

Gynecologic Malignancies in the Arab World: Magnitude of the Problem

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Outline

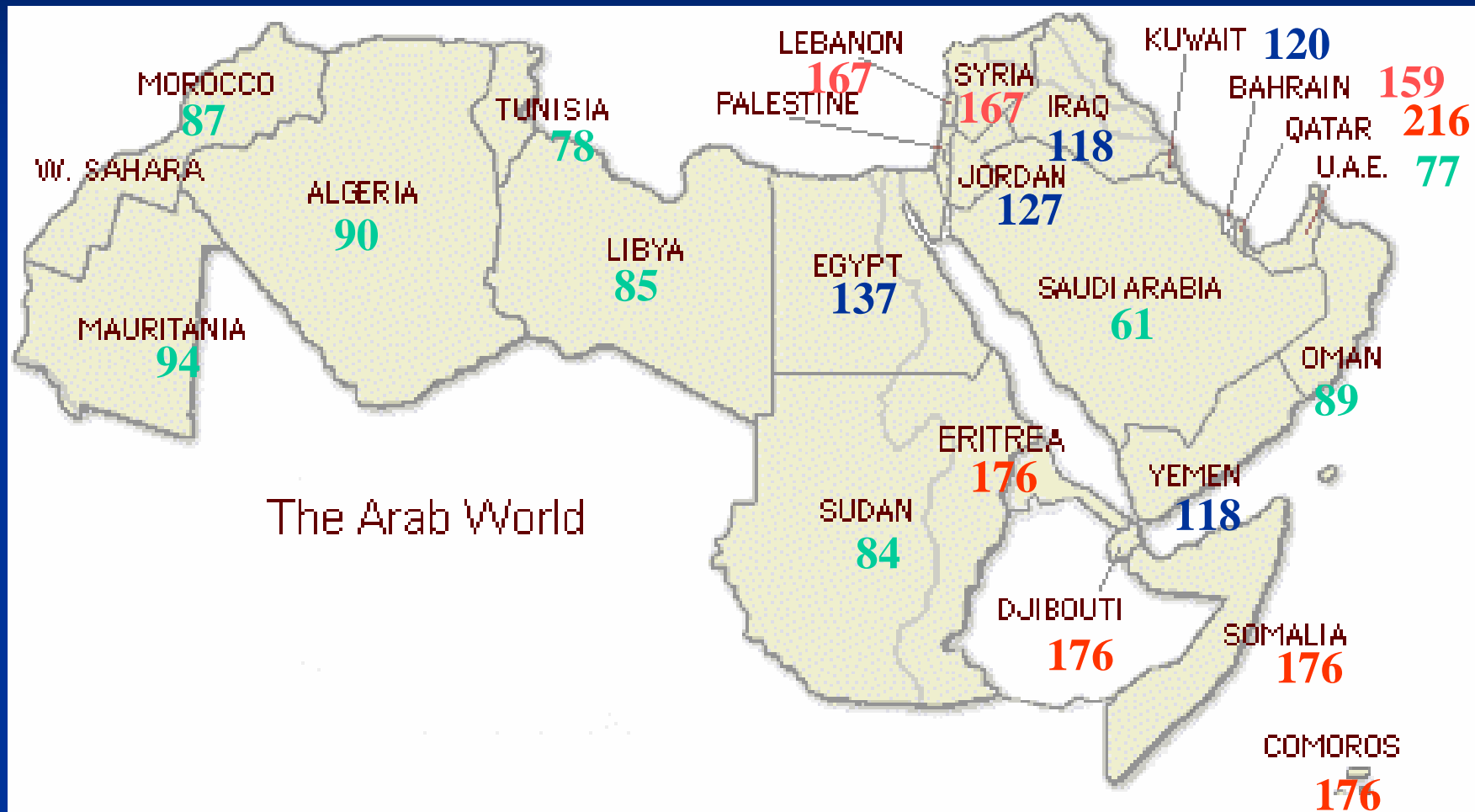
Most common female malignancies are cancer of the cervix, ovary and uterine (endometrial) cancer. For each:

- Worldwide statistics
- Frequency in Arab World
- Risk Factors

Source of Data

- National Population-based Cancer Registries:
 - Gulf Center for Cancer Registration, 2000
 - Qatar, Oman, Bahrain, and UAE
 - Saudi Arabia, 1999-2000
 - Kuwait, 2001
 - Jordan, 1999
 - Lebanon, 2003
- Regional Population-based Cancer Registries:
 - Egypt: Gharbiah 1999
 - Algeria: Algiers, Constantine, Oran, & Setif, Globocan 2002
 - Tunisia: Tunis, Sousse, Sfax, Globocan 2002
- All others Globocan 2002, IARC

Age-Adjusted Incidence Rates in Arab World, Females



The Arab World

Rates/100,000

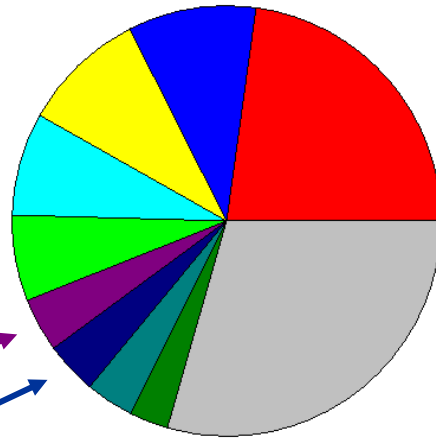
Female Genital Malignancies Worldwide

- Cervical cancer is the 2nd most common cancer site for females after breast cancer. It accounts for 10% of all cancer worldwide.
- Ovarian cancer is the 6th most common cancer site for females. It constitutes 4% of all cancer in females.
- Uterine cancer is the 7th most common cancer site for females. It constitutes nearly 4% of all cancer in females.

New Cancer Cases and Deaths Worldwide, Females

World
New cancer cases (all ages), Females
Total: 5060657

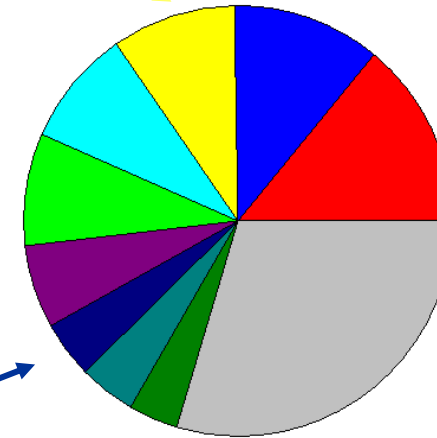
- 1151298 (22.7%) ■ Breast
- 493243 (9.7%) ■ Cervix uteri
- 472687 (9.3%) ■ Colon and rectum
- 386891 (7.6%) ■ Lung
- 330518 (6.5%) ■ Stomach
- 204499 (4.0%) ■ Ovary etc.
- 198783 (3.9%) ■ Corpus uteri
- 184043 (3.6%) ■ Liver
- 146723 (2.9%) ■ Oesophagus
- 1491972 (29.5%) ■ Other



GLOBOCAN 2002, IARC

World
Deaths (all ages), Females
Total: 2927896

- 410712 (14.0%) ■ Breast
- 330786 (11.3%) ■ Lung
- 273505 (9.3%) ■ Cervix uteri
- 254297 (8.7%) ■ Stomach
- 250532 (8.6%) ■ Colon and rectum
- 181439 (6.2%) ■ Liver
- 124860 (4.3%) ■ Ovary etc.
- 124730 (4.3%) ■ Oesophagus
- 107479 (3.7%) ■ Pancreas
- 869556 (29.7%) ■ Other



GLOBOCAN 2002, IARC

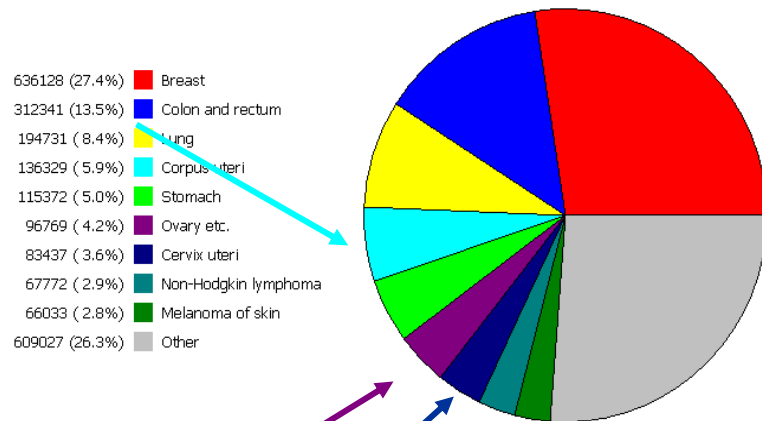
World Estimated Female Genital Cancer Cases, and Age-adjusted Rates

