Azienda Ospedaliera Ospedali Riuniti Marche Nord

Provincia di Pesaro e Urbino

asur marche 1 azienda sanitaria unica regionale area vasta n.

Salute e Medicina di genere
esperienze nella provincia di Pesaro e Urbino

17 maggio 2014
Sala del Consiglio provinciale "W. Pierangeli "
Provincia di Pesaro e Urbino

Il concetto di genere: applicazioni e prospettive a livello italiano e internazionale

Andrea Peracino
Fondazione Giovanni Lorenzini Medical Science Foundation
Milano-I, Houston-USA

SOCIETÀ ITALIANA SALUTE MEDICINA GENERE

Centro Studi Nazionale su Salute e Medicina di Genere

Genere e Sesso

non c'è una distinzione nettamente riconosciuta

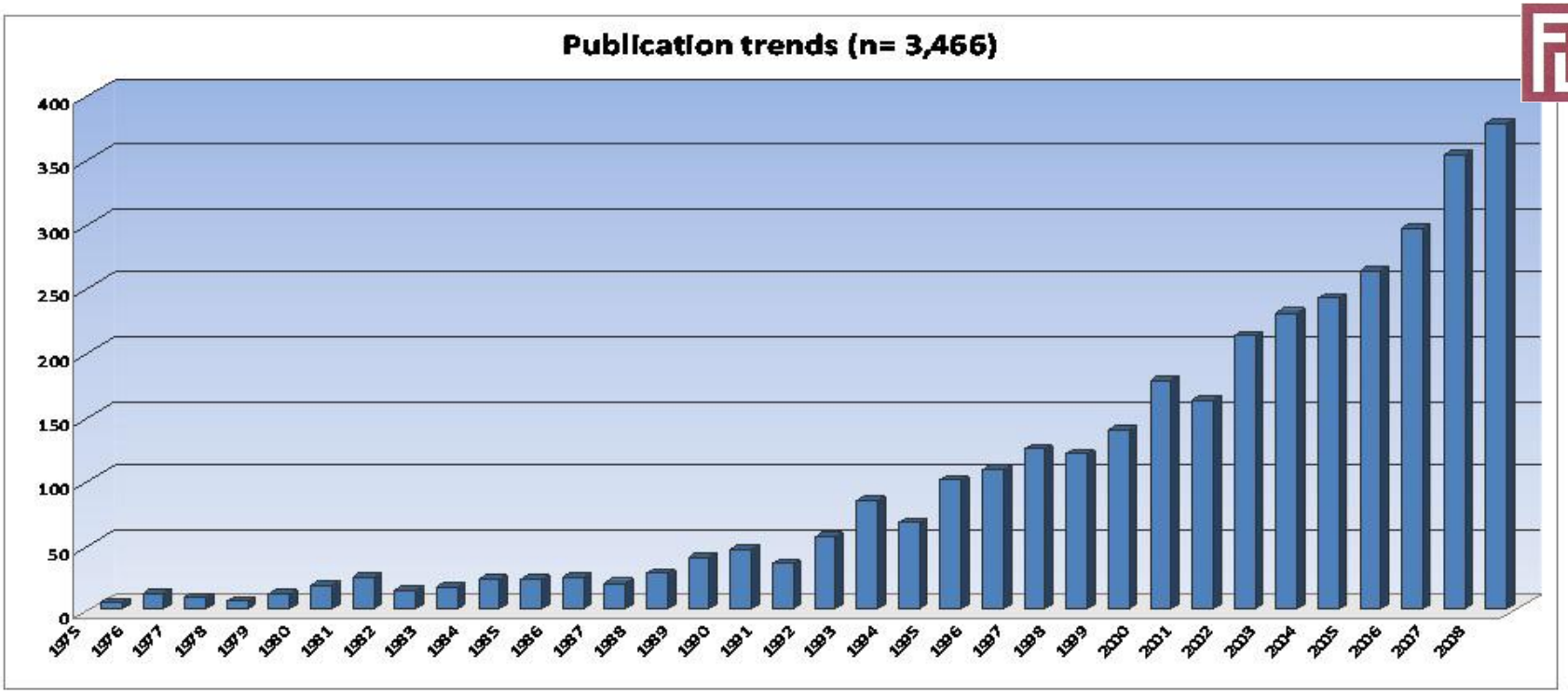
C'è una tendenza a queste definizioni:

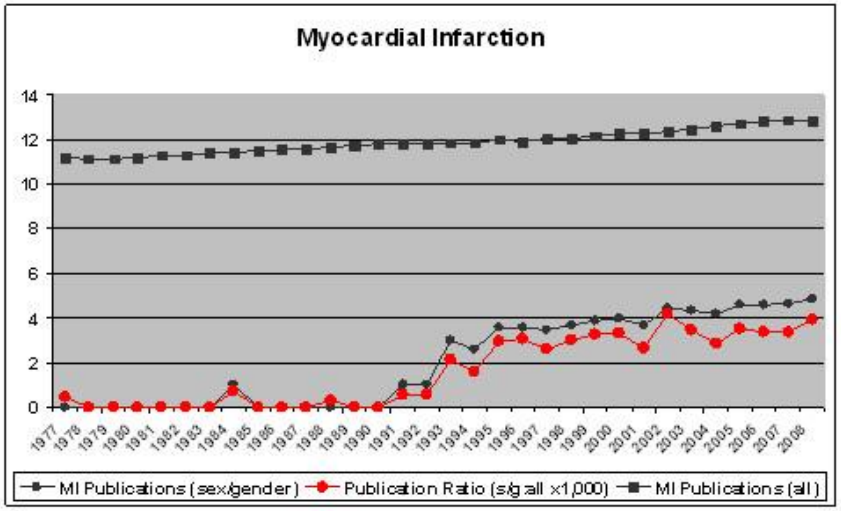
Genere raggruppa il ruolo sociale, le relazioni, i comportamenti, il potere relativo e altri tratti che la scoietà attribuisce alla donna e all'uomo;

