Cervical Cancer Control Current Practices

From Research to Practice: Training Course in Sexual and Reproductive Health Research

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Situational Analysis: Cancer Control in Developing Countries

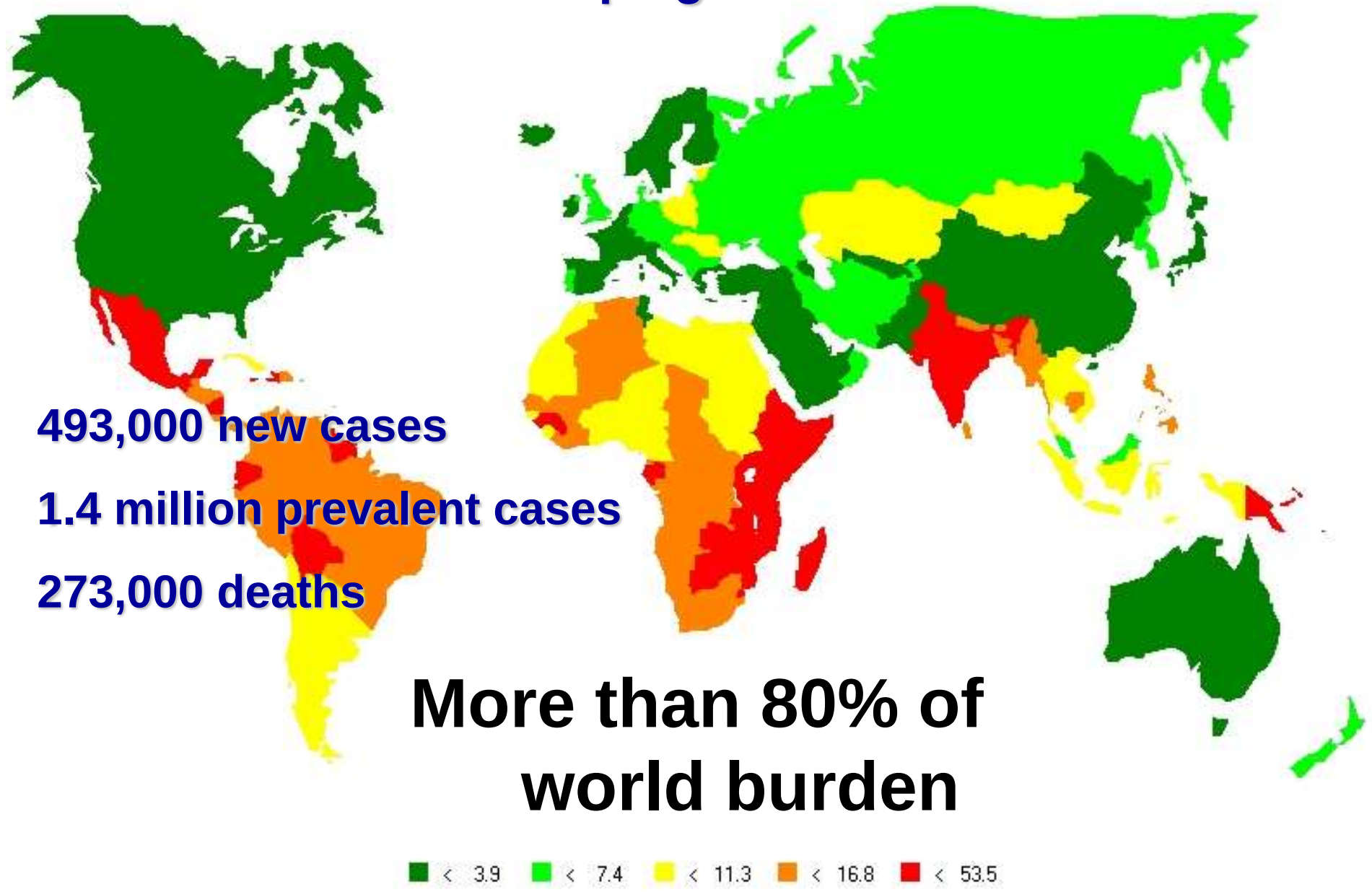
- 75% of the new cancer cases worldwide
- 5% of the world cancer resources
- 80-85% cases diagnosed at late incurable stages - if at all
- majority not covered with cancer care
- 5% women screened for Cx Ca compared to 40% in industrialised countries