Cancer site	Number of new cases	Age-adjusted incidence rate	Number of deaths	Age-adjusted death rate
Cervix	493,243	16.2	273,505	9.0
Ovary	204,499	6.6	124,860	4.0
Corpus uteri	198,783	6.5	50,327	1.6

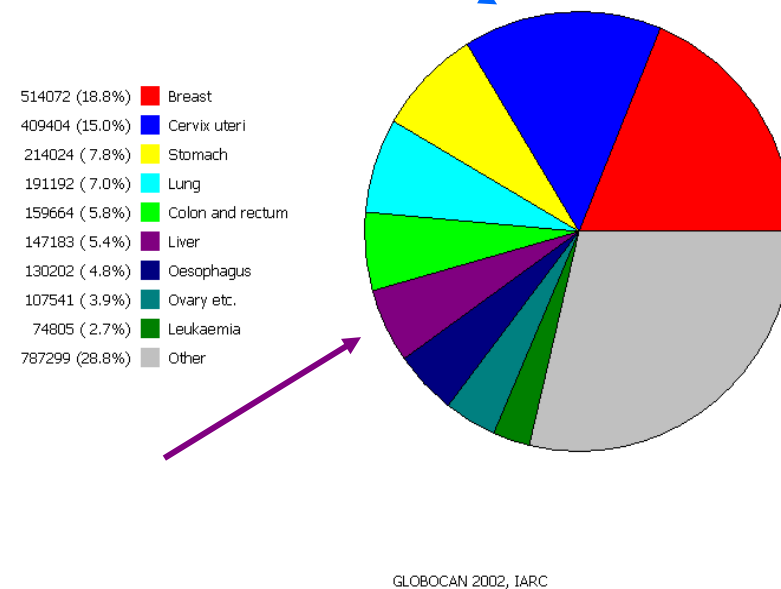
Rates/100,000

New Cancer Cases in More and Less Developed Regions, Females

More developed regions
New cancer cases (all ages), Females
Total: 2317939



Less developed regions
New cancer cases (all ages), Females
Total: 2735386



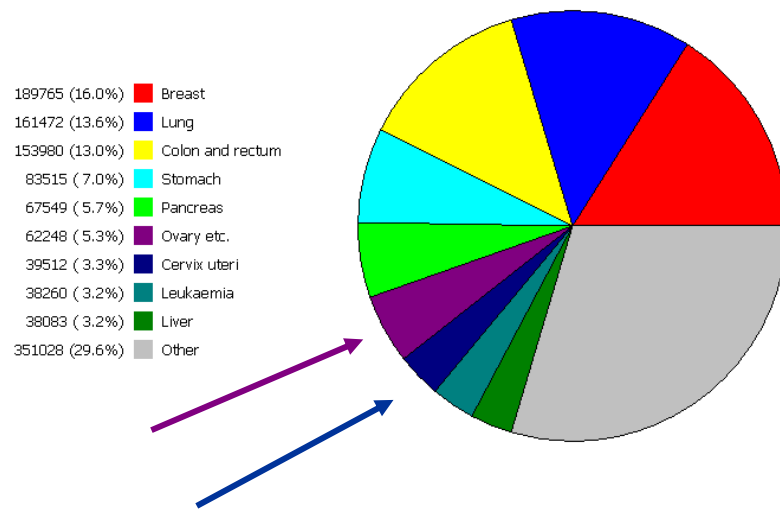
World Age-adjusted Incidence Rates Female Genital Cancer

	Cervix	Ovary	Uterus
World	16.1	6.3	6.4
More developed countries	11.4	9.9	11.3
Less developed countries	18.7	4.9	3.9

Incidence rates/100,000

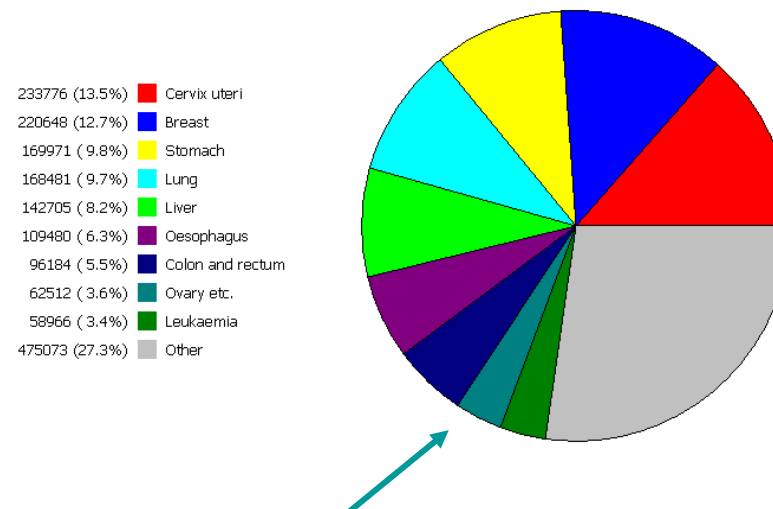
Deaths in More and Less Developed Regions, Females

More developed regions
Deaths (all ages), Females
Total: 1185412



GLOBOCAN 2002, IARC

Less developed regions
Deaths (all ages), Females
Total: 1737796



GLOBOCAN 2002, IARC

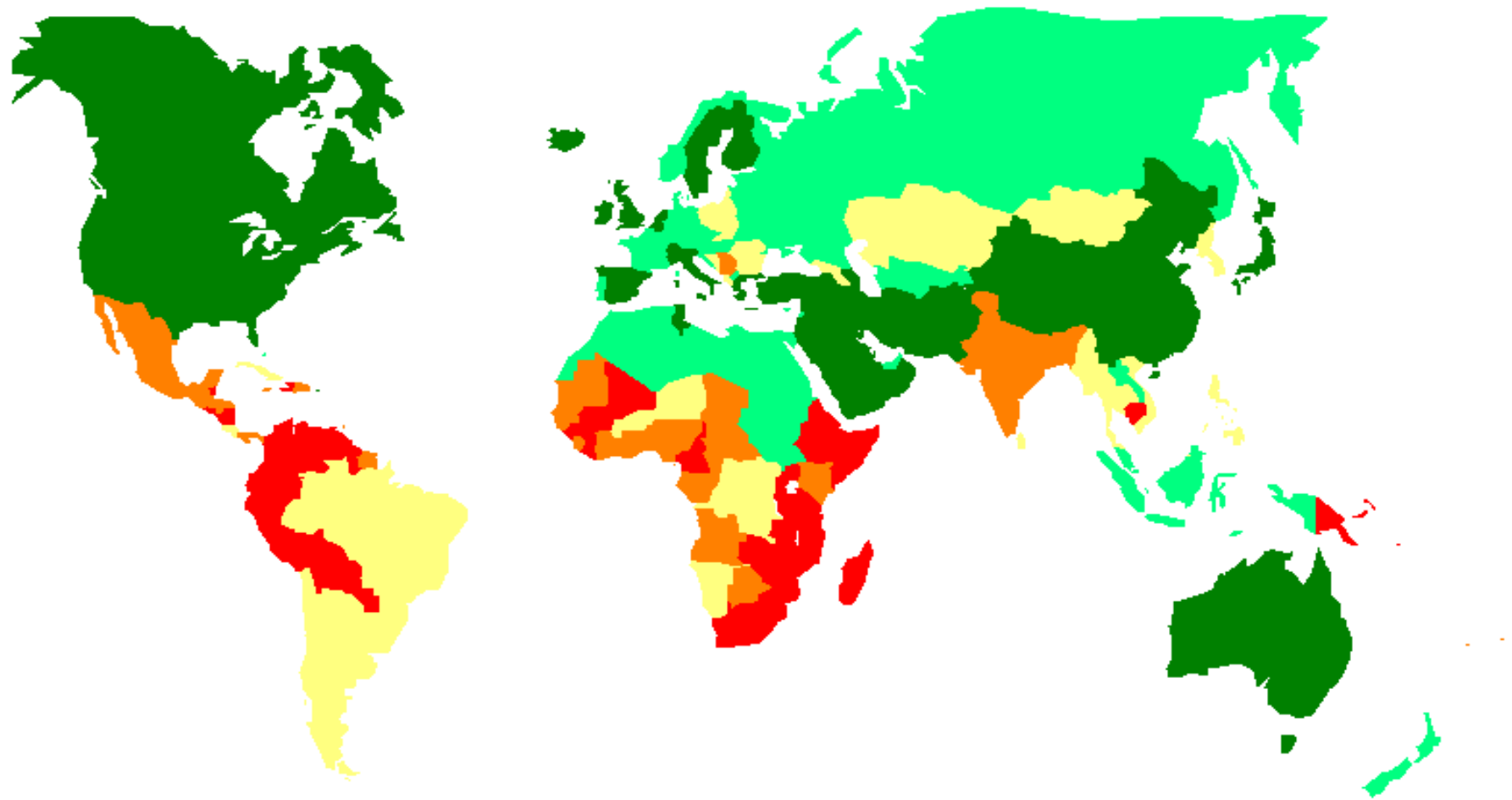
Cervical Cancer **Worldwide**

- Cervical cancer is the leading cause of cancer death in women in the developing world.
- Over 80% of women newly diagnosed live in developing countries; most are diagnosed when they have advanced disease.
- An estimated 95% of women in developing countries have never been screened for cervical cancer.