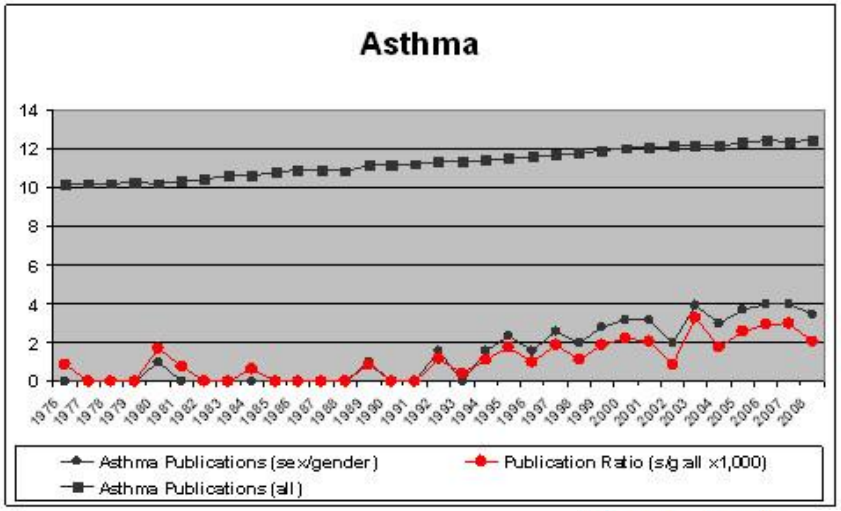
Sesso tipicamente viene compreso come riferirsi alle caratteristiche biologiche e fisiologiche che distinguono la femmina dal maschio;

Comunque **genere** e **sesso** sono tra loro intercorrelati.

Purtroppo non c'è una ricetta che aiuti a integrare appropriatamente il genere e il sesso nella ricerca sulla salute. Ma in realtà non c'è nemmeno un modo univoco di interpretare la salute.







SOCIETÀ ITALIANA SALUTE MEDICINA GENERE

Centro Studi Nazionale su Salute e Medicina di Genere

Robyn Whipple Diaz and Katherine B. Steuer,
Reforming Women's Health Research: A Renewed Focus on Sex Differences in Clinical Trials ABA . *Health eSource 2012; 8 (7)*

- Da più di 20 anni FDA e NIH cercano di incoraggiare la inclusione delle donne negli studi clinici sui **farmaci** e poi sulla **strumentazione**. I farmaci e la strumentazione possono avere risposte nella donna diverse rispetto a quanto avviene negli uomini.
- **In realtà i farmaci e la strumentazione possono avere risposte diverse non solo nelle donne rispetto agli uomini, ma anche nelle diverse età, in ambienti medici diversi, in popolazioni diverse e in paesi diversi.**

Salute e Medicina di Genere ad oggi: da Padova 2013 a Pesaro 2014.
alcune **risposte** alle molte **domande**

quanto le esperienze nella provincia di Pesaro e Urbino rispondono alle domande ancora aperte a Padova?

quanto può entrare nella pratica di ogni medico, e quanto ancora deve essere fatto per il paziente e per l'assistito?

quanto ciascuno di noi può portare avanti per la salute di donna e uomo in ogni età e in ogni realtà geografica e sociale?

Luciano De Biase
Dipartimento Medicina Clinica e Molecolare
Università Sapienza – Roma
http://www.lorenzinifoundation.org/20131010/DeBiase_sintesi.pdf

The epidemic of heart failure in the 2000's: the "woman" impact

In Europe cardiovascular diseases represent the first death cause in women. Among patients admitted for acute HF hospitalization, **women** present **hypertension, valvular heart diseases, supraventricular arrhythmias** and preserved left ventricular function more often than men. **Male** patients are younger, more often cigarette **smokers**, and have **coronary artery diseases** and dilated **cardiomyopathy**. **Women** more frequently have **diabetes, anaemia and thyroid disease**, whereas **men** more often have **renal failure, peripheral arterial disease** and **COPD**. Questions are focused on the differences between women and men, e.g., in the physiopathology of heart failure, the inflammatory model, the cells necrosis and apoptosis, and functional limitation.

Luca Pani
Agenzia Italiana del Farmaco
http://www.lorenzinifoundation.org/20131010/Pani_sintesi.pdf

Drugs and gender: the regulatory aspects

The **gender pharmacology represents today a very productive development process within the regulatory agencies.** In the whole population the prevalence of drugs use is around 57% in men and 64% in women. The adhesion to the drug treatment is stronger in men than in women. **The use of drugs for tumors, anemia, microbic infections, is higher in women, who are, also, more represented under 54 years and over 75 years in the use of central nervous drugs**. Social , behavior, biological, physiological, and economic reasons contribute to differences in the use of drugs between men and women. Besides genetic, anatomic, physiological, and hormonal differences, other aspects should be taken in consideration. **For long time the dosage for drugs has been evaluated in men of 70 kg. Woman has a different pharma-kinetics and phama-dynamics, and because of biological, physiological, and enzymatic reasons, she is considered a not easy subject. In the last time women are more represented in the studies of drugs to be studied for both genders, as it is shown in the clinical trials for MI.**

Luca Pani
Agenzia Italiana del Farmaco
http://www.lorenzinifoundation.org/20131010/Pani_sintesi.pdf

Drugs and gender: the regulatory aspects

There is an increasing attention to policy statements in including in the clinical studies, a representative participation of women both in the fertile and post fertile age. **The clinical studies have to include all subjects representing a population.** The new Canadian guide-lines include in the clinical trials women of different ages, and take in consideration the pregnancy, the breast alimentation, and the sexual partnership.

