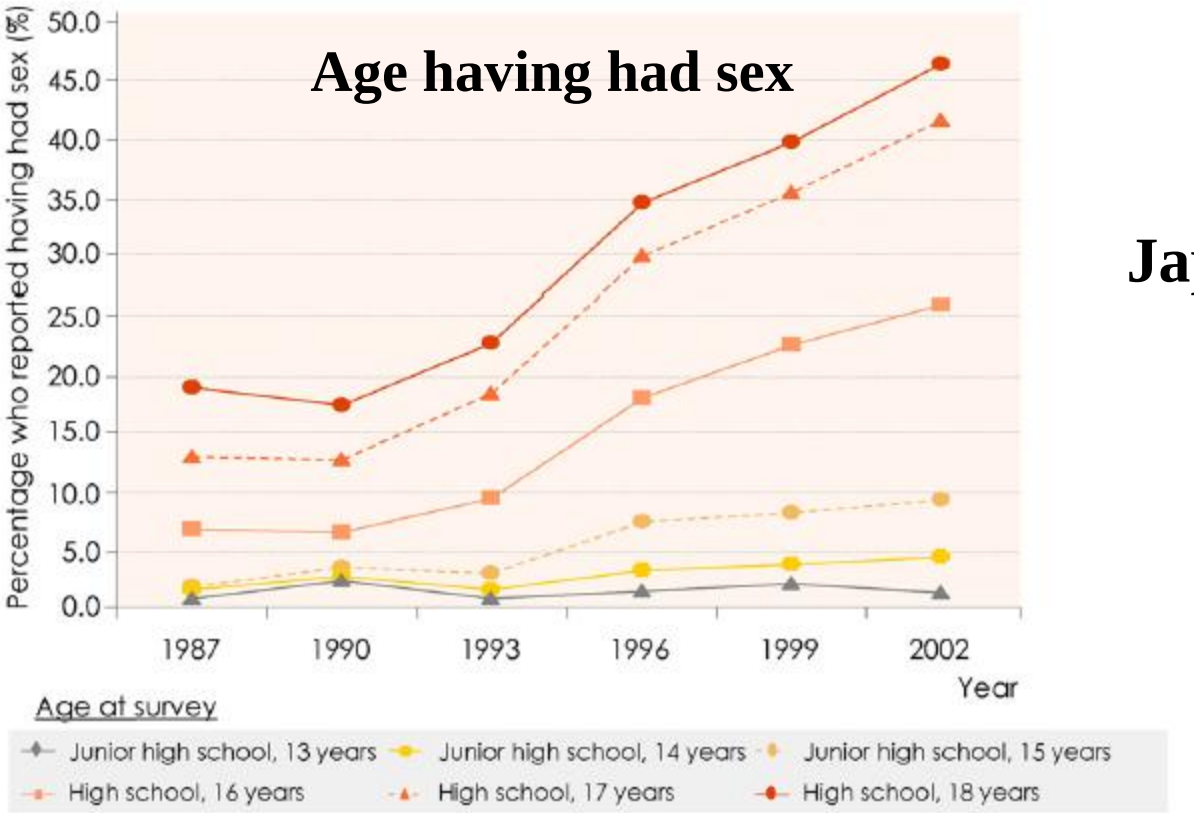

Japan

Fig. 7. Percentage of female students from junior high school and high school who reported having had sex by age at survey in Japan between 1987 and 2002. [33,34].

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Japan

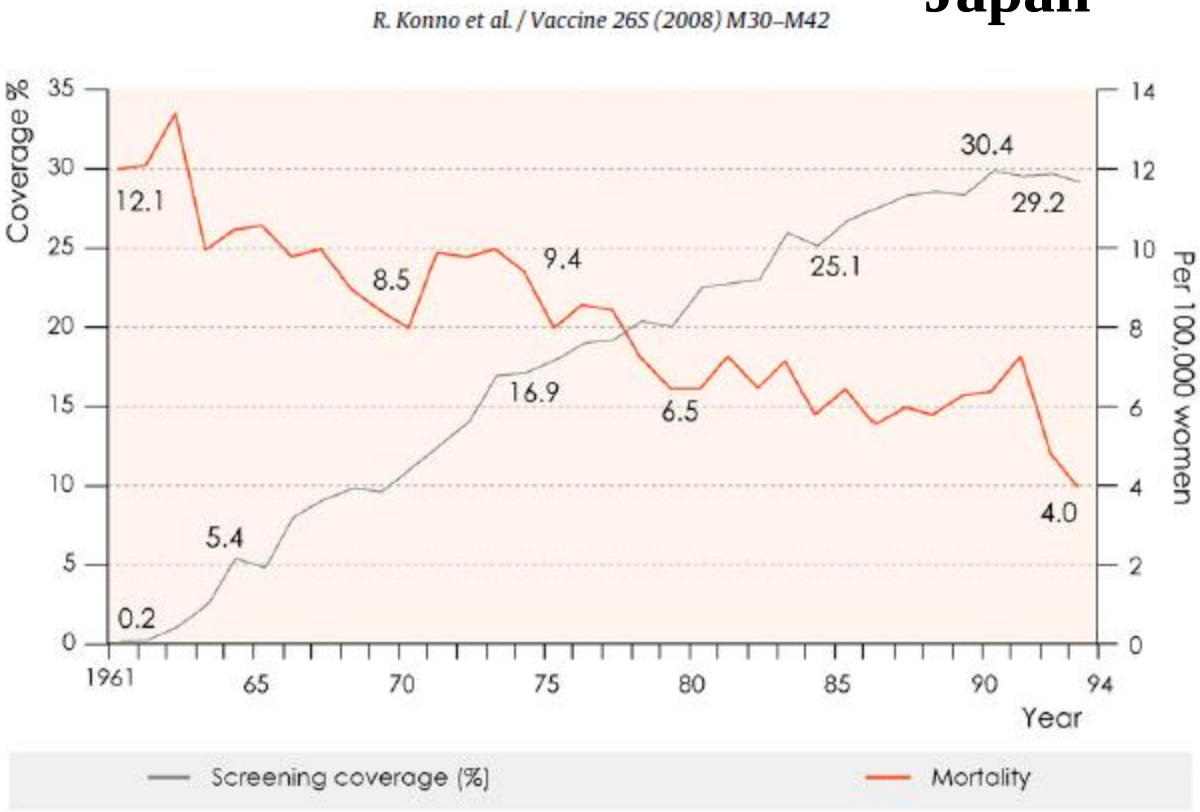

Fig. 8. Mortality rates and cervical screening coverage in the Miyagi prefecture, Japan (1962–1994). [40].