Principal Reasons for Difference Between More and Less Developed Regions

- Lack of cervical awareness by the population, providers and policy makers.
- Lack of poor quality of screening programs resulting in cancer being diagnosed at later stages when it's more difficult to treat.
- Limited access to existing health care.

Cervix uteri
Age-Standardized incidence rate per 100,000



■ < 9.4 ■ < 16.8 ■ < 25.8 ■ < 33.4 ■ < 87.3

GLOBOCAN 2002, IARC

Worldwide Age-Adjusted Incidence Rates of Cervical Cancer by Region*



*Incidence per 100,000 population

(Globocan, 2002)

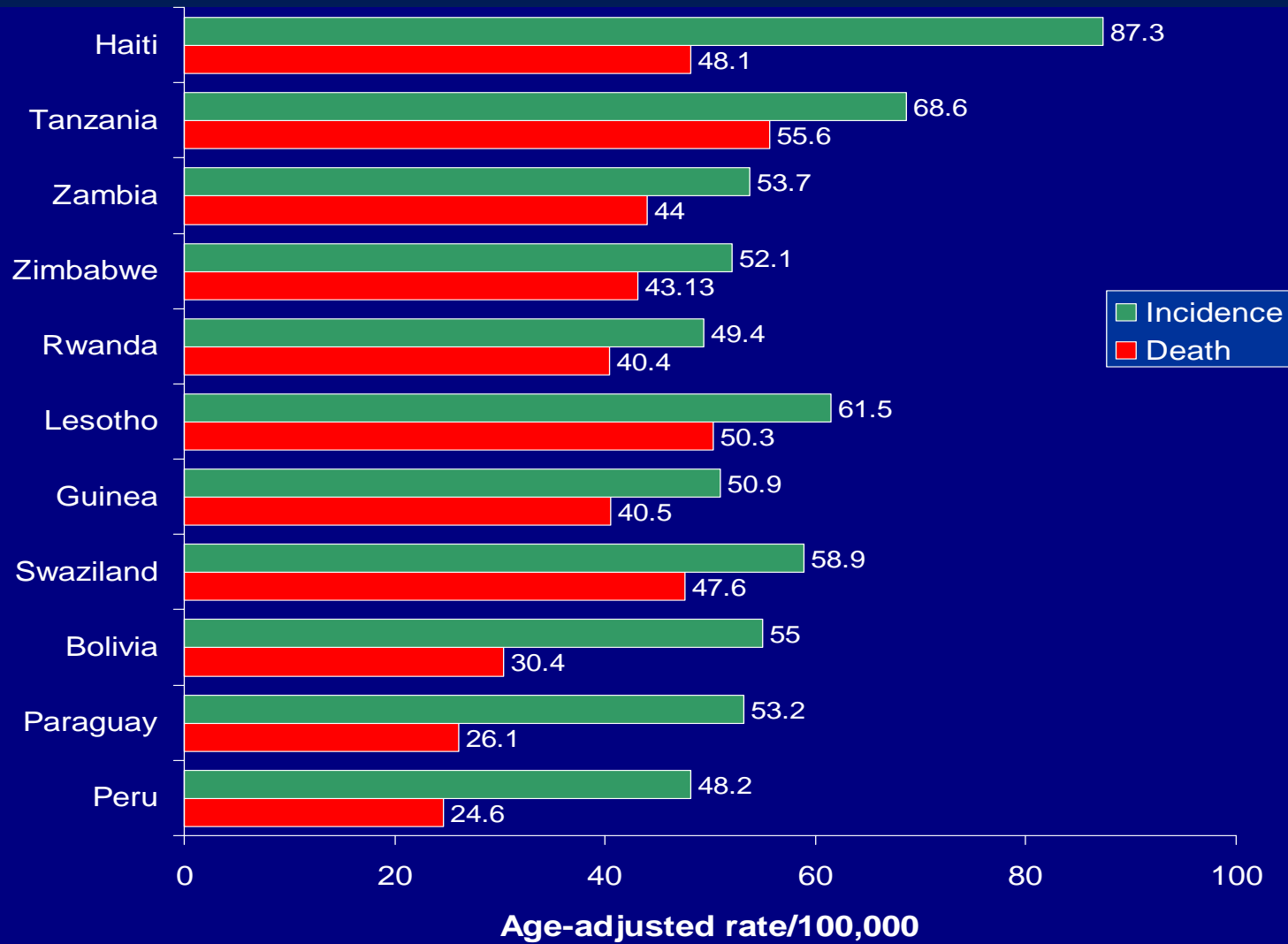
Worldwide Age-Adjusted Death Rates Cervical Cancer by Region*



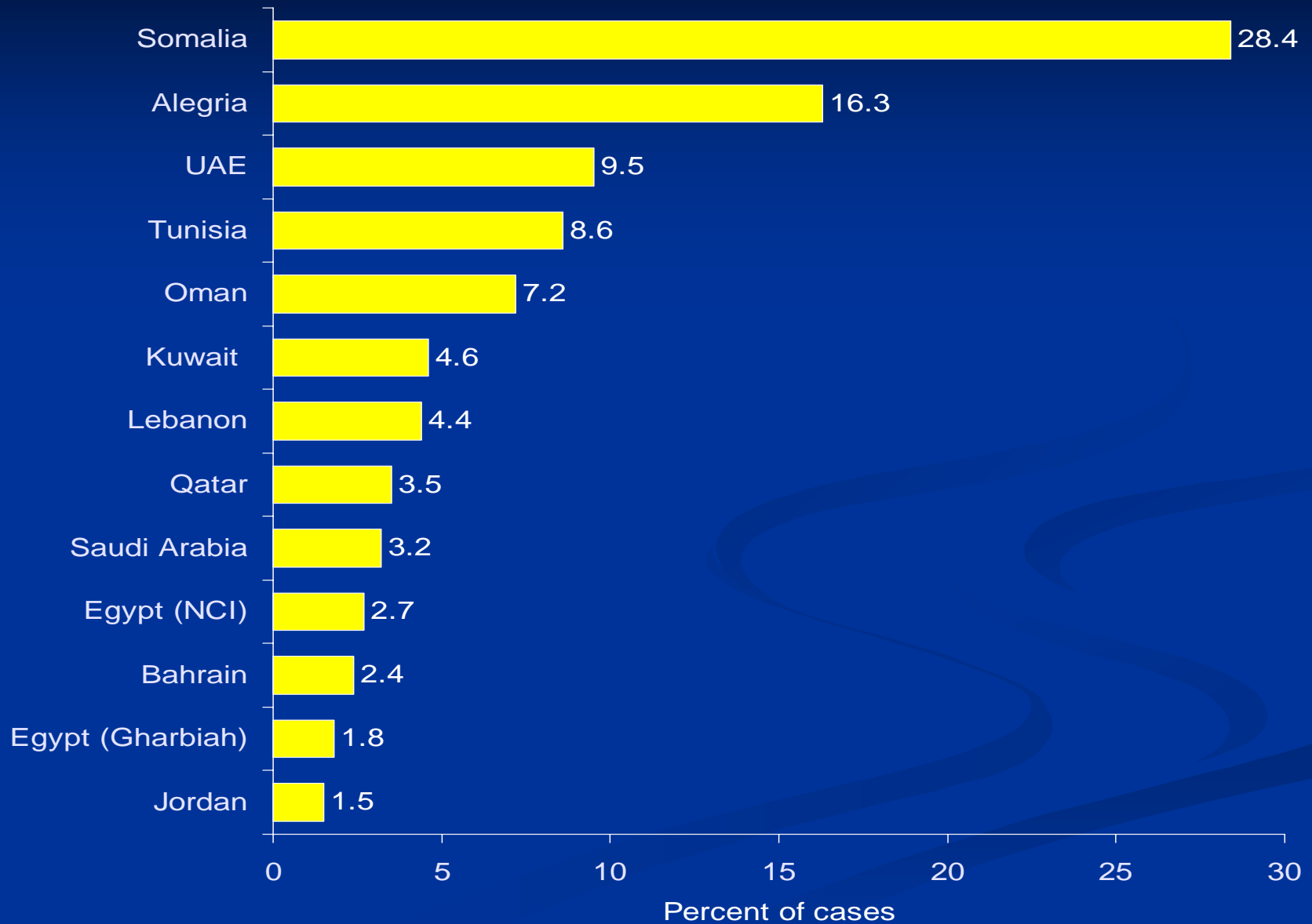
Death per 100,000 population.