Toward a same direction is moving the Italian Medicines Agency, that is promoting a new interest in genders representation in the **clinical studies**, in the **pharmaco-vigilance**, in the **position papers**, and in **guide lines** to be submitted to EMA. The **attention to ADRs** considering the two genders critical conditions in the clinical experimentation, and the inclusion of gender oriented studies in relation to the AIFA grants proposals for independent studies, are promoted. The **ethical committees** are requested to verify the participation of women in the studies protocols. **Promotional activities** on the gender differences are addressed to the **citizens**.

Come stanno cambiando le linee guida?

1993 FDA: «Guideline on Gender Differences in the Evaluation of Drugs»

2005 EMEA: «Guideline Gender Considerations in the Conduct of Clinical Trials»

2012 Health Canada: «Considerations for Inclusion of Women in Clinical Trials and Analysis of Data by Sex»

*This consultation is open for comment starting **January 9, 2012** until **April 16, 2012***

Where therapeutic products are to be used by both women and men, the potential for sex-related differences in response to these products should be identified and assessed, since such differences may affect the safety and/or efficacy of the product.

Health Canada
www.hc-sc.gc.ca

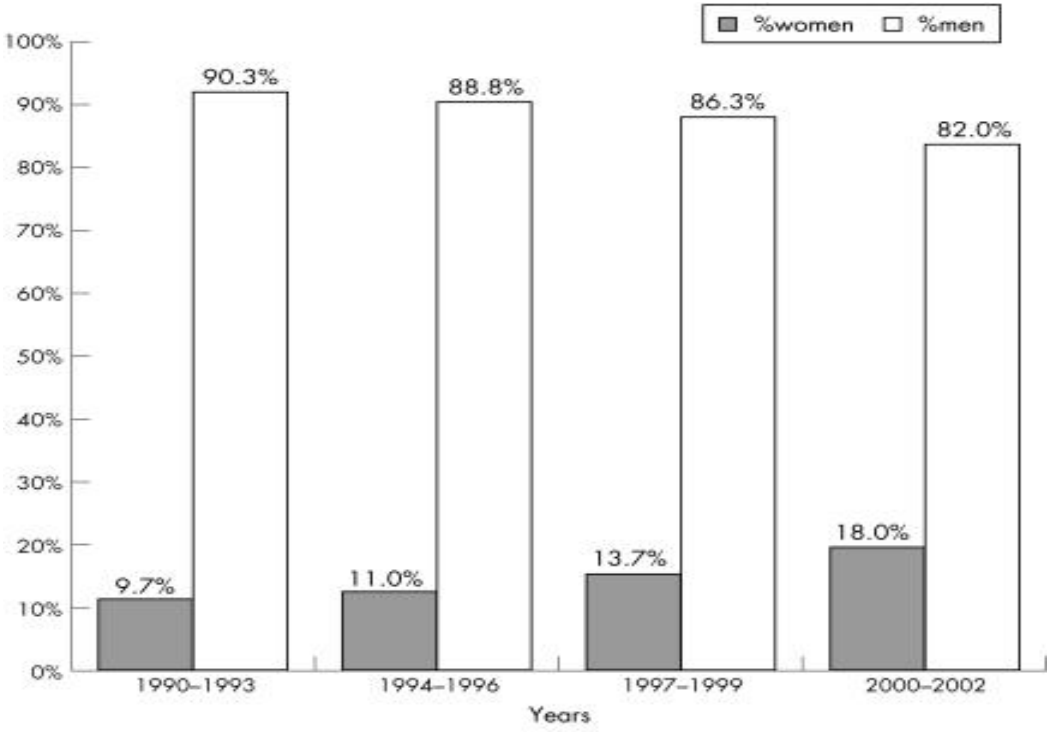
SOCIETÀ ITALIANA SALUTE MEDICINA GENERE

Centro Studi Nazionale su Salute e Medicina di Genere

MariaTeresa Ruiz Cantero , Maria AngelesPardo

European Medicines Agency policies for clinical trials leave women unprotecte

Epidemiol Community Health. Nov 2006; 60(11): 911–913.



N° patients	4409	16 409	11 404	9683
N° trials	9	32	33	43

Sex distribution in HIV clinical trials, 1990–2002

However, to fulfill the gaps of knowledge and uncertainties related to sex differences in efficacy and safety in each phase of the trials, and essentially to avoid future problems, the EMEA should provide a regulatory clout to ensure safety and effectiveness for the women who use the drugs.

Savina Nodari
Dipartimento di Specialità Medico-Chirurgiche, Scienze Radiologiche e Sanità Pubblica, Sezione Malattie Cardiovascolari.
Università degli Studi e Spedali Civili di Brescia
http://www.lorenzinifoundation.org/20131010/Nodari_sintesi.pdf

The failing heart in the genders: different phenotypes?

One of the most notable gender related differences in Heart Failure-HF is that most women have HF with preserved ejection fraction, whereas men have HF with reduced ejection fraction. Young women (20–40 years) display enhanced diastolic function compared with young men. In the older cohorts, the sex disparities became inverted. Above the age of 60 years, women displayed substantially greater loss in long-axis diastolic lengthening velocities compared with men (20% lower). Concentric and eccentric hypertrophy show differences in myocardial remodeling between sex. Estrogen have both rapid vasodilator effects and longer-term actions in myocyte survival and apoptosis, cardiac fibroblasts, and left ventricular hypertrophy. Estrogen may improve cell survival directly enhancing the phosphorylation of insulin-like growth factor-1 receptors increasing the expression of anti-apoptotic gene products, and decreasing the induction of pro-apoptotic proteins. There is a growing need of understanding the gender differences in many pathophysiologic aspects of heart failure. An evidence based medicine approach in women and older women represents an open question. A still open question is the measurement of woman compliance.