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Japan

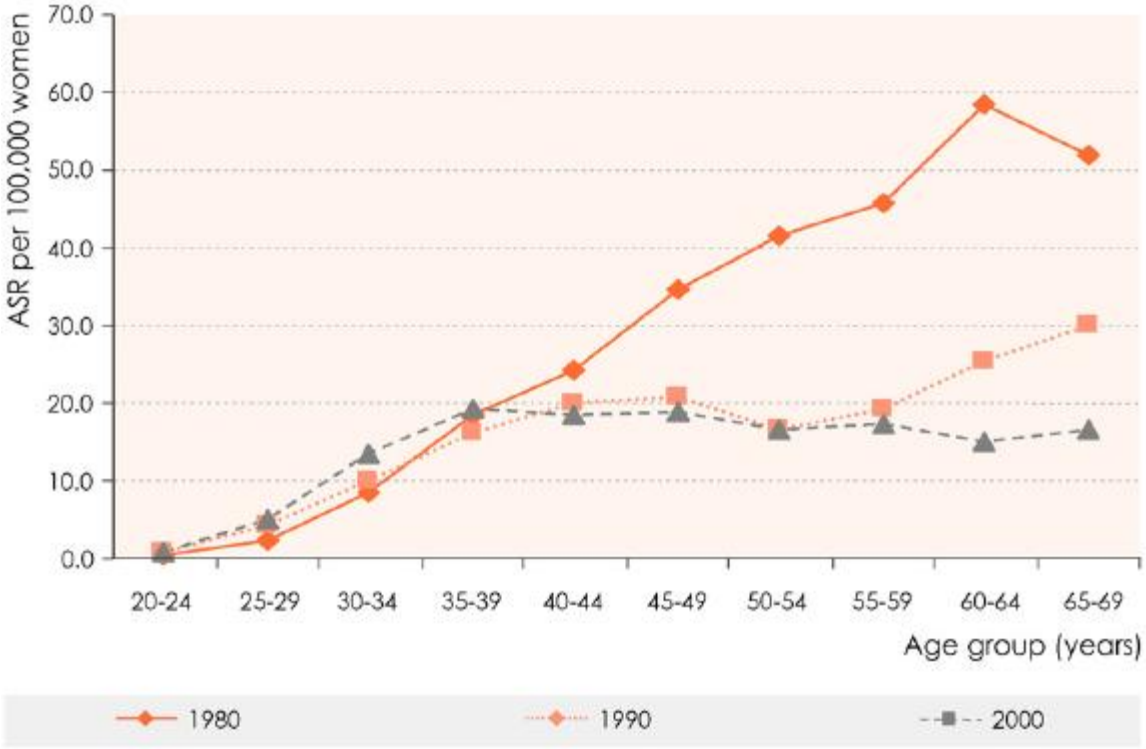

Fig. 9. Trends of age-specific incidence of cervical cancer in Japan, 1980–2000. [3].