(Globocan, 2000)

Countries with Highest Age-Adjusted Rates of Cervical Cancer, Globocan 2002



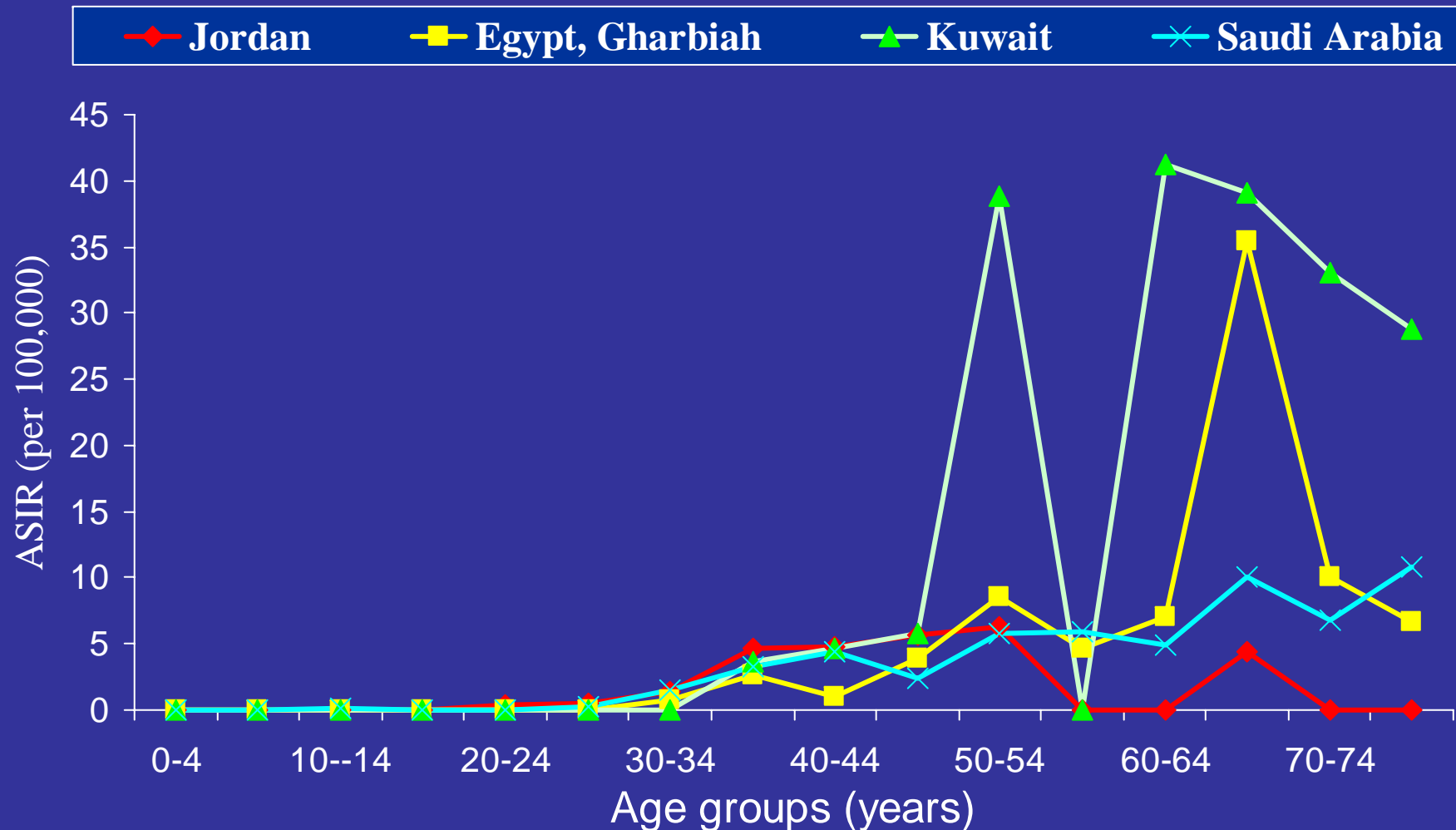
Frequency of Cervical Cancer in Arab World



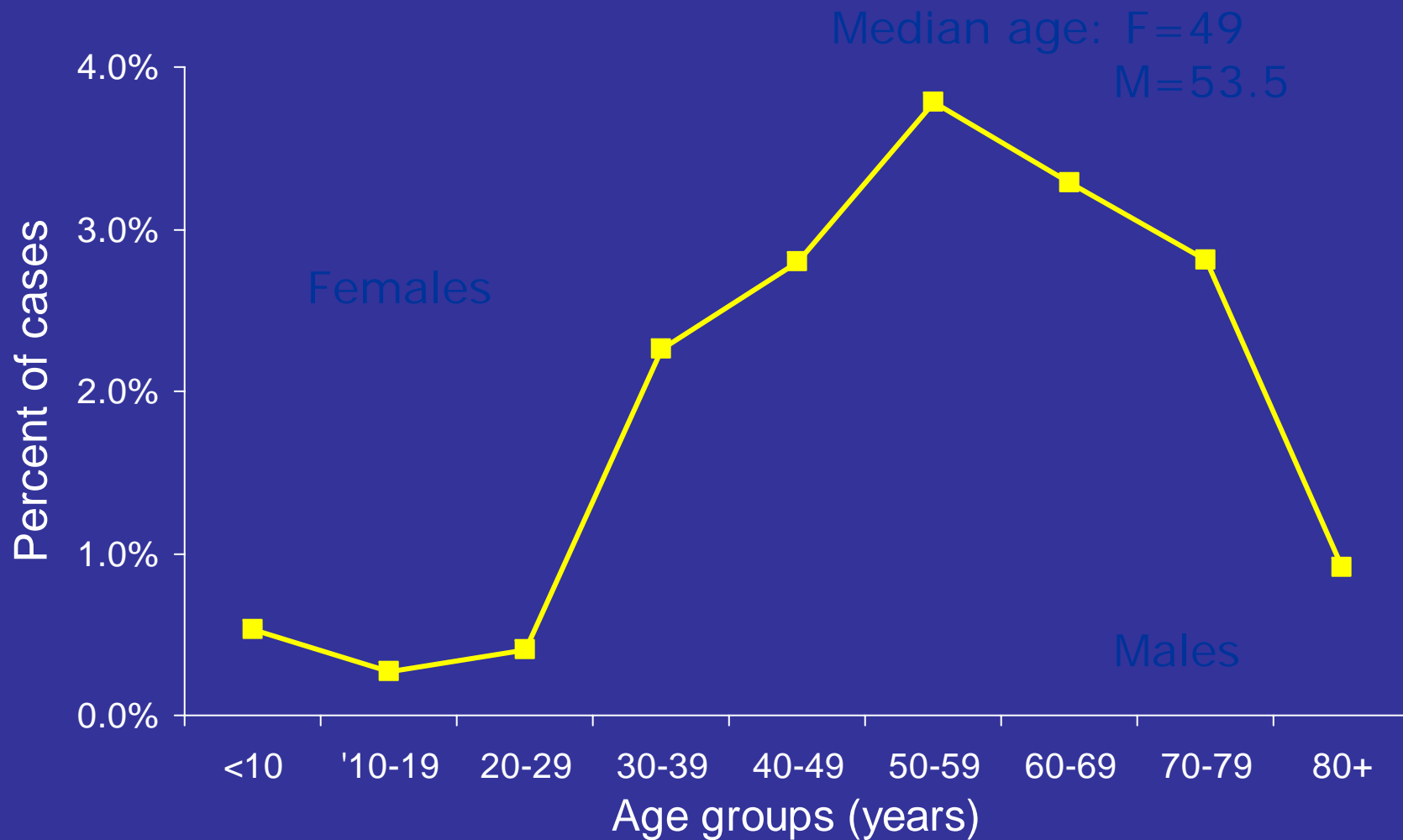
Age of Cervical Cancer Cases in Selected Arab World

Country	Median (years)
Egypt (NCI)	52.0
Egypt (Gharbiah)	61.2
Saudi Arabia	51.3
Kuwait	54.0
Jordan	42.0
Oman	56.2

Age-Specific Incidence Rates (ASIR) of Cervical Cancer in Selected Arab Countries