Gianfranco SINAGRA
Divisione di Cardiologia
Azienda Ospedaliero-Universitaria
Ospedali Riuniti di Trieste
http://www.lorenzinifoundation.org/20131010/Sinagra_sintesi.pdf

The treatment of heart failure: gender peculiarities

Many are the topics to be taken in consideration in the evaluation of women in heart failure: risk factors, cardiac function, coronary pathology, and side effects in the revascularization processes. The dimension of the heart, the coronary caliber, the systolic function, the myocardial structure, and the relation with age call for a particular attention in women. Functional aspects referable to genetic modifications, vasopsatic tendency , and heart frequency need a new gender approach. Known are the differences of heart risks in different ages in men and women with differences in prognostic values between them. **The woman planet shows differences in pharmaco-dynamics, diagnostic methodologies, use and prognosis of invasive techniques**.

Differences between women and men must studied not just in **hospital** but under the large perspective of **Heart Failure** at **home**.

Sara LONARDI
Istituto Oncologico Veneto
I.R.C.C.S.
Padova
http://www.lorenzinifoundation.org/20131010/Lonardi_sintesi.pdf

Gender implications in the cancer of the colon and rectum

The speaker describes the third commonest cancer: >1.000.000 new cases/year , the fourth cancer cause of death: >500 000 deaths/year. **The incidence rate is similar between genders until 50 years, then is slightly higher in men than in women.** Women reach comparable levels of CRC incidence and mortality at higher age than men. Life-expectancy is generally higher among women than among men.

Endoscopic screening examination was **slightly lower in women** because of **more screening refusal**, less risk factors, reported less access to medical care, and more asymptomatic disease. In addition, **many women go exclusively** to a **gynecologist**, due to an emphasis on screening for **breast** and **cervical cancer**, more than for colon cancer. The different epidemiology increases the need of different screening schedules. The different prognosis between genders, combines with the role of anatomic, biological, and environmental aspects.

Colon Cancer site and gender

http://www.lorenzinifoundation.org/20131010/Lonardi_slides.pdf

male pts: +++ left-sided colon and rectal ca.

female pts: +++ right-sided colon ca**.**

Implications for screening programmes based on sigmoidoscopy

Nelson, 1997

Colon Cancer stage and Gender

Retrospective cohort study on 2891 pts (Ohio region)

Men > st 1 CRC

vs

Women > st 2 CRC

(p<0.05)

No Δ for local advance (st 3) and distant (st 4) disease

Woods, 2005

1-2 milion of new cases and 600.000 deaths per year

20.1 per 100.000 in men - 2.7 per 100.000 in women

in central Europe

citation by Hermann Brenner et alii Lancet 2014; 383: 1490-502

Colon Cancer stage and Gender

http://www.lorenzinifoundation.org/20131010/Lonardi_slides.pdf

Possible explanations:

endoscopic screening examinations was slightly lower in women (*Seeff, 2004; Meissner, 2006*)

- more screening refusal
- less risk factors reporting
- less access to medical care
- more asymptomatic disease.

In addition:

many women go exclusively to a gynecologist, due to an emphasis on screening for breast and cervical cancer more than for colon cancer.

Woods, 2005

Arturo CUOMO
Responsabile - S.S.D. di Terapia Antalgica
Istituto Nazionale Tumori I.R.C.C.S.
Fondazione Pascale Napoli
http://www.lorenzinifoundation.org/20131010/Cuomo_sintesi.pdf

Chronic non-cancer pain

First definition: chronic pain is an emotional, sensorial, and unpleasant experience linked to an active, potential or perceived tissue damage.

Second definition: chronic pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. The second definition is mentioned by the International Association for the Study of Pain-IASP.

In the clinical practice chronic pain is more recurrent and greater in women. The chronic pain has a strong effect on the daily activities and produces direct and indirect costs.

The Italian new law of March 15, 2010, for the first time assigns to the Medical doctor the clinical governance of the pain.

13% of chronic pain is due to tumors and 83% to not oncological etiology. The first three causes of chronic pain in Italy are referred to injury, disk damages, and bone/muscle diseases. European person from 4 suffers by arthropathy/rheumatic diseases; 1 from 5 is on long term therapy ; 1 from 10 after 60 years. Low back pain is one of the main causes of reduced working activity, and medical evaluation.

Clinical and psychosocial study of sex and gender differences in pain and analgesia refer to, e.g.: **phantom limb** (more frequent in women), **fibromyalgia** (women), **arthritis** (women), **migraine** (women), **cluster migraine** (men), **temporo-mandibular disorders** (women), **carpal tunnel syndrome** (women), **Reynaud disease** (women).

Arturo CUOMO
Responsabile - S.S.D. di Terapia Antalgica
Istituto Nazionale Tumori I.R.C.C.S.
Fondazione Pascale Napoli
http://www.lorenzinifoundation.org/20131010/Cuomo_sintesi.pdf

Chronic non-cancer pain

A particular attention is due to endometriosis, responsible of 14% of women hospitalization, and a social cost in Italy of **€ 4 billion** . Within the sex prevalence of various painful disorders, physicians pay more attention on men than on women.

Future directions: What are the hormonal vs. genetic (sex chromosome) contributions to sex differences in pain/analgesia?

What is the contribution of local hormone effects to sex differences in pain/analgesia?

How much psychological factors such as stress, mood, and conditioning (expectation), do contribute to sex differences in pain/analgesia?

How much chronic pain does contribute to sex differences in pain/analgesia?

To what extent are sex differences in pain or analgesia due to sexually dimorphic ascending (afferent) pathways vs. sexually dimorphic pain modulation?

What are the cellular and molecular bases of sex differences in an hormonal modulation of pain/analgesia?

