



The state-of-art Gynecologic Oncology

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Presented on 28 December 2011, AFH;Dhurhan,KSA

Gynecologic Oncology

- The field started in 1960s in the USA and the first certificate started to be given in 1974
- The field grows rapidly and many gynecologic Oncology Societies established.
- SGO was founded in 1969
- GOG founded in 1970 sponsored by the NCI and now have 50 centers and 160 affiliated institutes
- ESGO founded in 1983
- IGCS founded in 1986



**What is gynecologic
Oncologist?**

Is a specialized obstetrician/gynecologist

**Therefore, gynecologic oncologists have
had extensive training in providing care for
women with and without cancer**

Gynecologic oncologists are trained in providing comprehensive, multi-disciplinary care

They are skilled surgical oncologists who also are trained in administering chemotherapy

Therefore, they are able to provide an outstanding degree of continuity of care for their patients

Gynecologic oncologist is prepared to provide supportive services:

- Pain management
- Management of medical or surgical complications from treatment,
- Management of complications of the cancer
- Hospice referral

Female Genital Cancer

Represent 14% of all solid tumors in women and 11% of deaths from them.

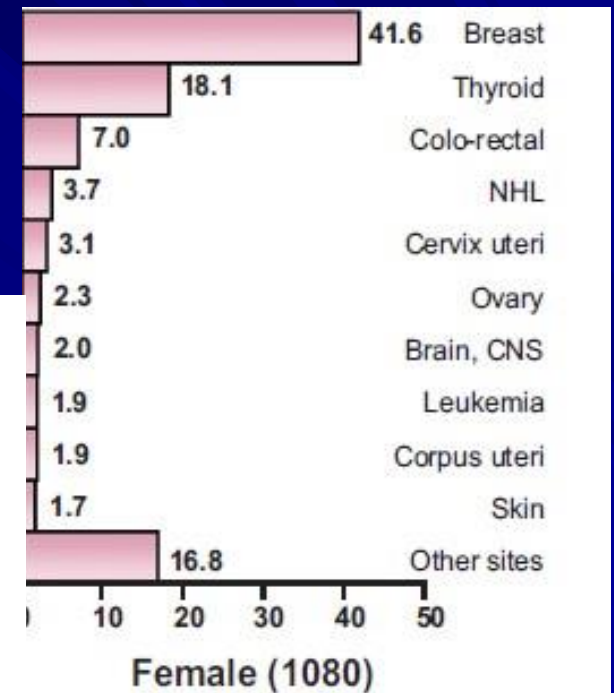
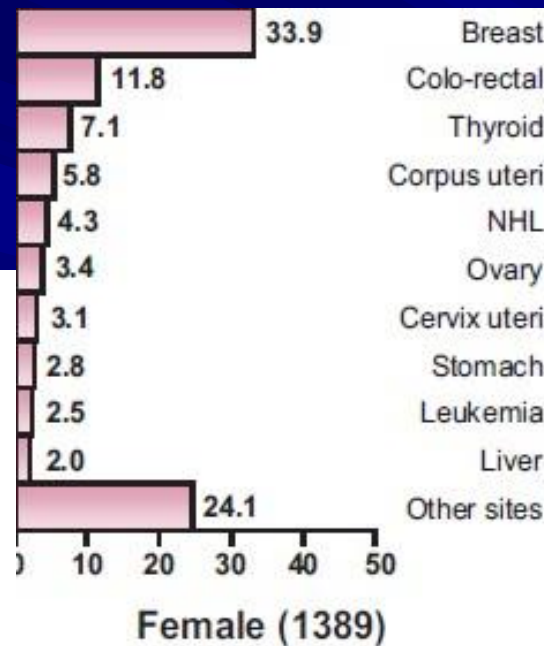
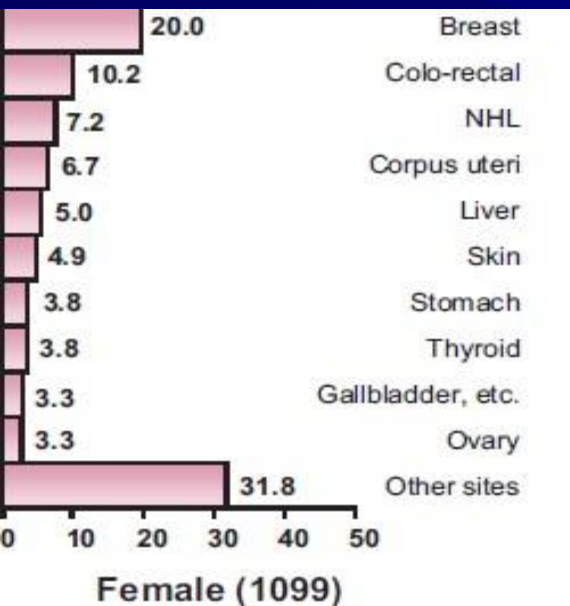
Cervical, uterine and ovarian cancer represent 95% of gynecologic cancers and collectively rank the fourth in both incidence and mortality among cancers that affect women in developed countries.