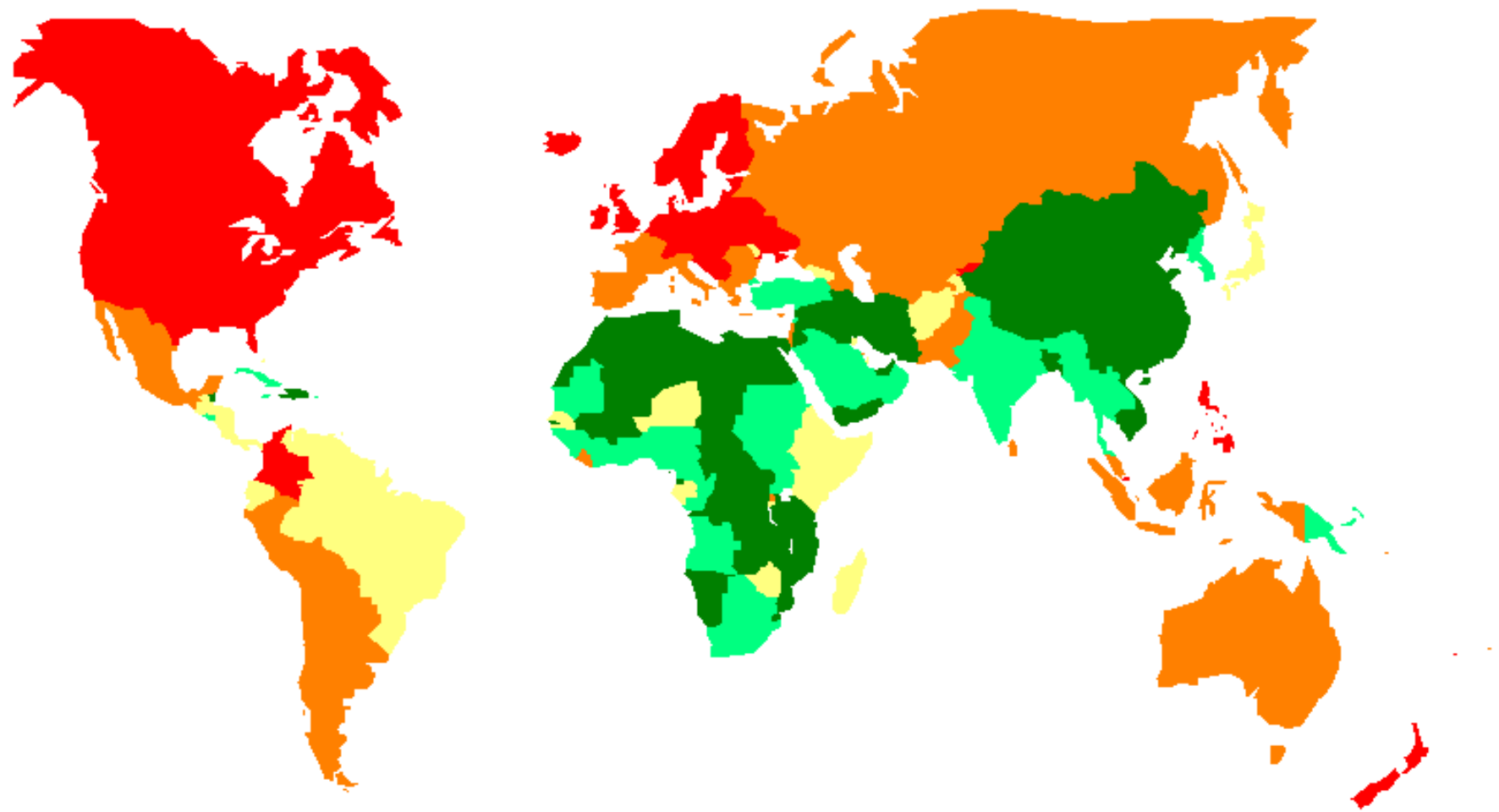
Age-Specific Frequency of Cervical Cancer, NCI 2002- 03



Risk factors of Cervical Cancer

- Human papillomavirus: Most important risk factor. “high risk” HPV types, HPV16, HPV 18, HPV 31, HPV 33, and HPV 45
- Sexual behavior that increase a woman’s risk of getting HPV
 - Sex at an early age
 - Having many sexual partners
 - Having sex with uncircumcised males
- Smoking: Twice as likely as nonsmokers
- Human immunodeficiency virus (HIV) infection
- Chlamydia infection: Past or present infection
- Diet: Low in fruits and vegetables
- Oral contraceptives: Long term use
- Multiple pregnancies
- Low SES
- Family history of cervical cancer; mothers or sisters

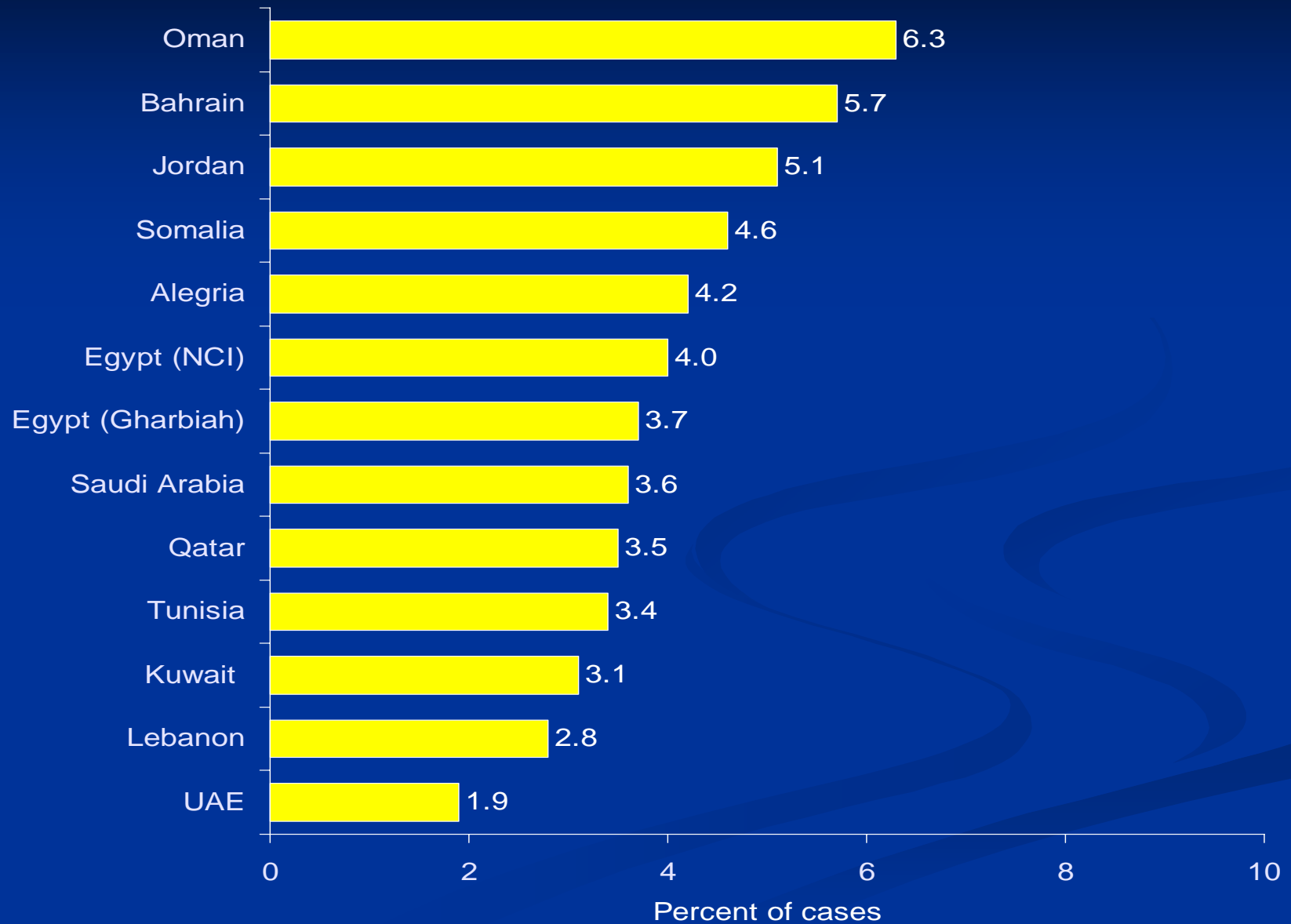
Ovary etc.
Age-Standardized incidence rate per 100,000