Priorities and strategies for the eight most common cancers worldwide WHO, 1995

Site of cancer	Primary prevention	Early diagnosis	Curative therapy	Pain relief, palliative care
Lung	++	-	-	++
Stomach	+	-	-	++
Breast	+	++	++	++
Colorectum	+	++	++	++
Cervix	++	++	++	++
Mouth pharynx	++	+	++	++
Oesophagus	+	-	-	++
Liver	++	-	-	++

++ effective, + partly effective, - ineffective

Cervical cancer continues to be a major burden in most developing countries

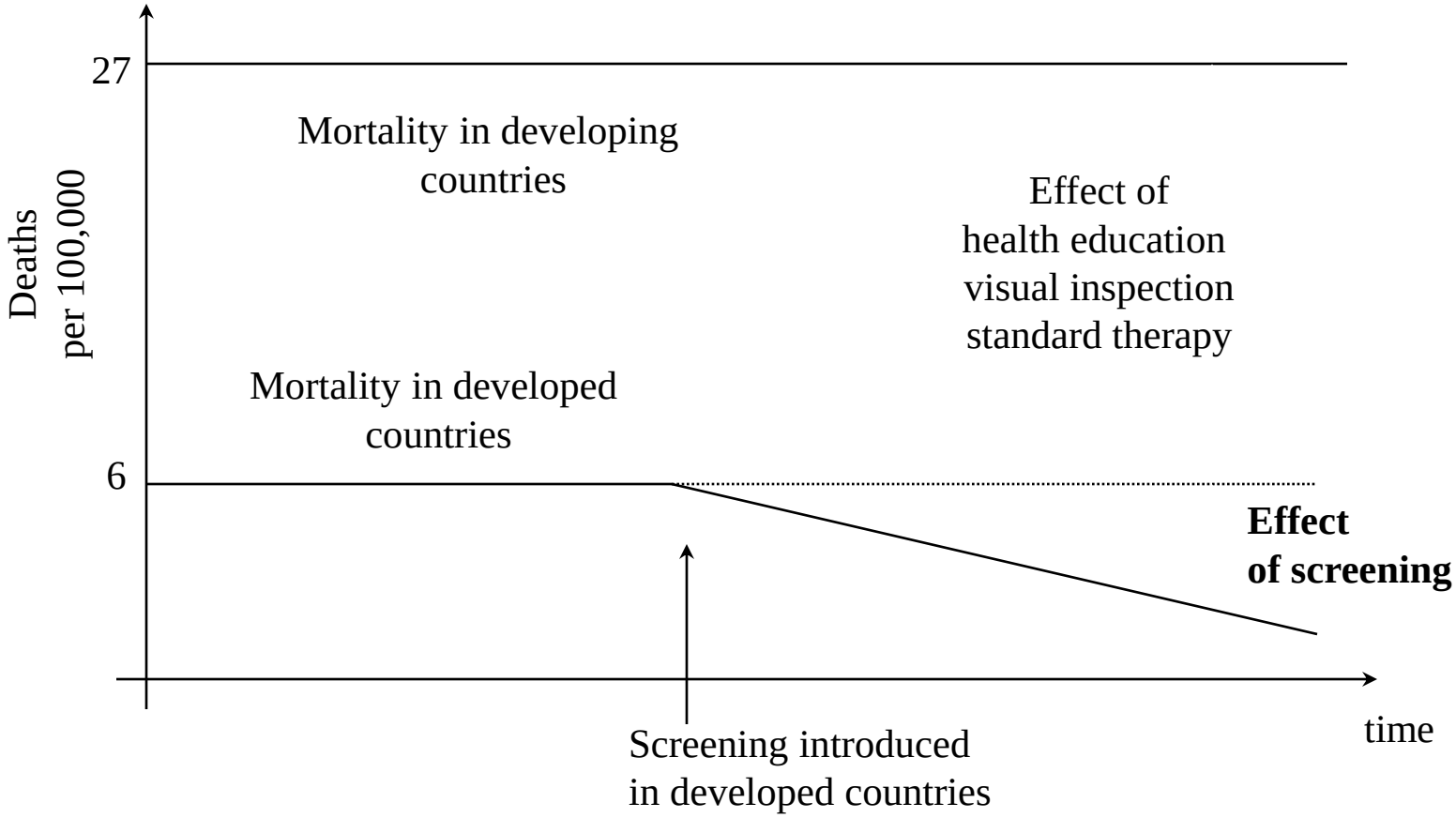


Estimated cases of Cx Ca in Regions and selected countries IARC, 1999

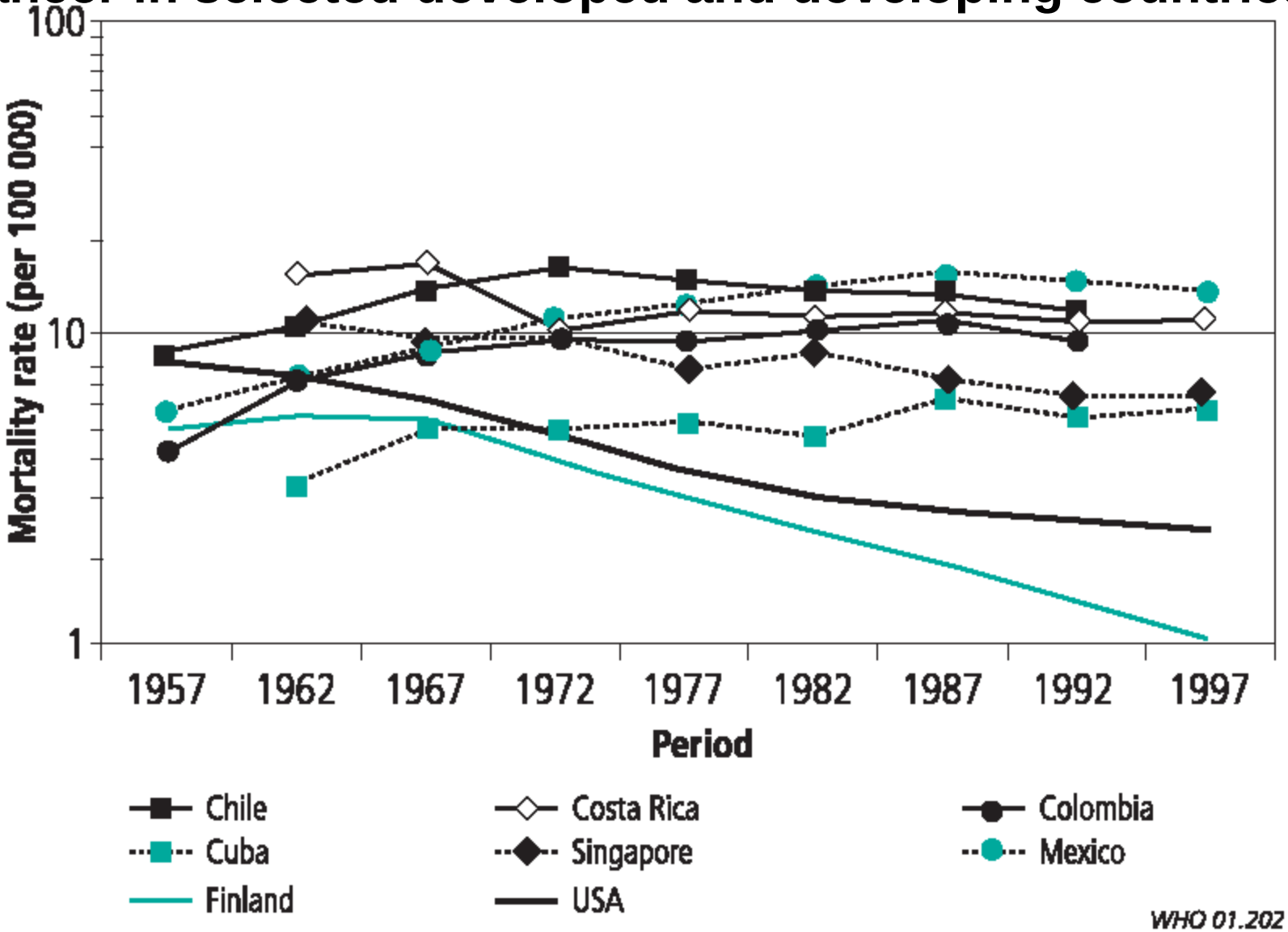
Region/Country	New cases per year
North America	15 700
Latin America	49 000
Europe	47 200
USSR	31 300
Africa	36 900
Asian excluding India & China	80 000
China	131 500
India	120 000
Australia/NZ	1 200

Cervical Cancer Control

M.I.Shafi & S.Nazeer. Colposcopy-Apractical guide; 2006



Trends in age-standardized mortality rate for cervical cancer in selected developed and developing countries



The main obstacle to a further improvement of the situation is the high cost and labour intensive nature of all screening programmes; for this reason, in most developing countries global preventive programs have been rarely implemented and almost never sustained; the usual picture is one of little financial support which entails poor quality and low coverage rates. These facts alone explain why mortality rates in the less developed countries are twice those of the industrialized ones