Worldwide, these tumors account for even larger share of cancer mortality in women

Age-Adjusted Incidence in Arab Countries



Incidence of common female genital cancer in Saudi Arabia according to age



Cervical Cancer

- Worldwide, it is the second most common cancer in women:

In developing countries cancer cervix account of 15% of all new female cancer compared to 3.5% in developed countries due to:

- Socioeconomic differences
- Behavioral differences
- Presence of screening programs

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

Cancer Cervix

■ Symptoms

- Bleeding after intercourse
- Excessive vaginal discharge
- Abnormal bleeding between periods

Cancer Cervix

- Risk Factors
- HPV infection is considered the most important Risk factor
- Failure to receive regular screening
- Smoking
- HIV infection
- Early age of intercourse

Cancer Cervix

■ Screening/prevention

- * Pap test reduce death rate 74%
 - start at 20 years every 2 years till age 29 then every 3 years till the age of 60 years.
- * HPV tests (approved March 2003) plus Pap smear from age 30 years
 - If negative repeat test every 3 years
 - If HPV test positive or ASCUS→ colposcopy
- * Colposcopy is diagnostic and therapeutic for pre-invasive disease
- * HPV-vaccine like cervarix approved by FDA in 2009

Prevalence of HPV in cancer cervix in Saudi Arabia

- HPV infection is present in 91% of cervical cancer patients
- The data shows that **HPV 16, 45, 18 & 31** are the leading cause of cervical cancer in **KSA**

■ . International Papillomavirus Conference in Montreal, Canada in July 2010. The data was prepared by King Faisal Specialist Hospital & Research Center.

Immunization

- Approval of vaccine against HPV infection is one of the most recent advances in prevention of cancer cervix
- vaccine against HPV 16 & 18 showed cross immunization against HPV 45,31 &33.
- Vaccine against the benign types 6&11 beside the oncogenic types 16&18

Cancer Cervix

- Advances in diagnosis
 - Comparative studies between CT scan and MRI to detect size, extent and location of cancer showed a superior role of MRI
 - MRI and CT are equal in diagnosis of LN involvement (Annals oncology,2009)
 - Positron emission tomography (PET) is promising in diagnosis of lymph node involvement which help women avoid unnecessary surgery

Cancer Cervix

■ Advances in therapy

- *Newer surgical techniques involve Laparoscopic surgery combined with vaginal surgery as an alternative to surgery requiring large abdominal incision
- *Radical trachelectomy for early stage IA2 showed promising results (the upper uterus is preserved)
Canadian group reported in 2006 : 31 pregnancies out of 71 patient who had trachelectomy.
 - 8 ended in miscarriage -3 preterm deliveries
 - rest delivered full term babies
- *Recent study recommended the routine use of chemo radiation with six weekly cisplatin at 40mg/m² during external radiation in locally advanced cancer (BMC women's health; Feb.2006)

Ovarian Carcinoma

- Epithelial ovarian carcinoma account for 90% of cases and is the leading cause of death in women with pelvic malignancies
- The incidence is higher in industrial countries of the world
- Women who are single and have low parity and a history of breast cancer are at risk

Epithelial Ovarian Cancer

Incidence: rank 4th. In cancer death in women

Symptoms:

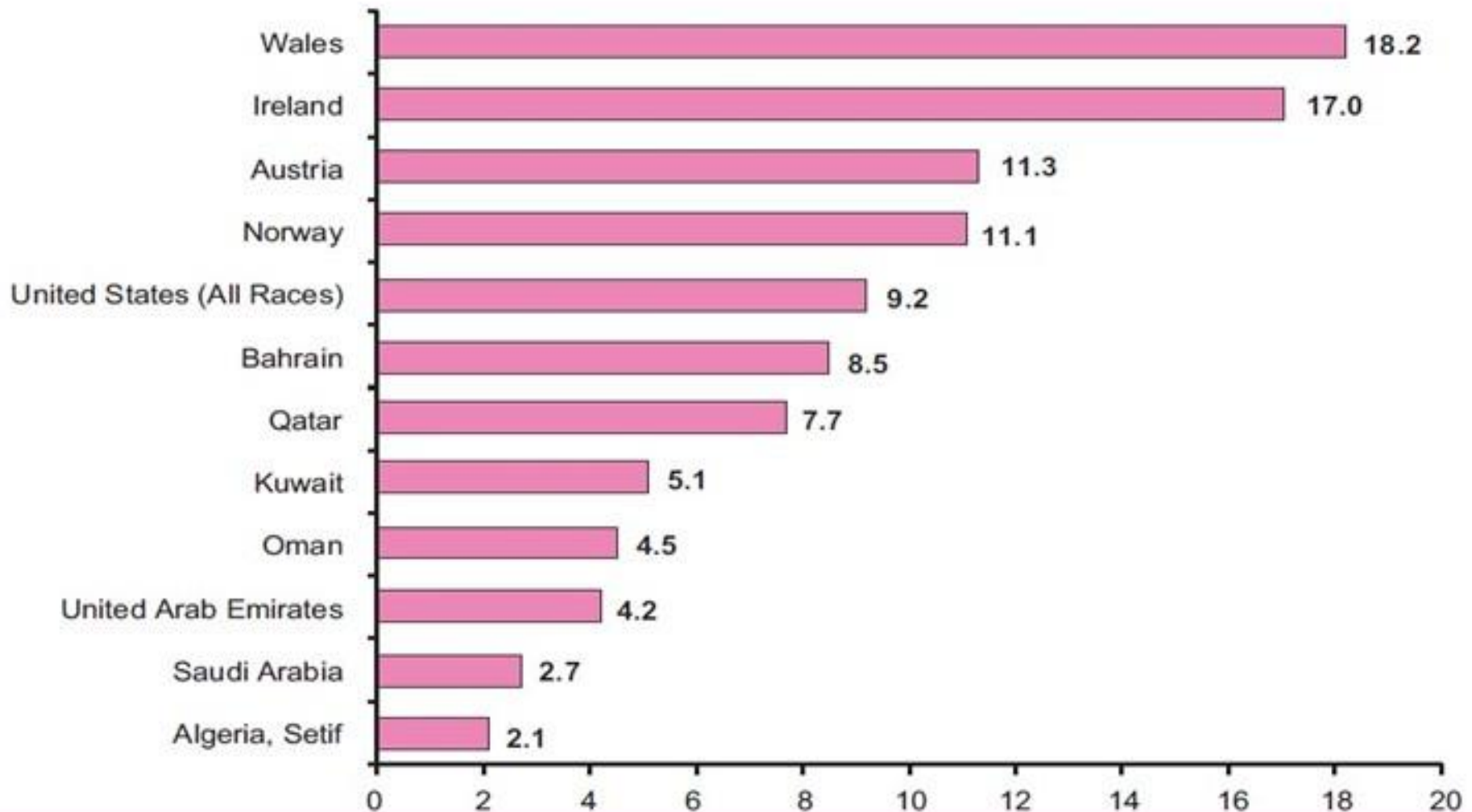
- Discomfort such as pressure or fullness in the pelvis
- Abdominal bloating
- Changes in bowel and bladder patterns