■ < 4.3 ■ < 5.9 ■ < 7.4 ■ < 10.1 ■ < 17.0

GLOBOCAN 2002, IARC

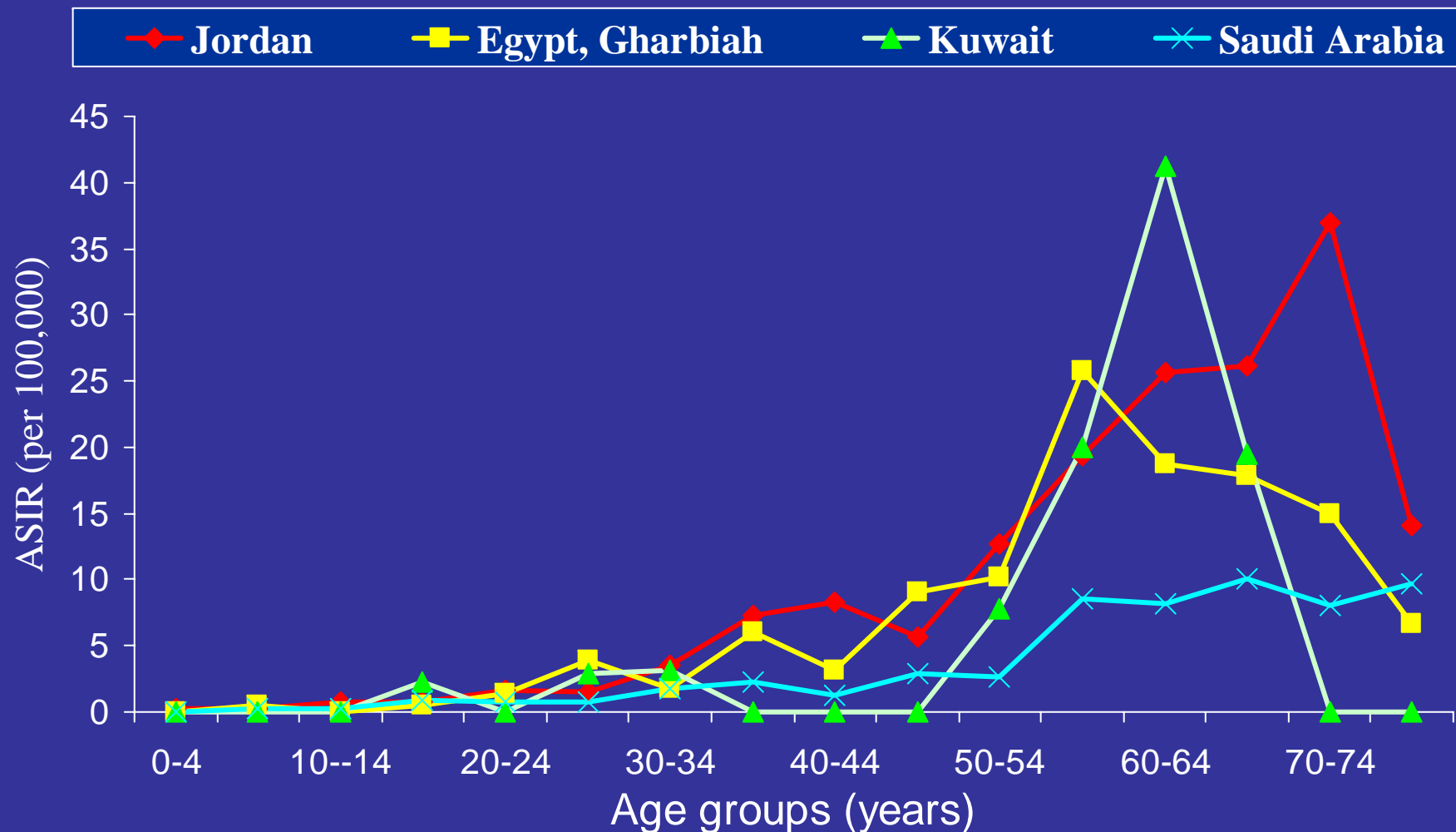
Frequency of Ovarian Cancer in Arab World



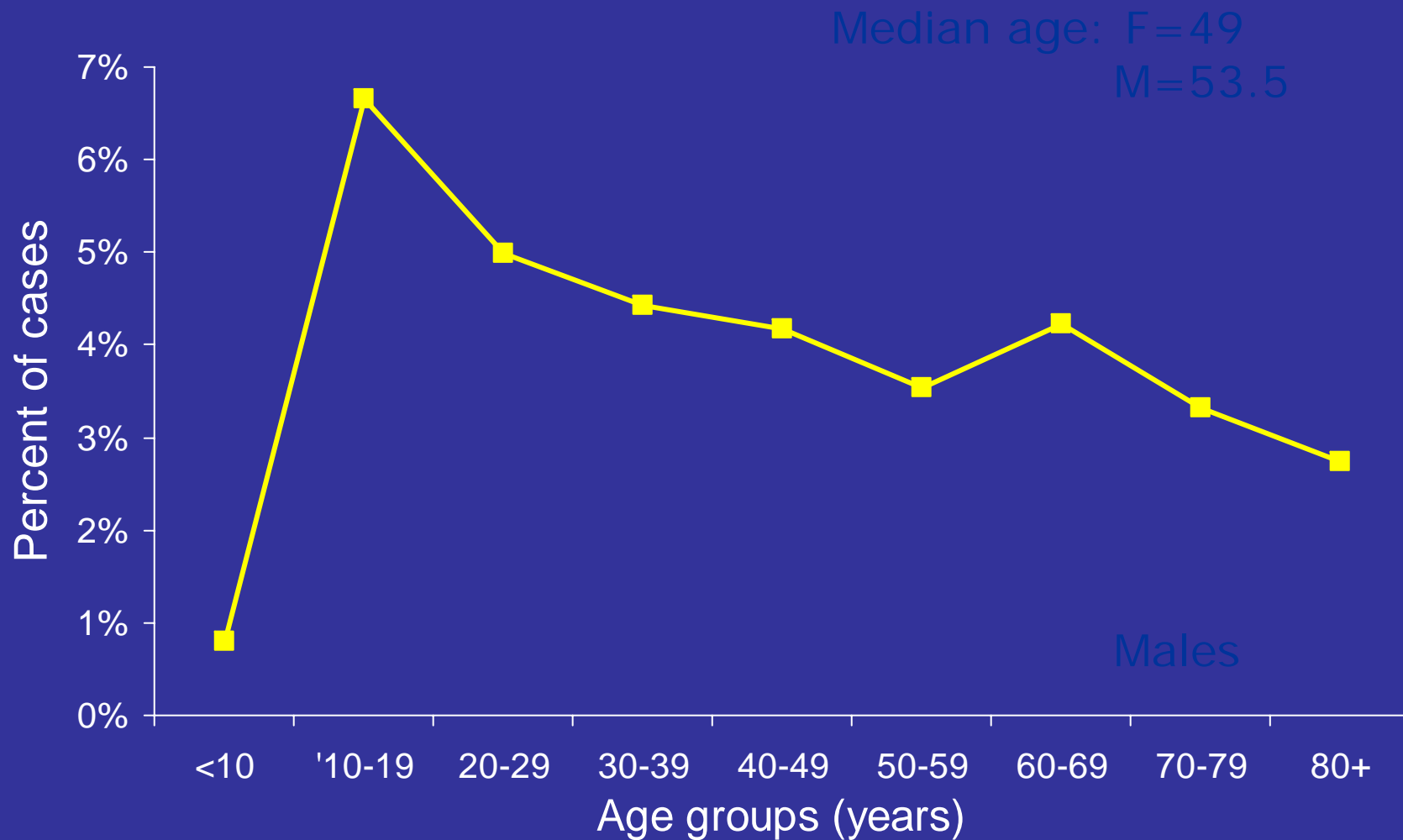
Age of Ovarian Cancer Cases In Selected Arab World

Country	Median (years)
Egypt (NCI)	48.0
Egypt (Gharbiah)	52.0
Saudi Arabia	49.5
Kuwait	57.0
Jordan	52.0
Oman	52.8