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HPV Japan

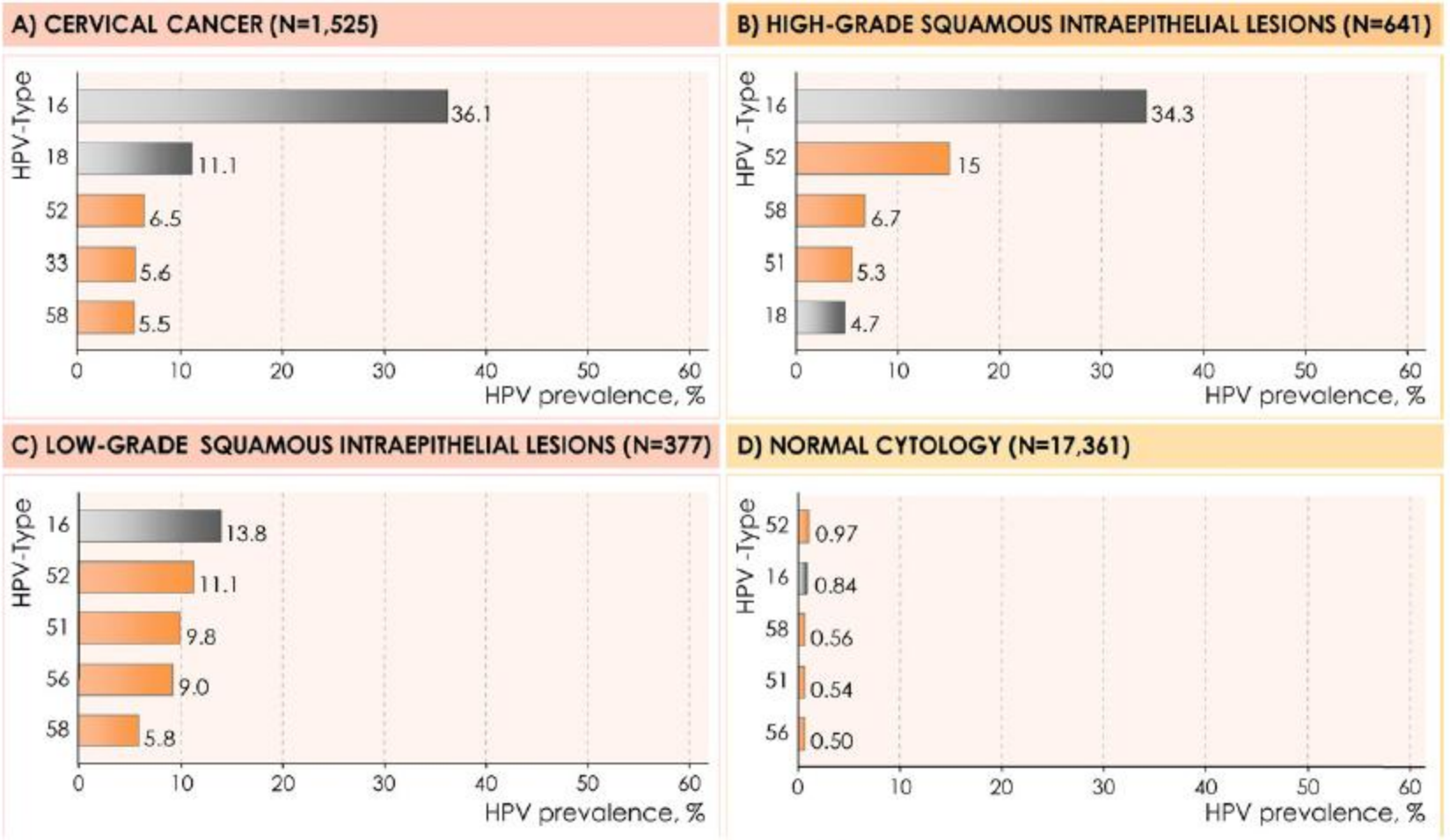


Fig. 5. Five most common high-risk HPV types in women with cervical cancer [11,13], high- and low-grade squamous intraepithelial lesions [12] and normal cytology [9–11] in Japan.