Risk Factors:

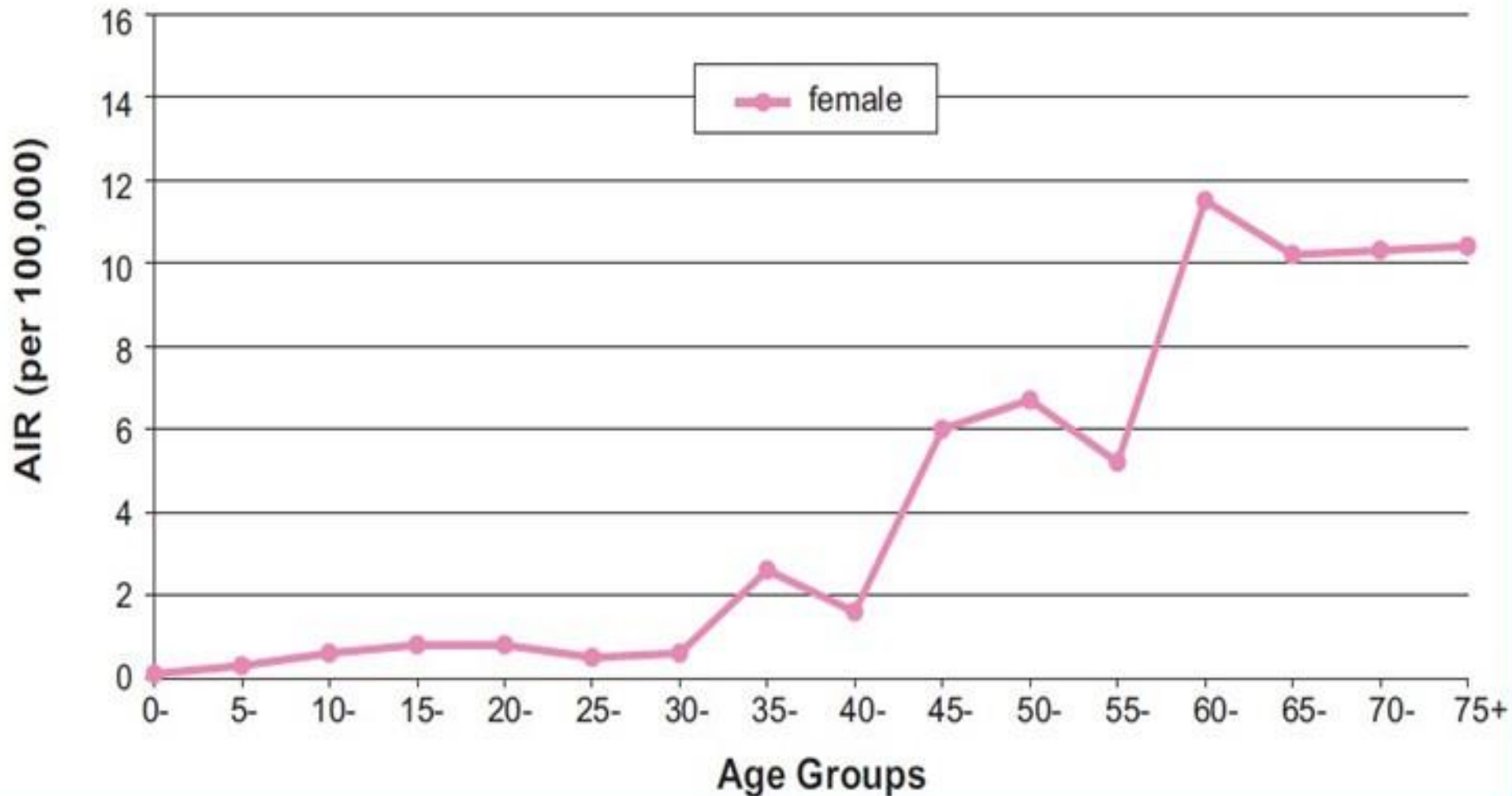
- Family history
- Infertility
- Fertility drugs
- Nulliparity