Age-Specific Incidence Rates (ASIR) of Ovarian Cancer in Selected Arab Countries



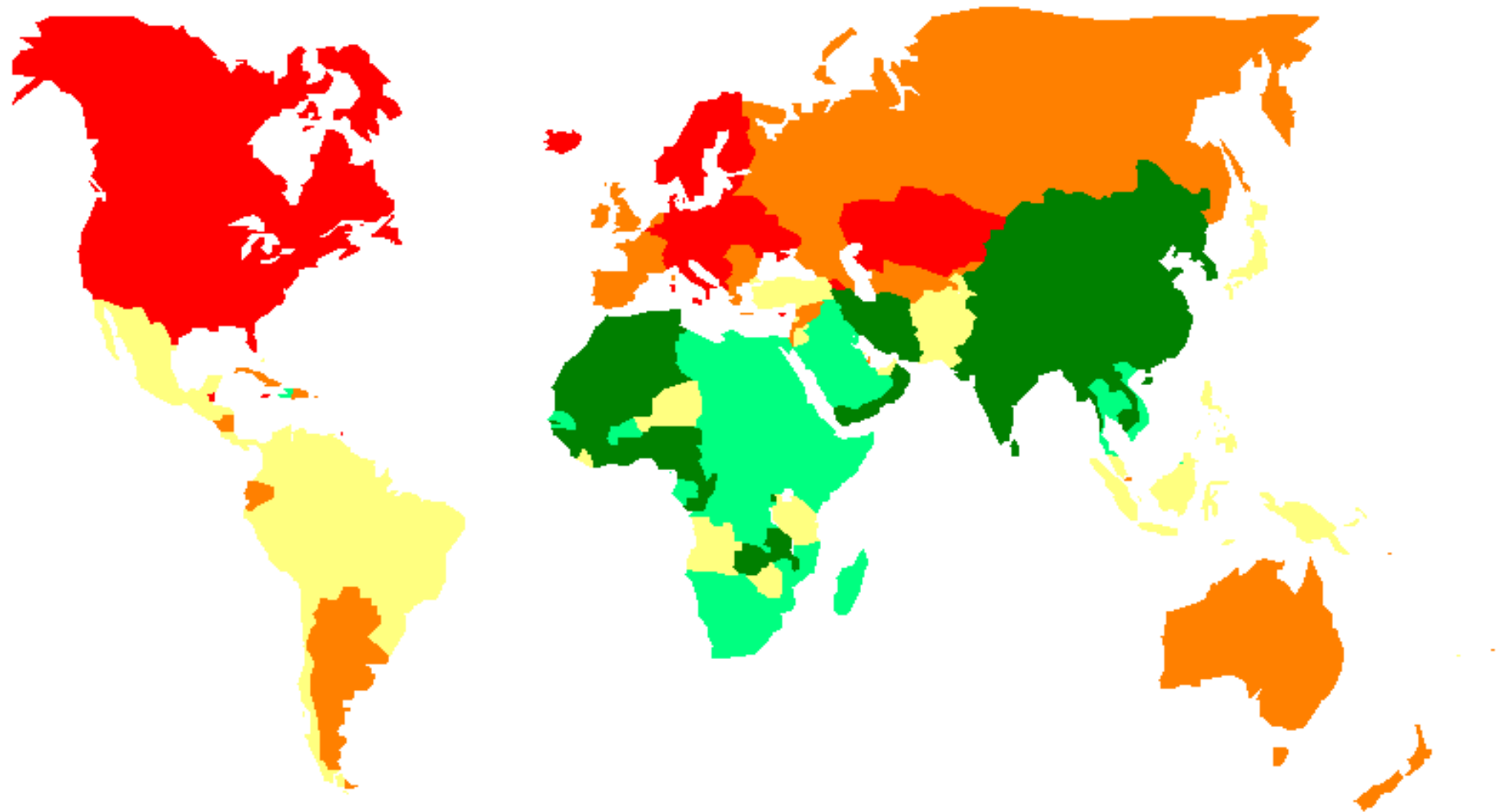
Age-Specific Frequency of Ovarian Cancer, NCI 2002- 03



Risk factors of Ovarian Cancer

- Increasing age: Mostly after menopause
- Obesity: Higher rate of death in obese women
- Reproductive history
 - Early menarche (before age 12)
 - Nulliparous
 - 1st child at old age
- Fertility drugs: Prolonged use of clomiphene
- Personal history of breast cancer
- Family history of breast, ovarian or colorectal cancer
- Genetic cancer syndrome
 - BRCA 1
 - BRCA 2
 - Hereditary non-polyposis colon cancer
- Talcum powder
- Estrogen and hormone replacement therapy

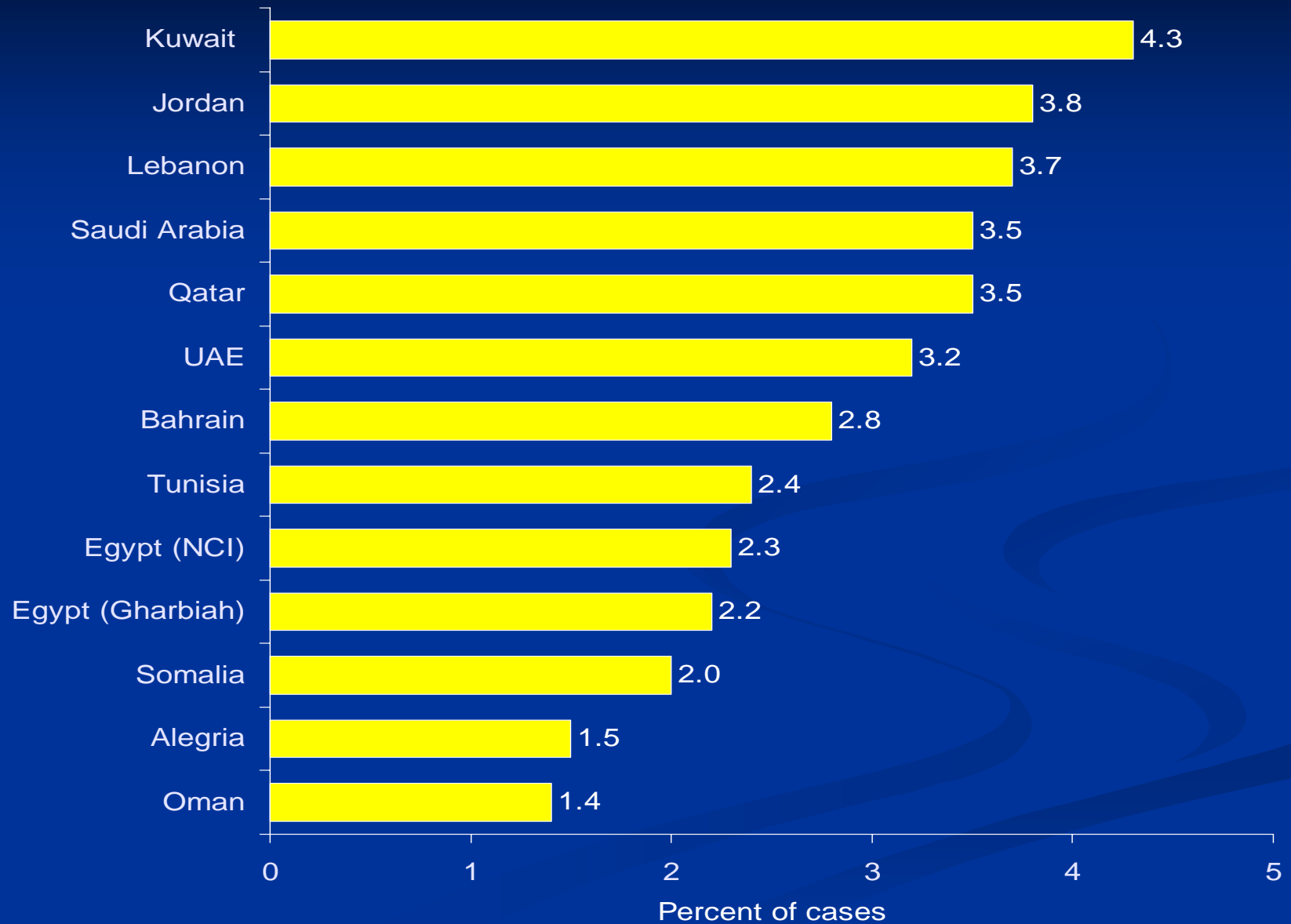
Corpus uteri
Age-Standardized incidence rate per 100,000