Clinical and psychosocial study of sex and gender differences in pain and analgesia

A. Cuomo

http://www.lorenzinifoundation.org/20131010/Cuomo_slides.pdf

- ***Dolore del moncone o dell'arto fantasma***: **più intenso nelle donne**
- ***Fibromialgia***: il rapporto **maschi/femmine è di 1:6**
- ***Artrite Reumatoide***: rapporto **femmine/maschi è 3:1**
- ***Cefalea tensiva cronica***: **le donne** sono colpite **4 volte più degli uomini**
- ***Cefalea a grappolo***: **rapporto maschi: femmine di 5/1**
- Sindrome dolorosa da ***disfunzione temporomandibolare (TMD)***: **incidenza da 2 a 9 volte** maggiore nelle **femmine** che nei **maschi**
- Sindrome del ***tunnel carpale***: rapporto **femmine: maschi di 5/1**
- ***Malattia di Raynaud***: **5 volte più frequente nella donna**
- Sindrome del ***colon irritabile***: da **2 a 5 volte più frequente nella donna**

Sex prevalence of various painful disorders

A. Cuomo

http://www.lorenzinifoundation.org/20131010/Cuomo_slides.pdf

- I medici trattano **più seriamente** una malattia dolorosa quando è riportata da un **uomo** rispetto a una donna, nonostante i soggetti si presentino con gli stessi sintomi;
- I medici prescrivono **oppioidi** più frequentemente, e con dosaggi maggiori, agli **uomini** che alle donne (che, peraltro, consumano più analgesici);
- I medici considerano più facilmente le **componenti psicologiche** della malattia nelle **donne** rispetto agli uomini.

Teutsch C., Med Clin North Am. 2003 Sep; 87(5): 1115-45
Aloisi A. M., Quaderni della Fondazione Pfizer, 2005

Alberto MIGLIORE
Unità Semplice di Reumatologia
Ospedale San Pietro Fatebenefratelli – Roma
http://www.lorenzinifoundation.org/20131010/Migliore_sintesi.pdf

Is the osteoarthritis a gender disease?

Risk factors for osteoarthritis and related disability are represented by **modifiable risk factors** (high body mass index , nutritional factors, physical activity, sport, metabolic control, co-morbidity) and **not modifiable risk factors** (genetics, familiarity, age, sex). It is required to take into account gender in prevalence , progression, dolor , mental state, and results in prosthesis surgery. 57-81% of patients can have persistent limitation in the daily activity. 38-52% of patients suffer for their inability in the daily activity. **Men suffer more before the age of 45, women after 55**. In both genders, the damage is significantly increasing with age, with a prevalence of women in osteoarthritis- OA. Obesity is among the strongest and best established risk factors for knee OA. Metabolic factors associated with Obesity, including circulating adipo-cytokines, adiposity-linked glucose and lipid abnormalities, and chronic inflammation, may also play a role in the pathogenesis of OA, and could explain the modest association of obesity with OA in the hand.

Levels of blood glucose and C-reactive protein (CRP), are elevated in obesity and are associated with the risk of knee OA and its progression in women. Diabetes, and cardiovascular disease are worsened in obese patients. There is no consistent evidence of a link of circulating sex hormone levels or a reproductive history, with OA prevalence. Data from a randomized and placebo controlled clinical trial, indicated no difference in knee OA-related symptoms, between women receiving estrogen plus progestin compared to women with placebo.

Alberto MIGLIORE
Unità Semplice di Reumatologia
Ospedale San Pietro Fatebenefratelli – Roma
http://www.lorenzinifoundation.org/20131010/Migliore_sintesi.pdf

Fattori immodificabili

- Genetica
- Familiarità
- Età
- Sesso

Fattori modificabili

- Sovrappeso
- Mal allineamento
- Fattori nutrizionali
- Attività fisica
- Attività sportiva
- Controllo metabolico
- Comorbidità

In sintesi

http://www.lorenzinifoundation.org/20131010/Migliore_sintesi.pdf

- **sotto i 45 anni l'uomo** è più frequentemente colpito della donna;
- **sopra i 55 anni la donna** è più frequentemente colpita dell'uomo;
- **nella donna** sono colpite un maggior numero di articolazioni;
- **nella donna** l'entità del danno articolare è generalmente maggiore;
- l'artrosi dell'anca progredisce più rapidamente **nelle donne**;
- le pazienti con **densità ossea** più elevata sviluppano più facilmente un'artrosi soteofitaria
- le pazienti con **densità ossea** ridotta sia localmente che a livello sistemico presentano una più rapida progressione dell'artrosi.

In sintesi

http://www.lorenzinifoundation.org/20131010/Migliore_sintesi.pdf

- il rischio di gonartrosi e di rapida progressione è più elevato **nelle donne** con iperglicemia e elevata PCR;
- il sesso **maschile** ha un più basso rischio di mortalità in caso di ipomobilità da artrosi;
- il genere **femminile** è un fattore rischio che inclina maggiore probabilità alla protesizzazione di ginocchio;
- le **donne** presentano maggiore dolore e disabilità funzionale rispetto agli uomini.

Giorgio PALU'
Dipartimento di Istologia, Microbiologia e Biotecnologie Mediche
Sezione di Microbiologia e Virologia
Azienda Ospedaliera di Padova
http://www.lorenzinifoundation.org/20131010/Palu_sintesi.pdf

Vaccination "gender neutral" for HPV: a problem of biological relevance and public health

Genital warts represent an important issue. The prevalence is 0.2-5 % in Europe (Italy 1.4%; 25- 60% in high-risk male population). The incidence is 0.11-0.15 % in UK and USA. Hospitalization rate (x 100,000 population) for HPV-related cancer in the Veneto Region (2000-2011), by type of cancer and gender is represented. Hospitalization rate (x 100,000 population) for genital warts in the Veneto Region (2000-2011), by gender is represented. The so called HPV neutral gender vaccination requires a completely new prophylactic approach in the countries. In the last months the authorities arrived to understand that HPV infection is not just a women problem, and that it is a mandatory approach to take in consideration both genders and not just within the cancer diseases but also within a more large consideration in malign and benign tumors. And this is not only in the young people or homosexuals subjects, but in the all population.