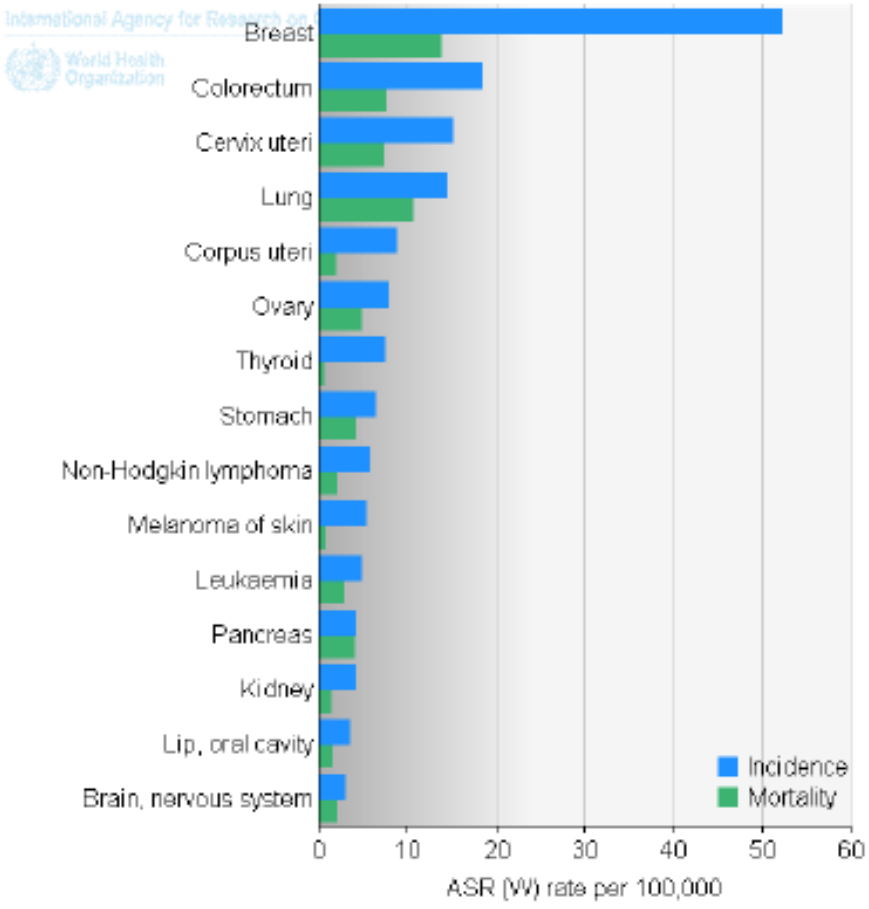
GLOBOCAN 2008

FAST STATS

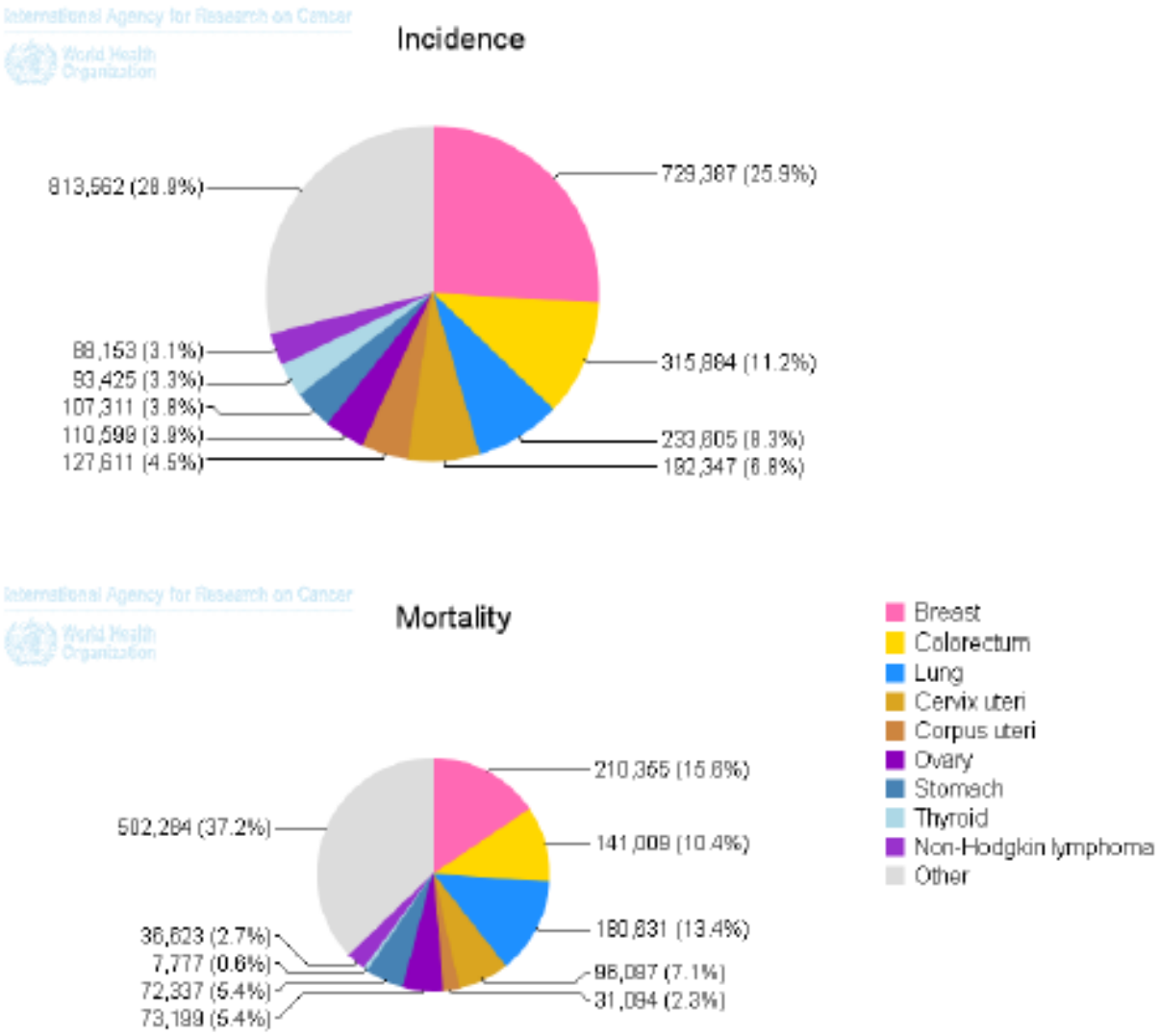
Men
Women
Both sexes
Summary statistics

IARC MEMBERSHIP (21 COUNTRIES)

Most frequent cancers: women



Cancer	Incidence		Mortality	
	Number	ASR (W)	Number	ASR (W)
Lip, oral cavity	49491	3.4	24004	1.6
Nasopharynx	2579	0.2	1404	0.1
Other pharynx	15540	1.1	10083	0.7
Oesophagus	35778	2.3	30360	1.9
Stomach	107311	6.4	72337	4.1
Colorectum	315884	18.4	141009	7.5
Liver	44780	2.6	42241	2.3
Gallbladder	42107	2.5	29744	1.6
Pancreas	75135	4.2	72719	3.9
Larynx	8591	0.6	3882	0.3
Lung	233605	14.4	180631	10.6
Melanoma of skin	73181	5.2	11138	0.7
Breast	729387	52.2	210355	13.8
Cervix uteri	192347	15.1	96087	7.2
Corpus uteri	127611	8.8	31094	1.8
Ovary	110599	7.8	73199	4.7
Kidney	62794	4.1	23659	1.3
Bladder	49819	2.8	18275	0.9
Brain, nervous system	39655	3.0	28151	2.0
Thyroid	93425	7.4	7777	0.4
Hodgkin lymphoma	12724	1.0	3164	0.2
Non-Hodgkin lymphoma	88153	5.6	36623	2.0
Multiple myeloma	30942	1.8	21282	1.2
Leukaemia	68786	4.8	43340	2.7
All cancers excl. non-melanoma skin cancer	2811884	189.1	1351396	81.7



IARC Member Country

Korea

2002 Annual Report of the Korea Central Cancer Registry: Based on Registered Data from 139 Hospitals

Hai-Rim Shin, M.D., **Kyu-Won Jung**, M.S., **Young-Joo Won**, M.R.A., **Jae-Gahb Park**, M.D. and **139 KCCR-affiliated Hospitals**

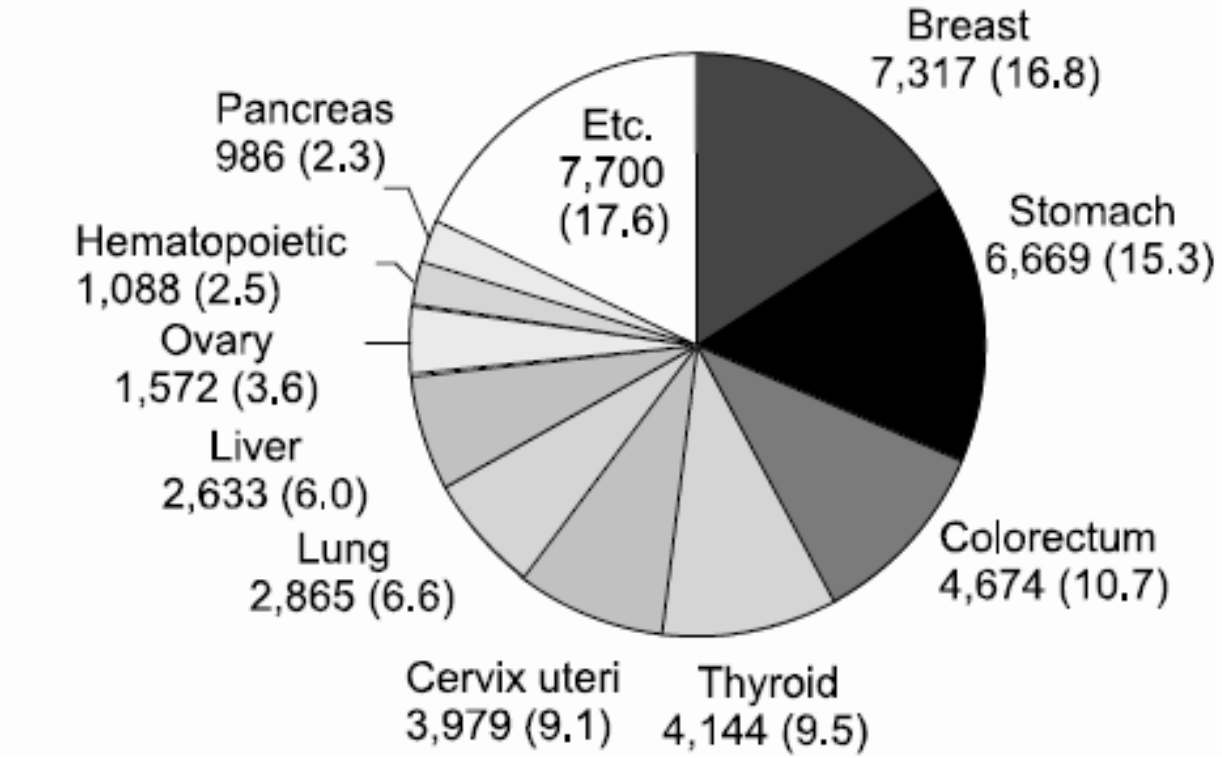


Fig. 1. New Cancer Cases and proportion of cancer cases by major primary site and sex.