Pregnancy and contraceptive pills reduce the risk

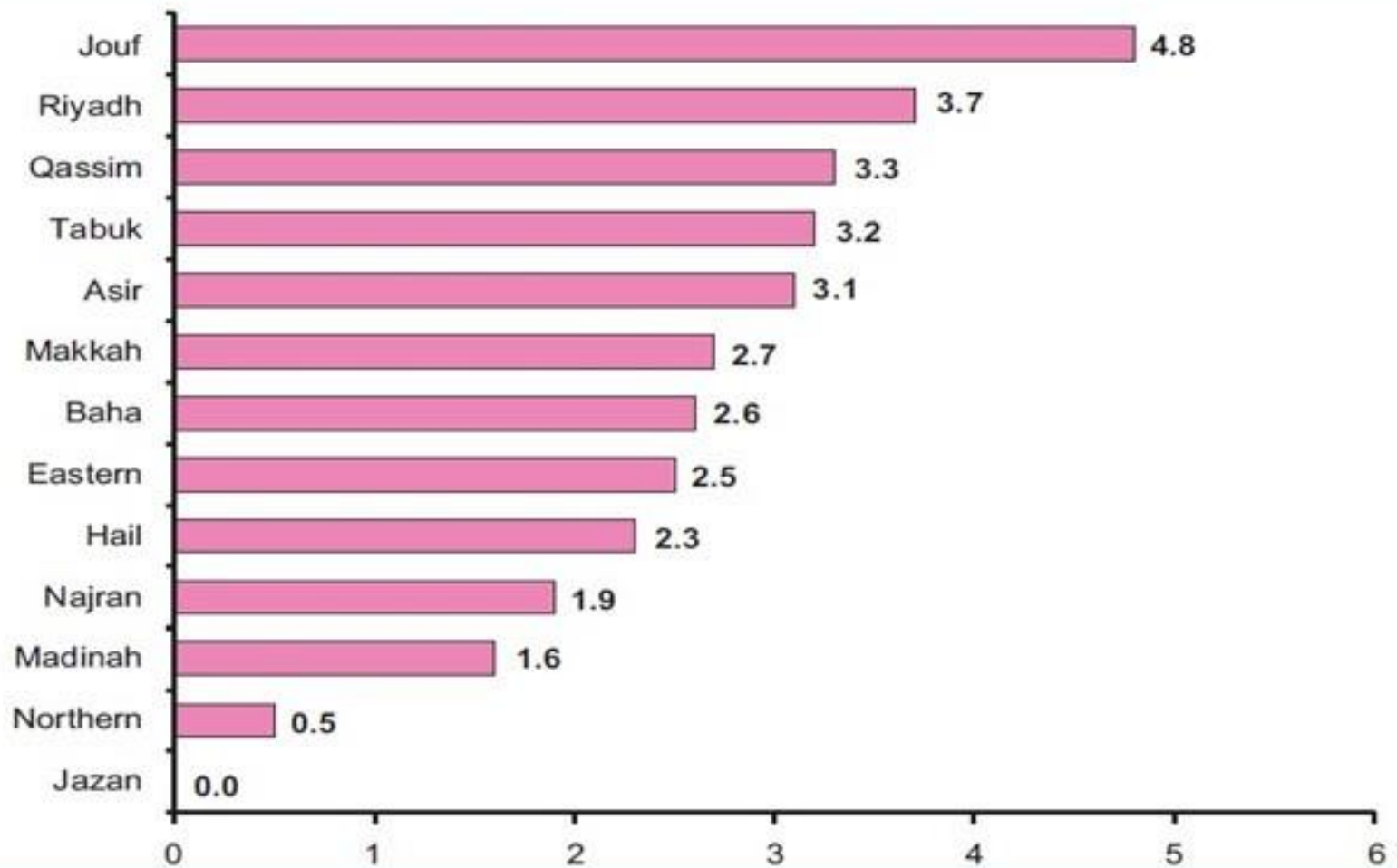
Comparison of ASR in Saudi Arabia and selected Countries



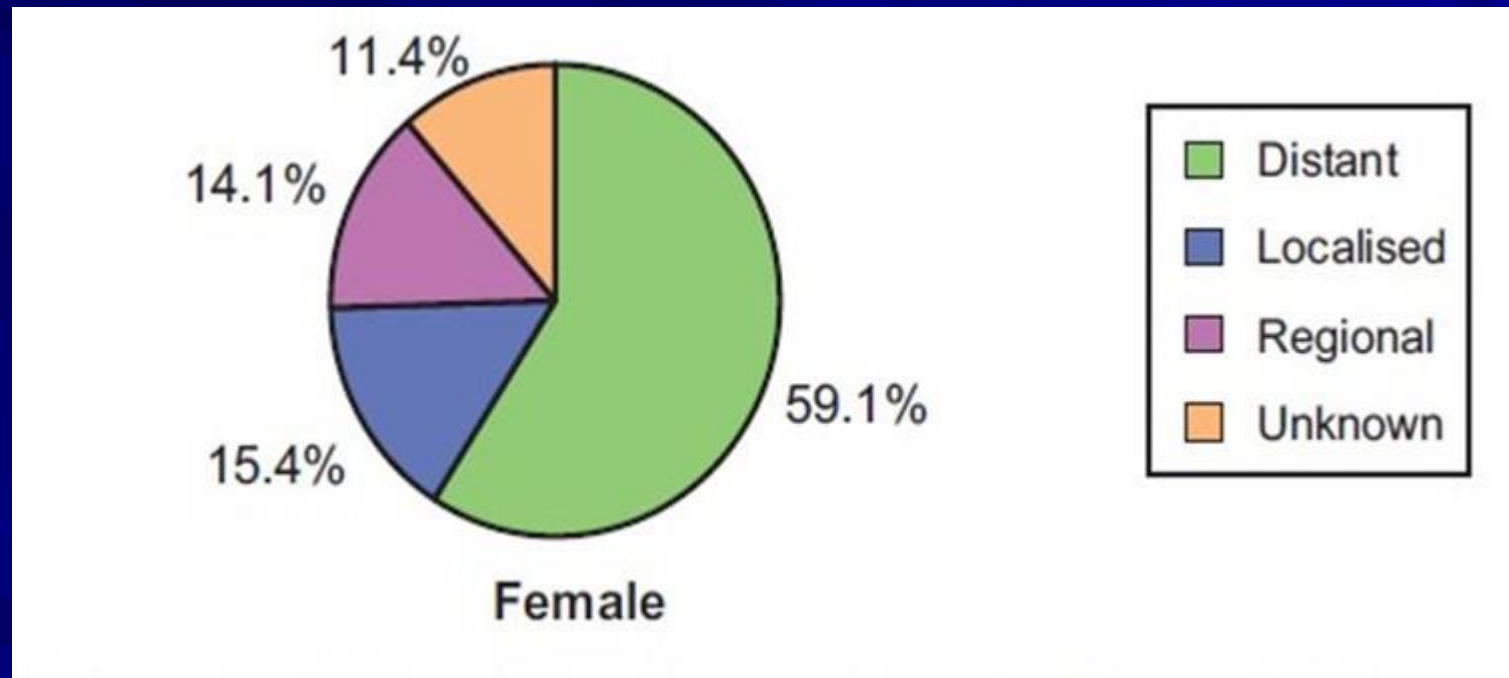
Age specific Incidence Rate in Saudi Arabia