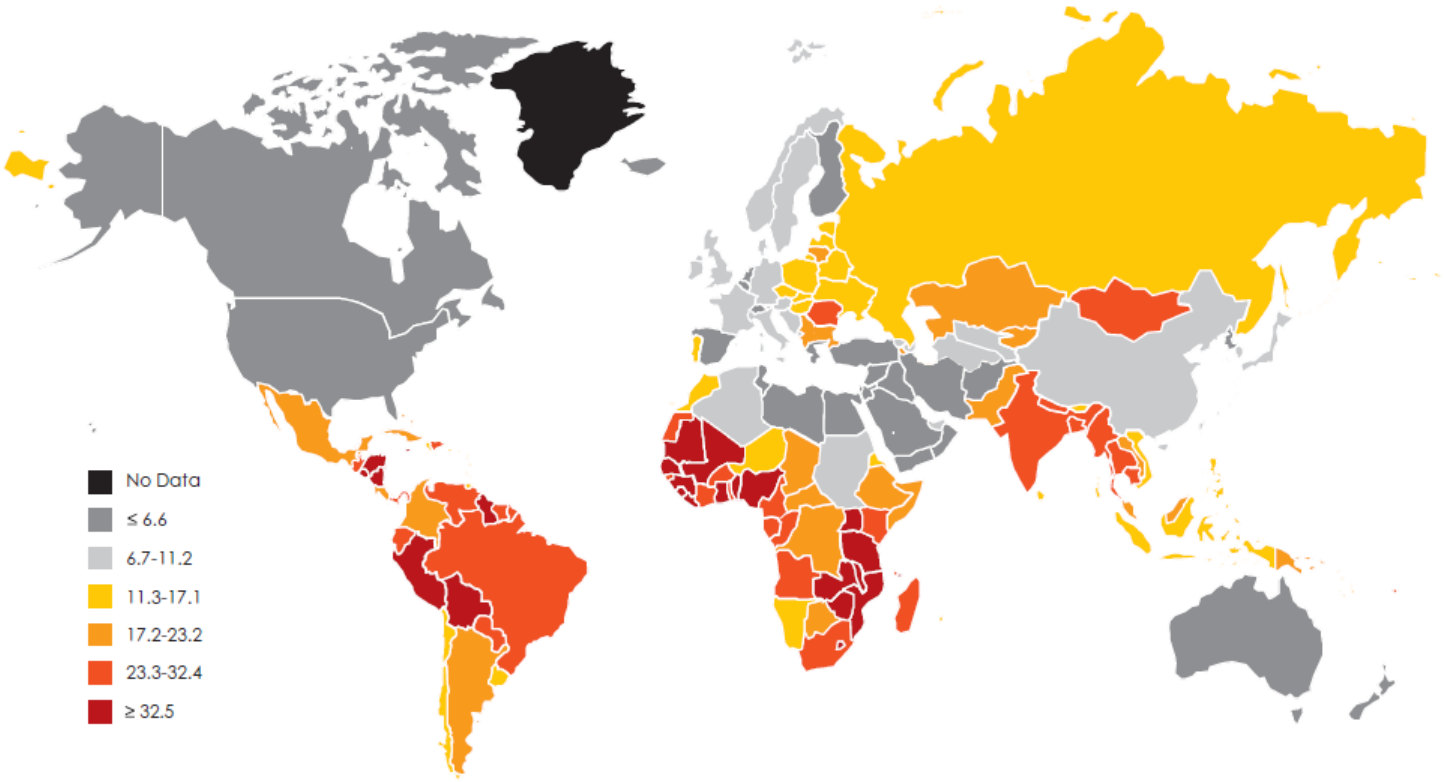
Giorgio PALU'
Dipartimento di Istologia, Microbiologia e Biotecnologie Mediche
Sezione di Microbiologia e Virologia
Azienda Ospedaliera di Padova
http://www.lorenzinifoundation.org/20131010/Palu_sintesi.pdf

Vaccination "gender neutral" for HPV: a problem of biological relevance and public health

Epidemiological data show that HPV do not affect men and women differently and that men carry a considerable burden of the disease, enough to justify to have been included in national recommendations for immunization programs against HPV-associated lesions. Previous experience in gender-restricted vaccination programmes has demonstrated a substantially lower effectiveness than universal vaccination; limiting vaccination to women might increase the psychological burden on women by confirming a perceived inequality of the sexes; even if all women were immunized, the HPV chain of transmission would still be maintained through men who have sex with men-MSM; the cost-effectiveness of including boys in HPV vaccination programs should be re-assessed in view of the increased reduction, due to universal vaccination, of the economic burden of HPV related diseases in men and women.