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Korea

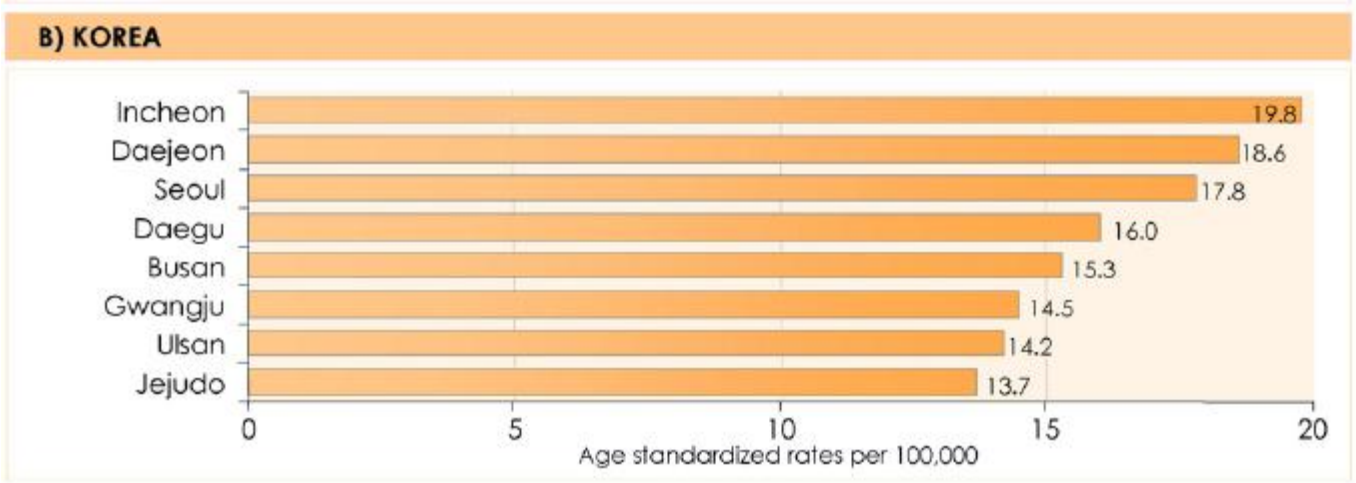


Fig. 1. Age-standardized incidence rates of cervical cancer in Korea (1998–2002).

Korea

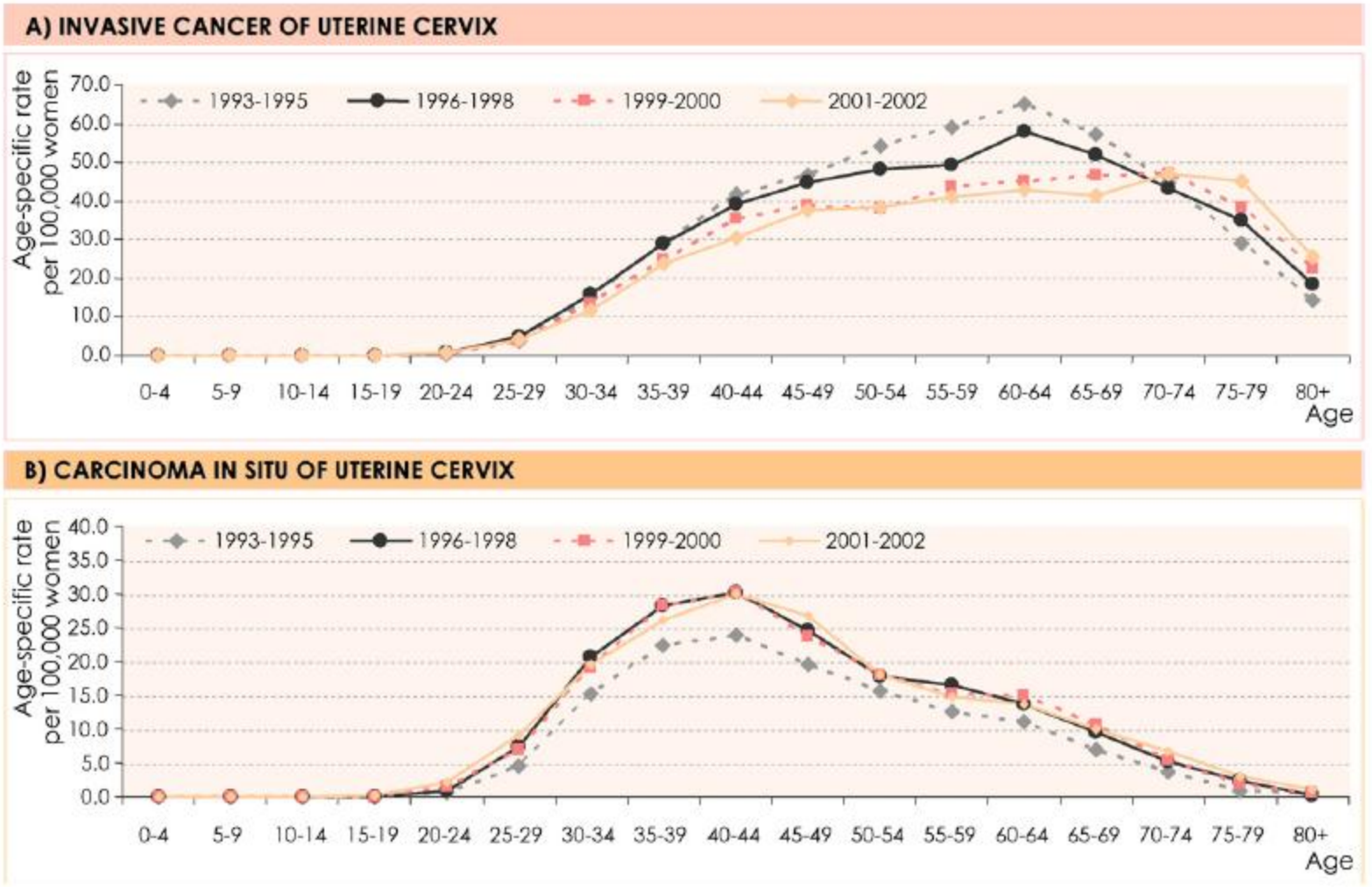


Fig. 4. Age-specific incidence rates of invasive cancer and carcinoma in situ of uterine cervix in Korea (1993–2002). Adapted from the National Cancer Incidence Database by the Korean Central Cancer Registry.