INCGC
A consortium of 32 organizations

- Local solutions
- External facilitation
- Pap smear technology revised

Akinremi TO, Nazeer S, Totsch M. (2005) Reduced alcohol use in the staining of Pap smears: a satisfactory low-cost protocol for cervical cancer screening. *Acta Cytologica* 2005; 49(2): 169-72

Cost-effective strategies

- Information systems / cancer registries
- Alternatives to Pap-smear (Education & empowerment + downstaging with simple VE; VIA; cervicography; spectroscopy; occuloscopy)
- HPV tests/vaccines

HPV VACCINES

Objective:

- To reduce Cx Ca burden globally
- To reduce costs of Cx Ca Screening Programmes in industrialised countries

RISK FACTORS FOR CERVICAL CANCER

- Age at first sexual intercourse
- Multiple sexual partners
- OCPs
- Social economic status
- Smoking
- STDs
- HPV

Papillomavirus types

host specifique, epitheliotropic

- **20** Animal types

- **100** Human types - **30** Infect genital tract :
  Low risk / High risk (**20** oncogenic)

Natural History of HPV

- Largely sexually transmitted
- Peak incidence: 20-24 yrs
- Incidence gradually declines upto 40-45 yrs
- May begin to increase slowly thereafter

(ref: Schifman et al 1993; Bosch et al,1995; Burk et al, 1996; Dillner et al, 1996; Meijir et al, 1999)

Natural History of HPV

- 80% infections transient: median range 12 mnths- no risk of CIN
- 10-20% infections persistent: high risk of CIN - only 30% of these progress if untreated
- RR of progression 40-180
- Persistence is the important factor for disease progression

(ref:Hildesheim et al,1994; Wheeler,1996; Koustky,1992)

HPV Prevalence

In cervical lesions

- Squamous carcinoma: 95% association
- HSIL/CIN II, III: 75 -95%
- LSIL/CINI: 60%
- ASCUS: 30%
- Adenocarcinoma: 12-30% association

(ref: Cuzick et al, 1992; Schiffman et al, 1993; IARC, 1995; Olsen et al, 1995)

CERVICAL CANCER IS A RARE

LONG-TERM OUTCOME OF PERSISTENT

INFECTION WITH ONE OR MORE

OF HIGH-RISK HPV TYPES

(16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68, 73, 82)

HPV Vaccines Available

- **Polyvalevt (Gardasil)**

VLPs of HPV 16; 18; 6; 11

Schedule: 3 IM injections – 0,2,6 months

- **Bivalent (Cervarix)**

VLPs of HPV 16; 18

Schedule: 3 IM injections – 0,1,6 months

Available HPV Vaccines
Practical Facts

- Approved by health authorities in Western countries since 2006
- Currently only approved for use in girls 10-14 years, prior to sexual debut
- To have beneficial effects the vaccination coverage should be at least 70-80% and its efficacy should last longer than 15 years

Available HPV Vaccines
Clinical Facts

- No therapeutic effect against prevalent HPV infection
- To be given before exposure – before sexual debut
- Efficient: 98-100% against CIN2+; adenocarcinoma in situ & genital lesions
- Effect on invasive Cx Ca to be proven
- Cross protection against non-vaccine types – partial at best
- Currently approved for vaccination of girls 10-14 years, with catch-up programmes for girls upto 26 years
- To date protection proven upto 7.3 years

Available HPV Vaccines
Expected Benefits

- HPV vaccines will not eradicate Cx Ca
- Effect on Cx Ca incidence will only be evident in 20-30 yrs
- Decrease (25-50%) in abnormal pap-smears
- decreased excisional treatment for high grade lesions
- Reduction in genital warts & cancers
- Beneficial in countries with and without Cx Ca screening programmes

Concluding Remarks

- Cx Ca is a public health issue
- Screening programmes – cost-effectiveness
- HPV is one of the main aetiological factors
- HPV in screening – no consensus
- HPV Vaccines – THE Plausible SOLUTION

Concluding Remarks

- HPV Vaccines – Key pending issues:

? Duration of immune response – booster dose

? Appropriate age of application

? Cross immunisation – 30% vs 70%; geographic differences in HPV type prevalence

? Monitoring methodologies

? Different population groups – males; SIDA

? Reduced participation in screening

? Cost-benefit – continued screening

Ref.: S.Nazeer et al. European Consensus Statement on 'HPV Vaccination and Colposcopy'. *Prepared on behalf of the European Federation for Colposcopy (EFC),* May 2010.