Regional distribution of ovarian cancer in Saudi Arabia



Stage distribution of Ovarian Cancer among Saudian



Epithelial Ovarian Cancer

- Advances in screening

No accepted screening test so far

- The use of proteomics may be promising in screening:

Analysis of proteins in blood

the pattern of proteins of patients are compared with those of women with no cancer (ova check™)

There is consensus that additional studies are needed before doctors or patients will truly understand the meaning of a positive or a negative proteomics test for ovarian cancer

Epithelial Ovarian Cancer

■ Advances in reduction of mortality

- All women with suspicious pelvic mass should be referred to Gynecologic Oncologist.

Recent study showed reduced overall mortality by 21% when patients treated by gynecologic oncologist compared to general gynecologist (cancer;Feb.2006)

- Recommendation for referring postmenopausal women with pelvic mass to gynecologic oncologist:
 - CA125 >35U/ml
 - Fluid in abdomen or pelvis
 - A mass that feels irregular or fixed
 - Family history of breast or ovarian cancer
 - An imaging study (as CT) that suggests tumors spread

Epithelial Ovarian Cancer

■ Advances in therapy

- Initial surgery should aim at reduction of the tumor bulk to less than 1cm

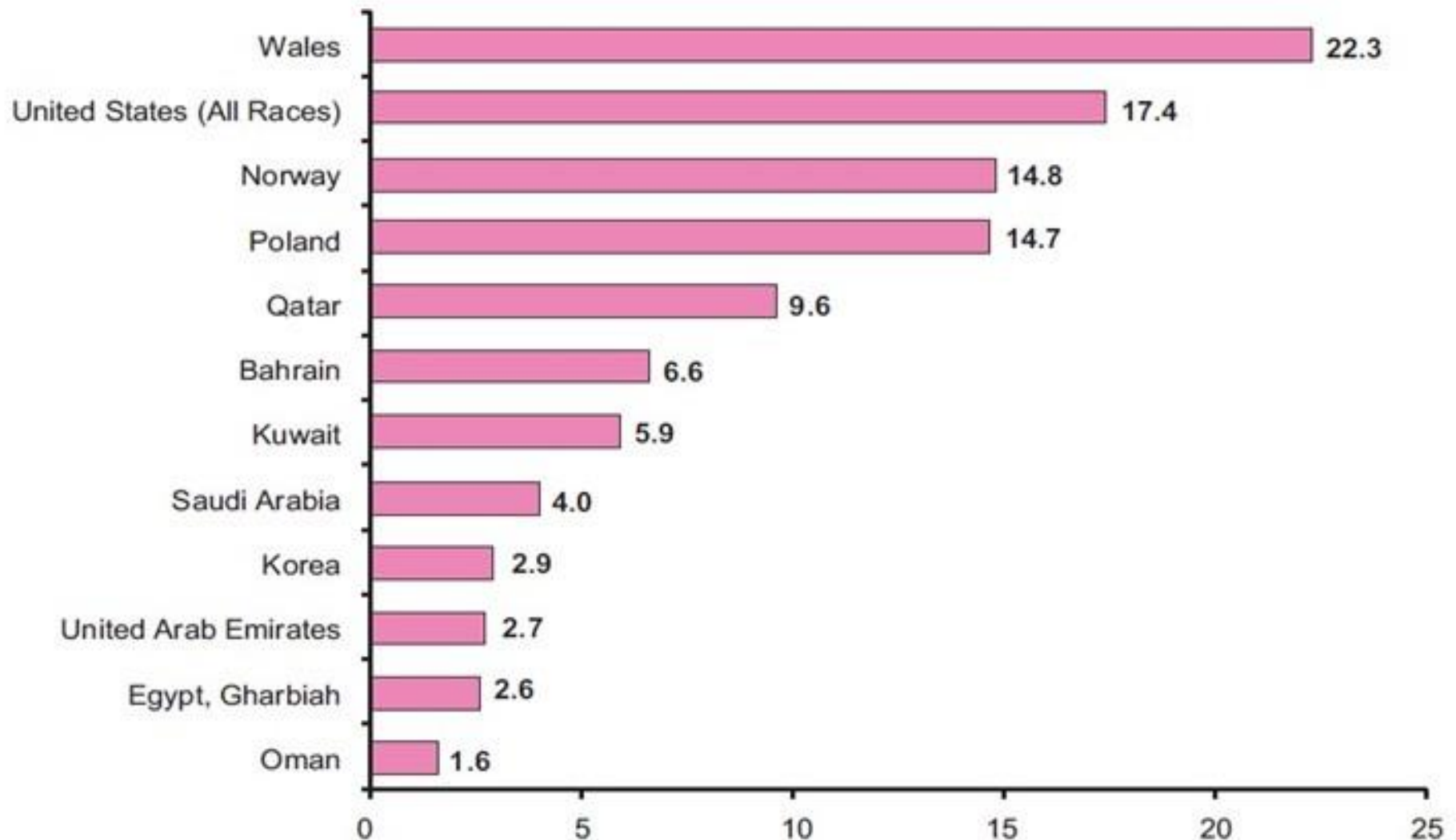
Chemotherapy followed by surgery !!