Participation rate I cerevical pap screening

Korea

R. Konno et al. / Vaccine 26S (2008) M30–M42

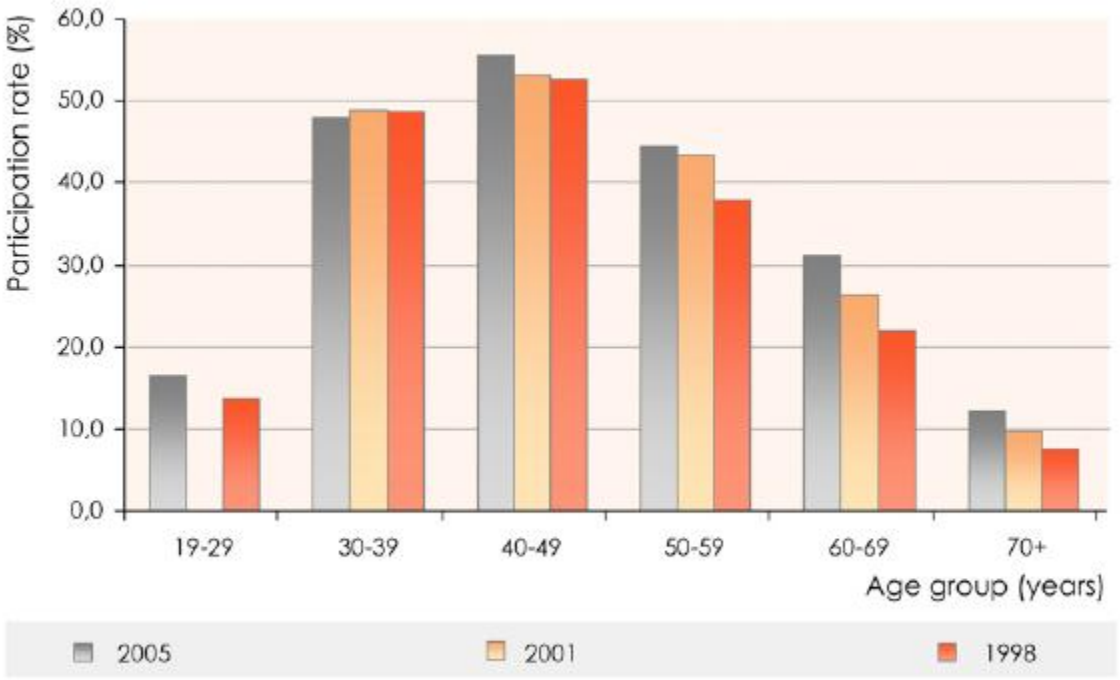


Fig. 10. Participation rate in cervical pap screening by age group in Korea, 1998–2005. [44–46].

Screening

Screening

The Objective of a screening program

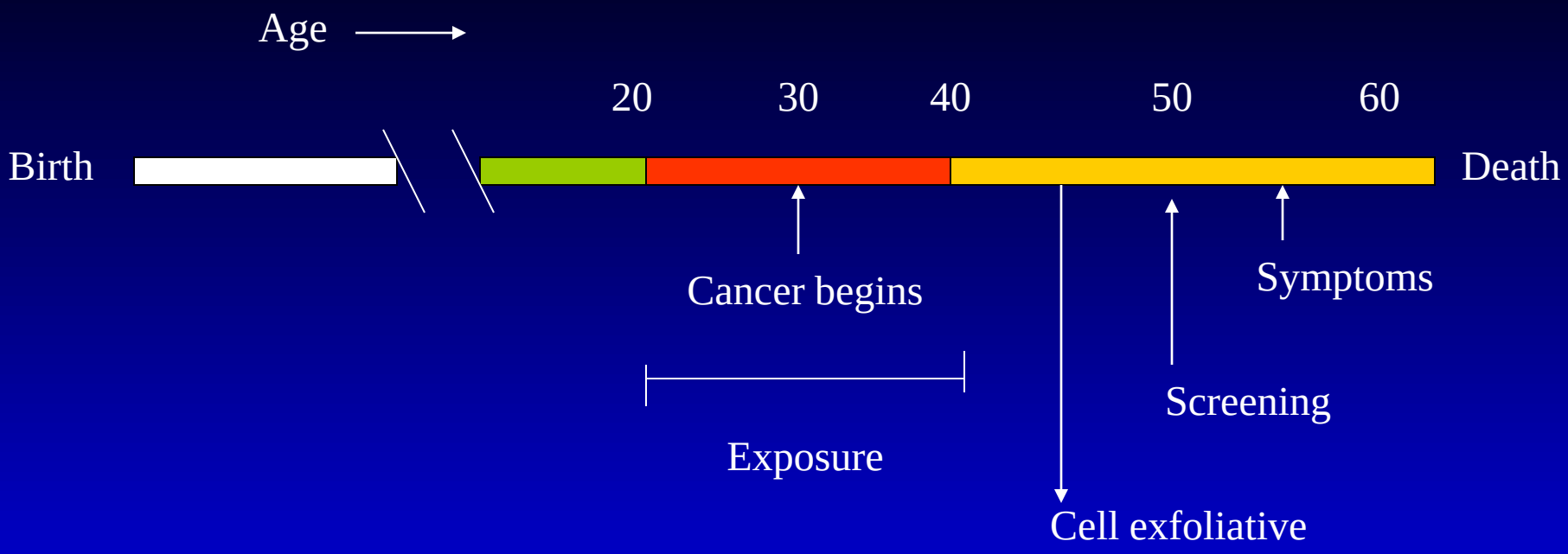
Operational term

the application of a relatively simple, inexpensive test to a large number of person in order to classify them as likely, or unlikely, to have the cancer which is the object of of the screen