■ < 2.3 ■ < 4.2 ■ < 6.9 ■ < 12.0 ■ < 22.8

GLOBOCAN 2002, IARC

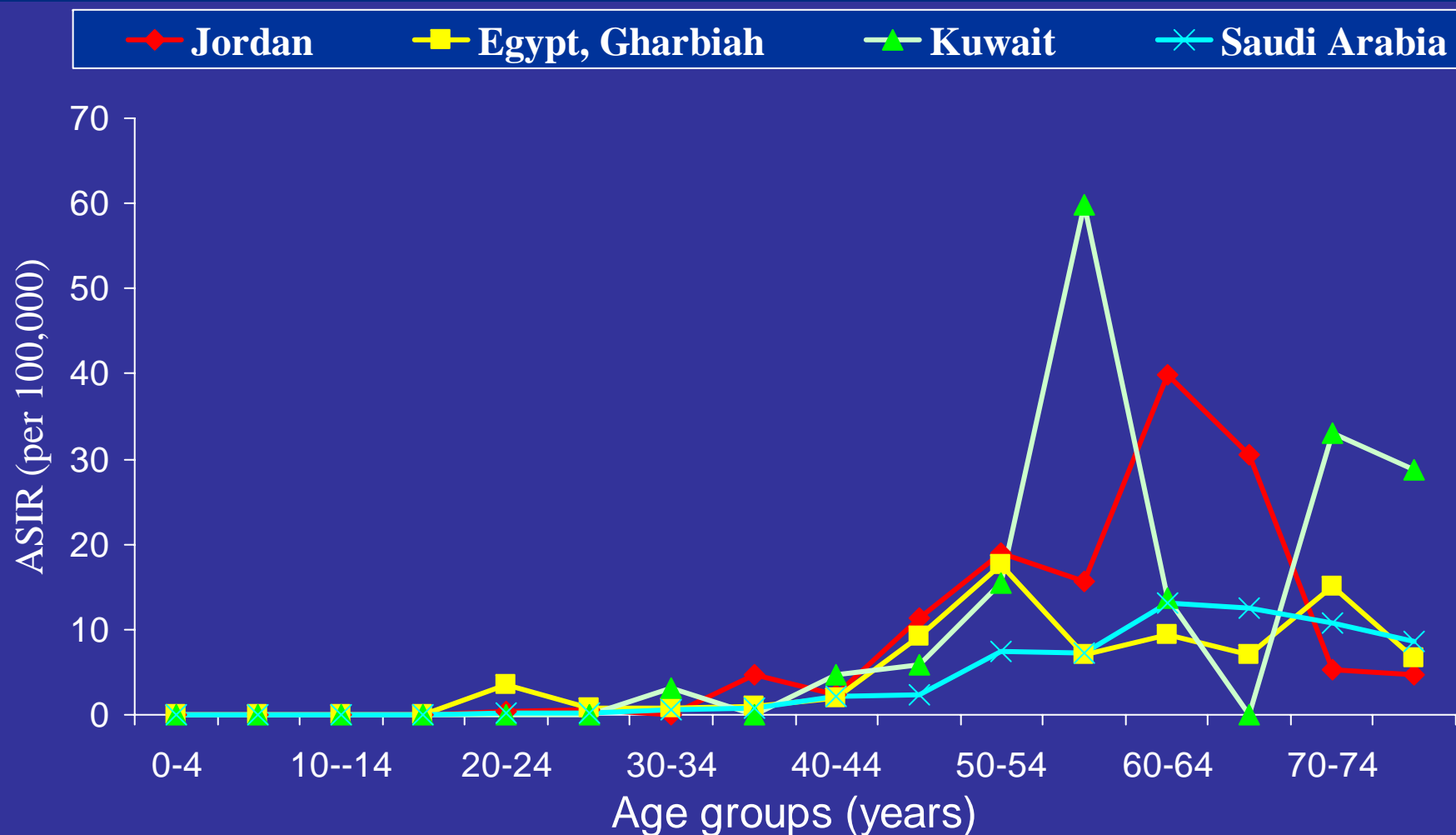
Frequency of Uterine Cancer in Arab World



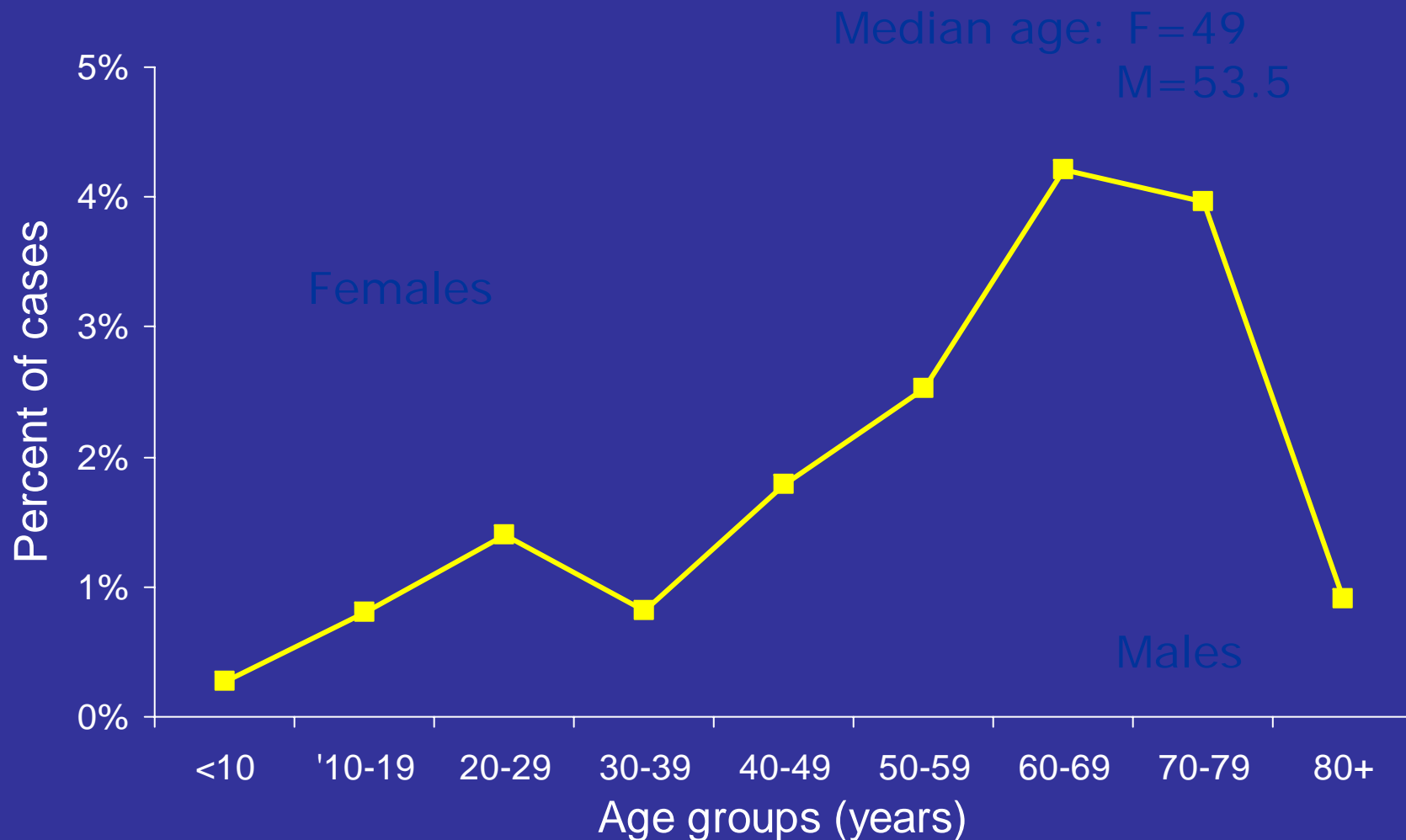
Age of Uterine Cancer Cases in Selected Arab World

Country	Median (years)
Egypt (NCI)	60.0
Egypt (Gharbiah)	50.8
Saudi Arabia	59.1
Kuwait	52.0
Jordan	55.8

Age-Specific Incidence Rates (ASIR) of Uterine Cancer in Selected Arab Countries



Age-Specific Frequency of Uterine Cancer, NCI 2002- 03



Risk factors of Endometrial Cancer

- Early menarche: before age 12
- Late menopause: after age 50
- Total length of menstruation
- History of infertility or nulliparity
- Obesity (very overweight)
- Tamoxifen
- Estrogen replacement therapy
- Ovarian diseases: ovarian tumors or polycystic ovaries
- Diet high in animal fat
- Diabetes
- Age: 95% occur in women age 40 or older
- Family history
- Breast or ovarian cancer
- Prior pelvic radiation therapy

Most Common Cancer Sites among Females, Arab Countries

Lebanon	Egypt	Tunisia	Algeria	Jordan	Somalia
Breast	Breast	Breast	Breast	Breast	Cervix
Brain	NHL	Cervix	Cervix	Colorectal	Breast
NHL	Leukemia	Colorectal	Colorectal	Ovary	Liver
Colorectal	Liver	Leukemia	Ovary	Thyroid	Ovary
Cervix	Colorectal	NHL	NHL	Skin	Esophagus
Lung	Ovary	Stomach	Thyroid	Uterus	NHL

Most Common Cancer Sites among Females, Arab Countries (cont.)

KSA	Kuwait	UAE	Bahrain	Oman	Qatar
Breast	Breast	Breast	Breast	Breast	Breast
Thyroid	Colorectal	Cervix	Lung	Cervix	NHL
Leukemia	Thyroid	Leukemia	Ovary	NHL	Skin
Colorectal	NHL	Thyroid	Thyroid	Leukemia	Thyroid
NHL	Cervix	NHL	Liver	Ovary	Colorectal
Ovary	Uterus	Stomach	Kidney/NHL	Stomach	Hodgkins Disease

Most Common Cancer Sites among Females, Arab Countries (cont.)

Libya	Morocco	Sudan	Iraq	Syria	Yemen
Breast	Breast	Breast	Breast	Breast	Breast
Cervix	Cervix	Cervix	Bladder	Colorectal	NHL
Bladder	Colorectal	Ovary	NHL	Thyroid	Cervix
Colorectal	NHL	Oral Cavity	Leukemia	NHL	Brain
Leukemia	Ovary	Esophagus	Lung	Uterus	Leukemia
Thyroid	Thyroid	Uterus	Brain	Leukemia	Thyroid

Thank You