Cervical cancer incidence

http://www.lorenzinifoundation.org/20131010/Palu_slides.pdf

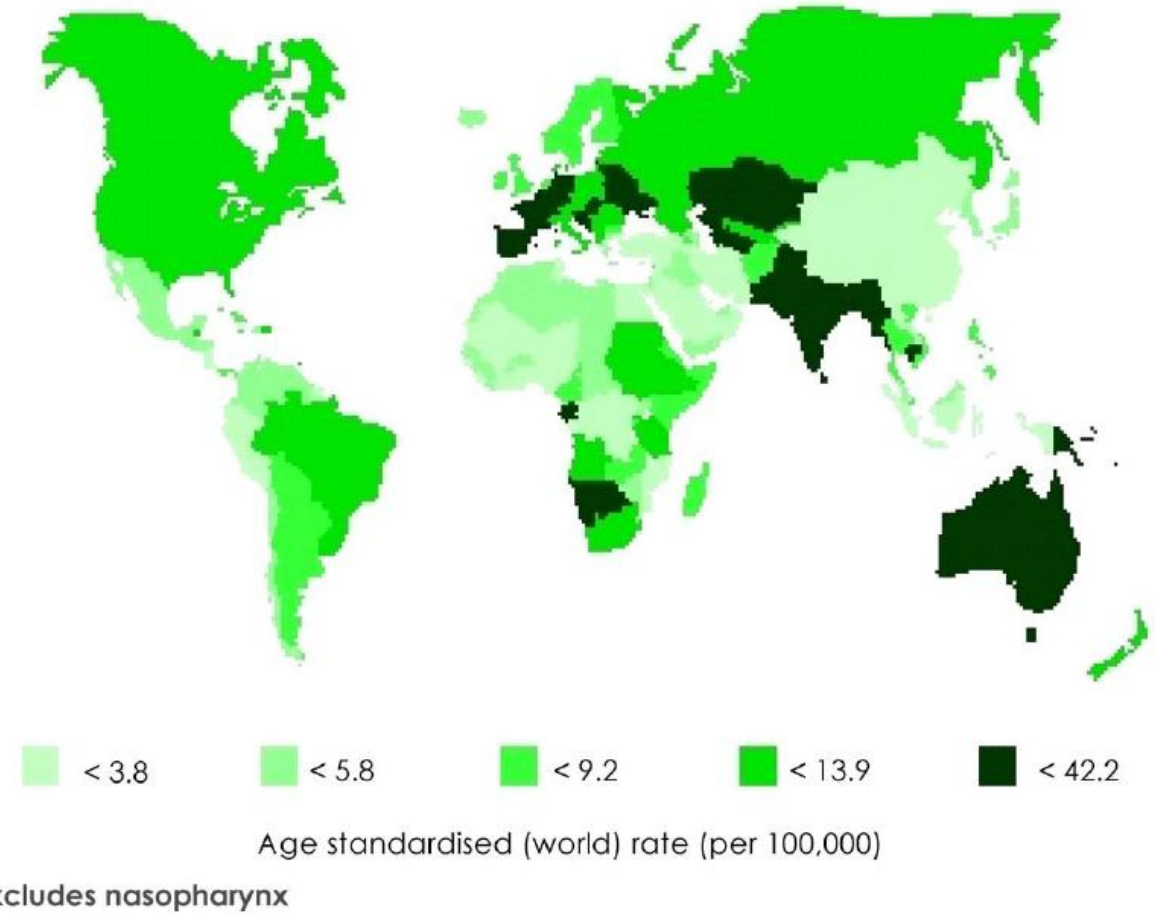


Global map showing estimated age-standardized incidence rate per 100,000 in 2008.

Based on GLOBOCAN 2008

Head & neck cancer incidence

http://www.lorenzinifoundation.org/20131010/Palu_slides.pdf



Age-standardised (World) incidence rates of cancer of the mouth and pharynx, *2002*.

Parkin & Bray. Vaccine, 2006

Amalia C. BRUNI
Direttore Centro Regionale di Neurogenetica
Ospedale Giovanni Paolo II
Lamezia Terme (CZ)
http://www.lorenzinifoundation.org/20131010/Bruni_sintesi.pdf

Gender and dementia

Dementia represents a public health priority. The number of people living with dementia worldwide is currently estimated at 35.6 million. This number will double by 2030 and more than triple by 2050. One in six women, one in ten men are at risk for Alzheimer's disease-AD in their lifetime. **Women are more linked with dementia.**

Approximately 650 genes (~ 14% of all genes in mouse tissue) are expressed differentially in the brains of Males and females.

The morphology of the brain may be sexually differentiated because of epigenetic mechanisms.

Why women have AD more than men? Females who enter into menopause prematurely via bilateral ovariectomy (surgical menopause) have a significantly increased risk for cognitive decline and dementia. No significant differences were found with respect to age at puberty, number of pregnancies, previous abortions, or contraceptive therapy.

A higher education level appeared to have a protective role against the risk of developing AD. In women in menopause or hormone-replacement therapy it can in a different way modulate the clinical manifestations of AD, but those factors do not play a predictive role in its development.

Amalia C. BRUNI
Direttore Centro Regionale di Neurogenetica
Ospedale Giovanni Paolo II
Lamezia Terme (CZ)
http://www.lorenzinifoundation.org/20131010/Bruni_sintesi.pdf

Gender and dementia

The risks of developing Alzheimer's disease differ between the sexes, with stroke in men, and depression in women.

Men with mild cognitive impairment were more likely to be overweight, diabetic, and to have had a stroke. Men who had a stroke were almost three times as likely to progress.