Outcome terms

for a particular cancer is to reduce morbidity and mortality from that cancer among the person screen

Cole P and Morrison AS. Basic issues in cancer screening. UICC Technical Report Series- Vol 40, 1978



	Interval	Age	Duration
1	Total pre-clinical phase	30 to 55	25 years
2	Detectable pre-clinical phase	45 to 55	10 years

Essential Components

The elements which is essential components:

1. The target population has been identified
2. The individual women are identifiable
3. Measure are available to guarantee high coverage and attandence
4. Adequate field facilities for taking the smear and adequate laboratory
5. An organized quality control programme on taking of the smears and I interpreting them is organized
6. Adequate fascilities for diagnosis and for approriate treatment
7. A careful designed and agreed refferal system for abnormal screening, management and information
8. Evaluation and monitoring of the program

Parkin DM. Screening for cervix cancer in developing countries, 1991

Goal of secondary prevention

1. To achieve high coverage of the population at risk
2. To screen with an accurate test as part of high-quality services
3. To ensure that women with positive test results are proverly managed

Constrain for screening in developing countries

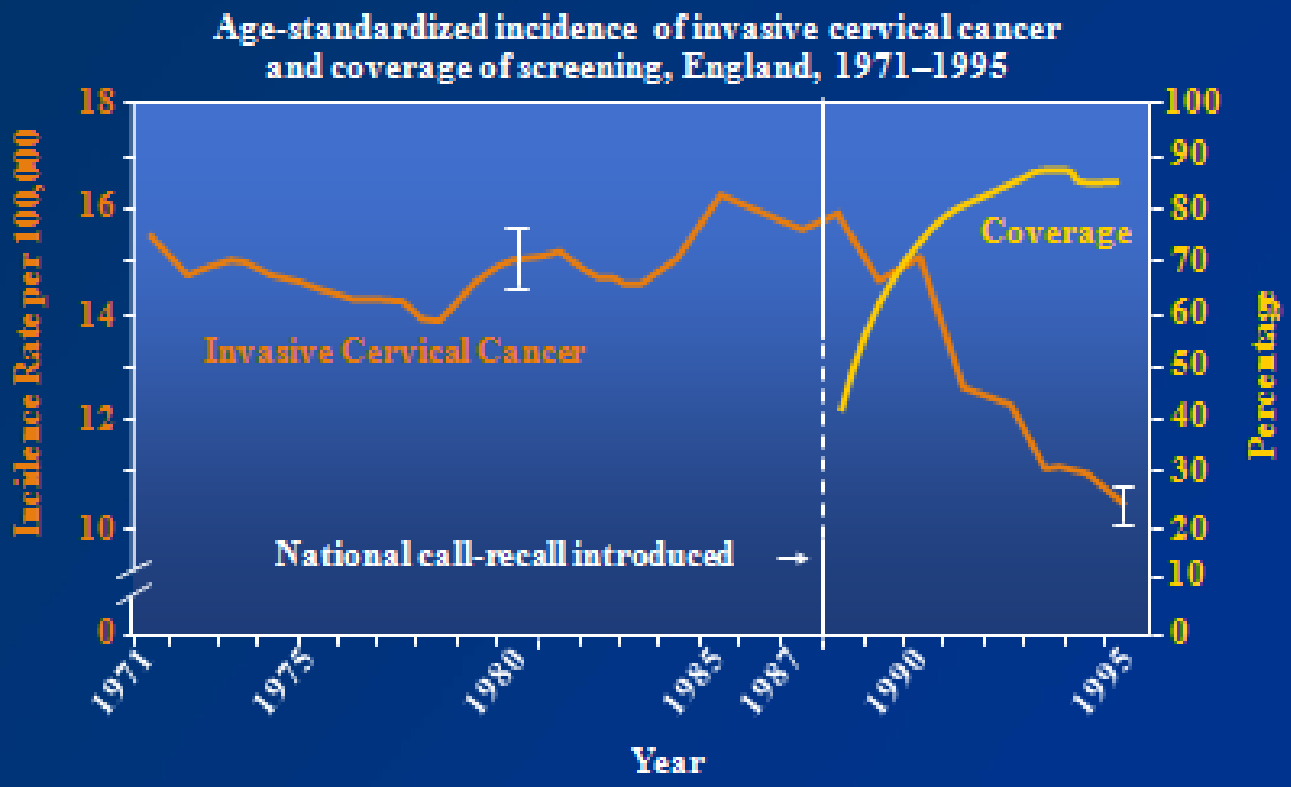
1. Less priority
2. Lack of human and financial resources
3. Poorly developed health care
4. Women are less educated, healthcare facilities
5. Lack or loss of Infrastructures
6. Poverty

Performance and characteristics of different screening methods

Screening test	Sensitivity (%)	Specificity (%)
Conventional cytology	44-78	91-96
HPV-DNA testing	66-100	61-96
Visual inspection methods		
VIA	67-79	48-86
VIAM	62-73	86-87
VILI	78-98	73-93
Colposcopy	44-77	85-90
Polar probe	67-74	65-72

Denny L et al, Screening for cervical cancer in developing countries. Vaccine 24S3 (2006) S3/71-77)

Improvements in Screening Coverage Can Reduce the Incidence of Cervical Cancer[1]



1. Quinn M, Babb P, Jones J, Allen E. *BMJ* 1999;318:904–908. Adapted with permission from the BMJ Publishing Group.

WHO* Recommendations for Cervical Cancer Screening (2002)[1]

First Screen	Women 35–55 Years of Age
▪ Aim to screen every woman once in her lifetime between 35–40 years of age, *as resources permit.* ▪ When more resources are available, frequency of screening should be increased to every 10 years. ▪ Rarely before 25 years of age	▪ After one negative cytological smear for cervical cancer, frequency of screening should be increased to every five years†, *as resources permit.*

†After one negative cytological smear for cervical cancer, screening every 3–5 years accomplishes the same effect among women 35–64 years of age as screening every year.