- A report in 2004 by SGO showed identical progress when chemotherapy does not followed by second surgery, thus avoiding patient two major surgeries
- Large multicenter chemotherapy trials, showed that intraperitoneal chemotherapy is of value in advanced cases
- Intraoperative electron beam radiation may be of value in advanced cases (chine's study BMC cancer 2011)

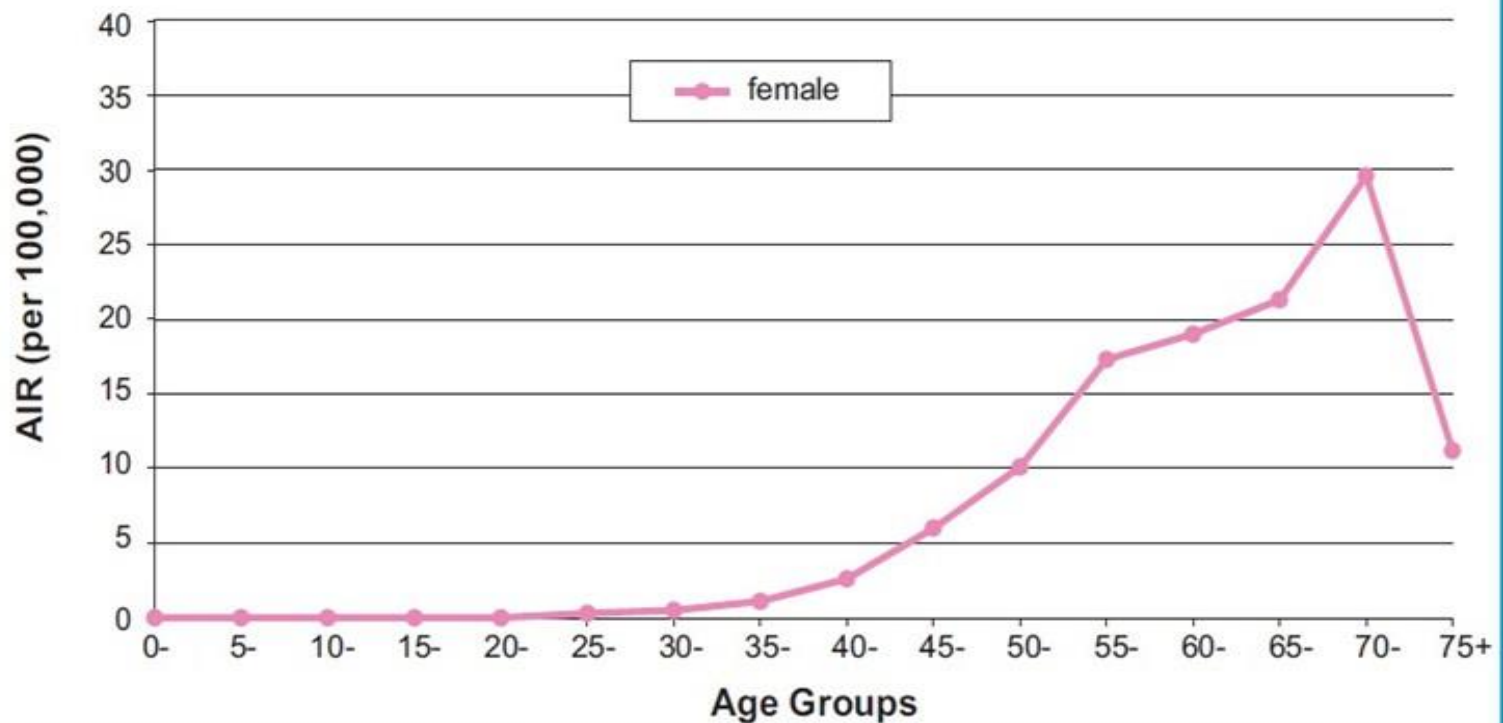
Endometrial Carcinoma

- Worldwide it represents 3.9% of female cancer
- It is more common in developed countries : 18/100,000 in USA & Canada compared to 6/100,000 in Africa and is related to:
 - Prolonged high estrogen levels
 - Few number of children
 - Use of HRT