- Effect in the population will be lower if compliance and sensitivity of the test are less than perfect.

*WHO – World Health Organization

1. World Health Organization; 2002. Available at: http://www.who.int/cancer/media/en/408.pdf. Accessed January 12, 2005.

Summary

Estimated Age-standardised Incidence Rate, cumulative incidence and mortality risks

Country	Estimated Age SIR per 100,000	Cumulative Risk (%)	
		Incidence	Mortality
South Asia		**1.7**	**0.9**
Singapore	6.83	0.7	0.4
Philippines	11.73	1.1	0.6
Indonesia	12.65	1.4	0.8
Malaysia	17.90	1.9	0.6
Thailand	24.51	2.5	1.4
Eastern Asia		**0.9**	**0.4**
Japan	9.77	0.9	0.3
Chinese Taipei	10.24	1.0	0.5
Republic of Korea	10.78	1.1	0.3
Hongkong	7.70	0.7	0.2

HPV Infection

Country	HPV Infection	Detection
South Asia		
Singapore	From biopsy (9 pre-invasive and 29 invasive cervical cancer) was HPV DNA positif 37%. That is 11 with HPV 16, 2 with HPV 31 and 1 with HPV 6	HPV DNA
Philippines	Squamous cell carcinoma (93.8% positive) : 16, 18, 45, 52, 51 Adenocarcinoma (90.9% positive): 18, 16, 45 Normal cervix (9.2% positive): 45, 16, 18	-
Indonesia	HPV 16 (44%), HPV 18 (39%), and HPV 52 (14%)	HPV DNA
Malaysia	HPV 16 and 52 were the commonest (23.7% each) HPV genotypes encountered and among the CIN lesions, HPV 16 (28%) was the most frequent.	HPV DNA
Thailand	the most common types were HPV-16, -52, and -72	Pap, and HPV DNA
Eastern Asia		
Japan	HPV-16, 18, 52, 58, and 33 represent 77.9% and 92.5% of SCC and ADC. In ADC, HPV-18 type (58%) followed by HPV-16 (31%)	HVP DNA
Chinese Taipei	In cervical cancer, HPV types HPV-16, 18, 58, 33, 52 and in normal cytology HPV-16, 52, 58, 18, 51	-
Republic of Korea	HPV types in cervical cancer cases were: 16, 18, 58, 33, and 35. HPV-16 remains the most common HPV type across the range of cervical lesions. HPV-18 is the second most common HPV type in cervical cancer and LSIL	
Hong Kong	HPV types HPV-16, 58, 53, 18, 33, 45 and 52	

Risk Factor HPV Infection and Cervical Cancer

Country	Risk Factor HPV and Cervical Cancer
South Asia	
Singapore	Age at first intercourse (≤ 20) was strongly correlated with education (positively) and parity (negatively), but not with number of sexual partners. Another report mentions smoking and age at sexual debut for women
Philippines	Smoking, oral contraceptive use, fertility, STI, early sexual debut
Indonesia	First intercourse at the age of 19 or younger, having a history of more than one sexual partner, and high parity.
Malaysia	12-19 year old adolescents, 5.4% reported having had sexual intercourse. Median age at first sexual intercourse was 15 years.
Thailand	Age <35years, HSV-2 seropositivity, having a husband with extramarital sexual partner. High intake of foods rich in vitamine A, may reduce the risk of carcinoma in situ, suggesting inhibition of the progression to invasion
Eastern Asia	
Japan	Smokers to be at a higher risk for SIL. Women who were high risk HPV positive were at greater risk for LSIL. Women who were married for 10–19 years.
Chinese Taipei	Early sex exposure, vaginal deliveries, ≥4, lifetime sexual partner ≥2, cervicitis, HSV II, C tracomatis, husband ever visiting prostitutes
Republic of Korea	Younger age at onset of sexual activity, cigarette smoking, multiple lifetime sexual partners and husband's extramarital relationships
Hong Kong	Lifetime number of sexual partner ≥4, husband with some more than one sexual partner, women having more than one sexual partner, irregular use of contraception, postcoital bleeding, smoker in family, age at first intercourse

Screening of Cervical Cancer

Country	Method	National Program Screening	Opportunistic Screening	Interval
South Asia				
Singapore	Pap smear	√	√	Three-yearly, more frequent for infected with HPV and immunosupressed
Philippines	VIA, Pap smear	-	√	Coverage 7.7% target 18-69 yr; VIA in no Pap smear facilities, 25-55 yr every 5-7 yr; "See and Treat" (JHPIEGO)
Indonesia	Pap Smear, VIA , "See and Treat"	√ (some regions)	√	Age for screening started at 30 years old.
Malaysia	Pap smear	√	-	Who are, or been sexually active, 20 - 65 years,. If the first two consecutive are negative, screening every 3 years i
Thailand	Pap smear, "see and treat"	-	√	5-yearly intervals from the ages of 35, 40, 45, 50, 55, 60 years

Screening of Cervical Cancer

Country	Method	National Program Screening	Opportunistic Screening	Interval
Eastern Asia				
Japan		√	-	annual screening for women >30 years of age
Chinese Taipei	Pap smear	√	-	Approximately 61% of the target population had at least one Pap smear by the end of 2001
Republic of Korea	Pap smear	√	-	annual Pap testing for women aged 21 and over.
Hongkong	Pap smear		√	Ever sex: 25-64 yr, neg two consecutive 3 yearly until 64 yr

Conclusion

1. Less developed countries have incidence and mortality rate more than more developed countries
2. HPV infections are consistent in each country those are HPV 16 and 18
3. Age at first intercourse is the most risk factor
4. Screening in each countries done as opportunistic and some as national program
5. Interval 1-3 years

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Asia-Oceania Research Organisation in Genital Infection and Neoplasia

March 17-19, 2011, Bali

SECRETARY

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HOLISTIC APPROACH TO ERRADICATE CERVICAL CANCER

DISCOVERY KARTIKA PLAZA HOTEL - BALI
MARCH 17TH - 19TH, 2011

AOFOG

Thank You