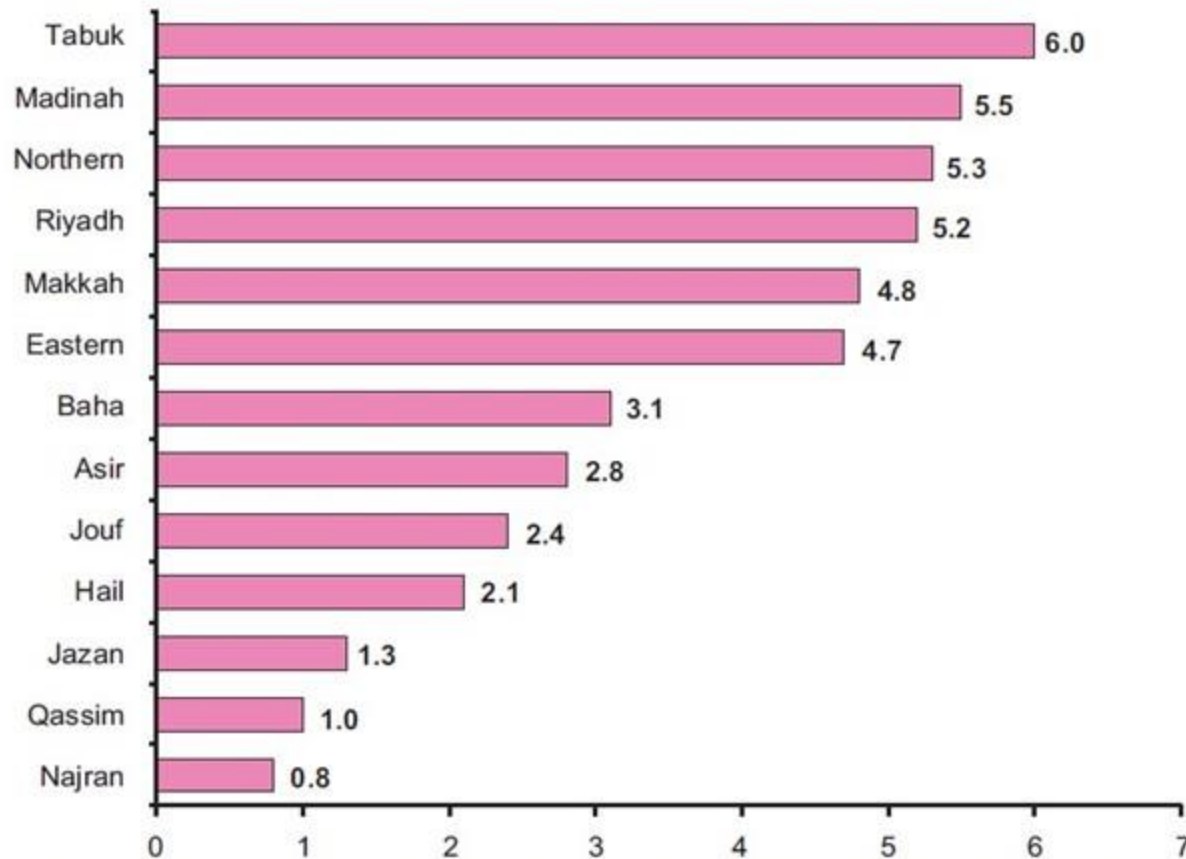
Standard Age distribution in Saudi Arabia and selected countries



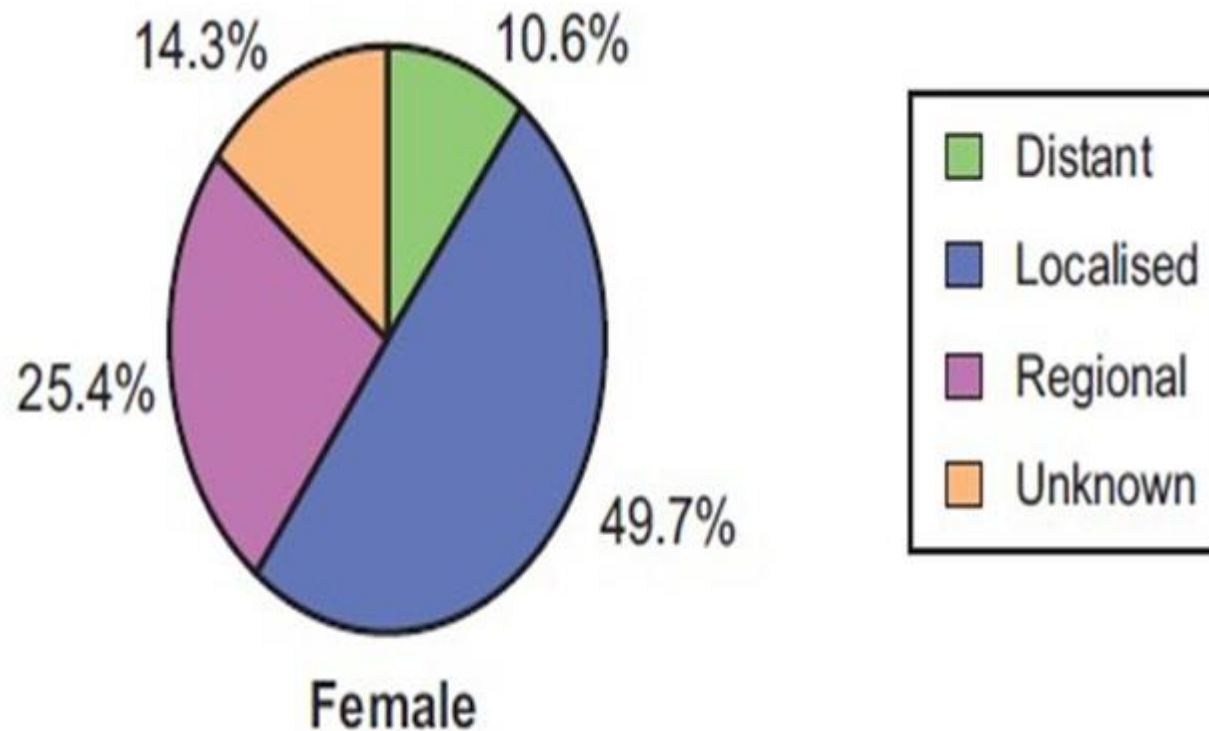
Age specific corpus Cancer



Regional distribution of corpus Cancer



Stage distribution of corpus Cancer



Endometrial Cancer

Incidence: most common in developed countries and second to cancer cervix in developing countries

Symptoms

- Postmenopausal bleeding
- Irregular bleeding in premenopausal women

Risk Factors:

- Obesity
- Hypertension
- DM
- Late menopause
- Nulliparity
- Tamoxifen use

Endometrial Cancer

■ Screening/prevention

No screening test approved so far

To reduce incidence:

- Exercise regularly and eat healthy diet
- Keep blood pressure under control
- Endometrial biopsy for any postmenopausal bleeding and irregular bleeding during menstruating years
- Raloxifene does not increase the risk and may be preferred over tamoxifen for women undergoing anti-estrogen therapy for breast cancer

Endometrial Cancer

- Advances in therapy
- Studies published in 2005 showed continued progress in endometrial cancer therapy
- Several studies support the value of lymphadenectomy which provide important information to guide treatment decisions and also improve survival in high-grade tumors and advanced cases
- Postoperative radiotherapy for whole abdomen and pelvis in advanced cases showed to be effective with almost $\frac{1}{3}$ were still cancer free 3 years after treatment (GOG2005)
- Japanese oncology group reported that women with stage II through III had better tumor control with combination chemotherapy compared to women treated with radiotherapy.

Vulvar Cancer

■ Incidence: 4% of all gynecologic cancer

■ Symptoms:

- Itching -burning -pain –bleeding
- New lump in the Vulvar area

Risk factors:

- Advanced age >70 years
- Chronic Vulvar irritation
- DM
- HPV

Vulvar Cancer

■ Advances

- Dramatic changes in surgical technique
 - *less tissue can be removed with excellent outcome
 - *clitoris can be safely preserved as long as it is not involved by cancer
 - *Sentinel node biopsy ...removal of LN most at risk for cancer spread
 - *Tissue sealant.. made of fibrin to seal lymphatic channels and prevent lymph cyst formation, under trial
 - * Advanced disease better treated by chemotherapy and radiotherapy to shrink tumor before surgery

Vaginal Cancer

■ Incidence: 1- 3% of gynecologic cancer

■ Symptoms

-usually no symptoms

-abnormal bleeding and discharge

Risk factors

- Advanced age >60 years
- HPV infection
- Smoking
- Cervical cancer

Vaginal Cancer

Because the disease is rare progress is slow

Recent studies in small number of patients (15) showed PET to be superior to Ct scan in detection of vaginal cancer and in diagnosis of LN involvement

This is important since the treatment is usually radiotherapy

Hereditary Gynecologic Cancer

■ Familial breast-ovarian cancer syndrome

Lifetime risk for breast cancer 10%

With mutation of BRCA1&BRCA2 it is 80%

Lifetime risk for ovarian cancer is 1.8%

With this syndrome it is 20-40%

Prevention:

Breast

- monthly breast self examination and biannual examination by health care provider from age of 18
- mammography or breast MRI annually from age 25
- use of tamoxifen as a prophylactic measure
- prophylactic mastectomy , it reduces the risk by 90%

ovarian

- oral contraceptive pills reduce the risk by 60% when used for 5 years
- annual CA125,Plevic examination and TVS from age30-35 years
- prophylactic salpingo-oophorectomy reduced the risk by 99%

Hereditary Gynecologic Cancer

- Hereditary Non-Polyposis Colorectal Cancer (HNPCC=Lynch II)
- Mutation of genes responsible for repair of damaged DNA...hMSH2 & hMLH1
- Increased incidence of endometrial-40%- and ovarian cancer 10%
- Prevention:
 - Colonoscopy every 1-2 years from age 20-25 years
 - Annual CA125,TVS and endometrial biopsy from age 30-35 years
 - Prophylactic TAH&BSO during colectomy for colon cancer

Women Knowledge about gynecologic Cancer

800
women
included

Concerning about developing gynecologic cancer

87% concerned about developing cancer

52% very concerned

70% concerned about developing ovarian
cancer

68% concerned about cervical cancer

66% concerned about uterine cancer

Knowledge about gynecologic cancer

Despite their concern about developing gynecologic cancer

- 30% feel they are not knowledgeable
- 55% feel they are only somewhat knowledgeable
- 14% say they are very knowledgeable



Information about Risk Factors

54% believe they are at risk in their lifetime

43% do not feel they are at risk

Women aged 35-44 are most likely to report
feeling that they are at risk

Not aware of any risk	60%
Hereditary/genetic	29%
Smoking	15%
Exposure to STD	13%
Multiple sex partners	13%
Obesity	6%
Hormones	4%
Diet	4%
Birth control pills	3%
Infertility	1%
Unsafe sex	1%
Tamoxifen	0%

Factors decreasing risk

Not aware	72%
Healthy lifestyle/diet	19%
Regular check-up	11%
Pap smear	11%
Birth control pills	4%
Lack of family history	4%
Condoms	3%
Pregnancy	1%
Others	26%

Awareness of Symptoms

Do not know	47%
Abnormal bleeding	31%
Pelvic pain	20%
Vaginal discharge	9%
Bloating	5%
No symptoms	1%
Painful intercourse	4%
Others	25%

Women are uncertain of what type of specialist they would see if they were diagnosed with gynecologic cancer:

- 41% say they would need to see a gynecologist
- 31% would need to see an oncologist
- 11% mention that they would see gynecologic oncologist
- 13% do not know what type of specialist they should see



Methods of fertility preservation in women with cancer

- Embryo cryopreservation
- Oocyte cryopreservation
- Ovarian cryopreservation and transplantation
- Gonadal shielding during radiotherapy
- Ovarian transposition
- Trachelectomy



Thank You