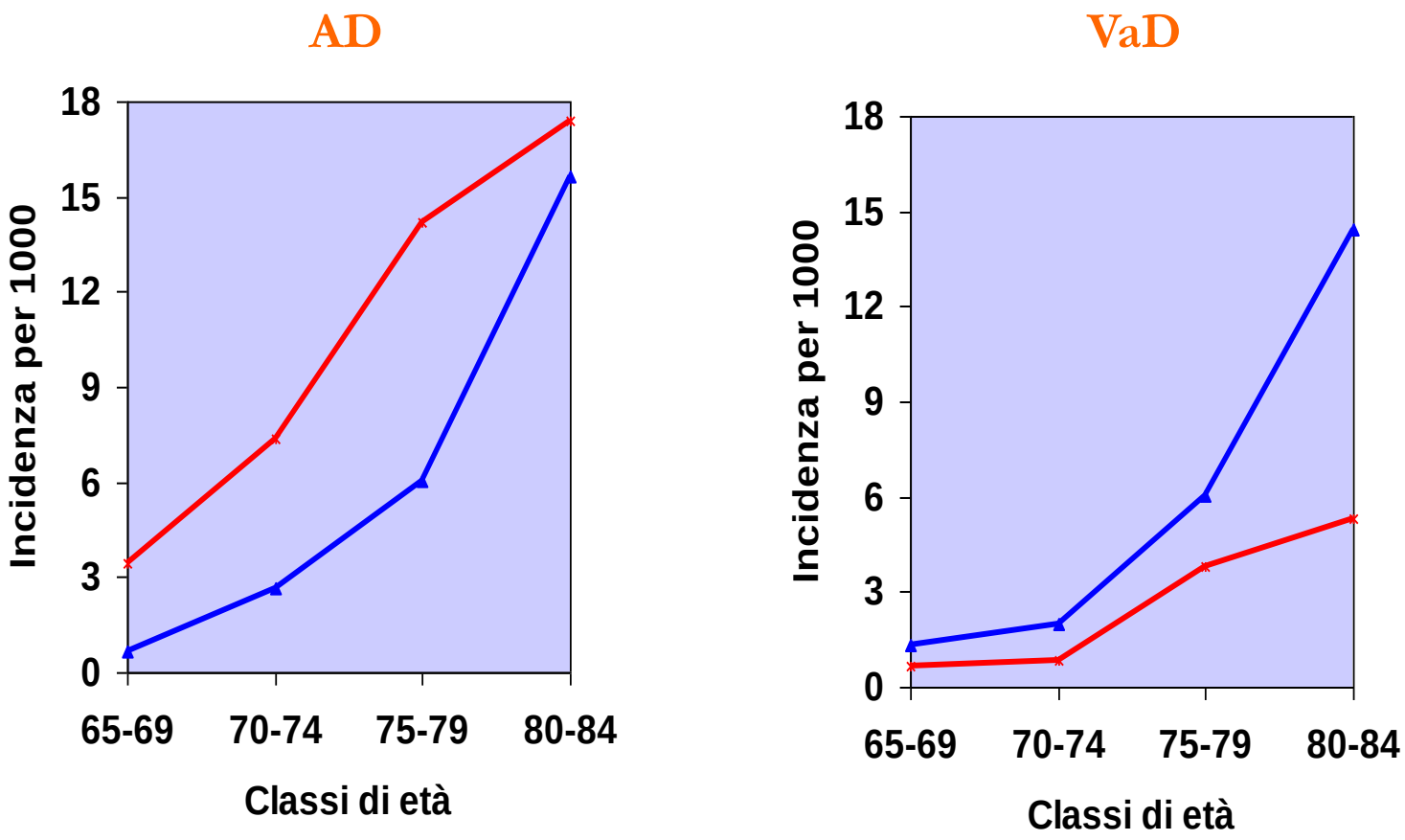
Women with mild cognitive impairment were more likely to be in poorer general health, disabled, suffering from insomnia and to have a poor support network. Naming and word-recognition skills have been reported to be more adversely affected in female patients with AD than in male patients, and the differences have been shown to be sustained over time.

Male patients exhibit greater problems than female patients in wandering, abusiveness and social impropriety, particularly in the more advanced stages of the disorder

.Data are not enough to clear define gender differences between men and women. Deep analysis and long term studies could give more stabile information on the gender differences and to help to better decrease physical and mental suffering in the diseased patients.

Studio ILSA: Incidenza della malattia di Alzheimer e della demenza vascolare per sesso e classi di età

http://www.lorenzinifoundation.org/20131010/Bruni_slides.pdf



Alzheimer's Disease Risk is Gender Specific

The risks of developing Alzheimer's disease differ between the sexes, with stroke in men, and depression in women JNNP, 2008

http://www.lorenzinifoundation.org/20131010/Bruni_slides.pdf

- **Men** with mild cognitive impairment were more likely to be overweight, diabetic, and to have had a stroke.
- **Men** who had had a stroke were almost three times as likely to progress.
- **Women** with mild cognitive impairment were more likely to be in poorer general health, disabled, suffering from insomnia and to have a poor support network.
- **Women** unable to perform routine daily tasks were 3.5 times as likely to progress. And those who were depressed were twice as likely to do so.
- Stroke was **not a risk factor** for women, despite a similar rate of occurrence in both sexes.

Silvia NOVELLO
Dipartimento di Oncologia
Università di Torino AOU San Luigi Orbassano (Torino)
http://www.lorenzinifoundation.org/20131010/Novello_sintesi.pdf

Gender differences in lung cancer, lung cancer in women

No specific ("gender driven") diagnostic approach is nowadays available. No specific ("gender driven") therapeutic approach is nowadays available.

The assumption from the literature are evidencing changes in epidemiology regarding Lung Cancer and women; **women are more likely to be diagnosed as adenocarcinoma, when they are younger and it seems to have a better prognosis; smoking habit is the primary responsible of lung cancer also among women.** Several confounding factors associated with gender may influence survival in non-small cell lung cancer (NSCLC). Biologic features of adenocarcinomas in women, as represented by localized bronchioloalveolar carcinomas (BACs) showing low aggressiveness, may result in better prognosis. The proportion of stage I and adenocarcinoma cases, and probably the smoking status in the patients studied, might affect comparisons of survival between genders. The presence of estrogen R on NSCLC cells and evidence of in vitro growth stimulation by estrogens and progesterone, quickly lead to questions about the impact of hormonal replacement therapy in NSCLC.

The incidence of lung cancer in never smokers seems to have a geographic variation.

In *conclusion: a better understating of the genetic, metabolic, and hormonal factors in women* represents a research priority; many contradictory data about this item are present in literature, underlying that we need confirmatory prospective data; evidence suggests that the development of lung cancer is different in women compared with men; **women with lung cancer live longer than men with lung cancer, regardless of therapy and stage; sex as stratification factor is useful in prospective clinical trials.**

No specific and "gender driven" therapeutical approaches are already available.

Cancer Mortality in Italy

http://www.lorenzinifoundation.org/20131010/Novello_slides.pdf

	MEN	WOMEN
2008		
Cancer Deaths registered	**97,773** **144.1/100,000**	**75010** **84.3/100,000**
Lung Cancer (*all ages*)	**25,366 *** **37.7/100,000**	**7,743°** **9.5/100,000**
Estimation in 2012		
Cancer Deaths	**100.000** **132,5/100,000**	**78,000** **80.5/100,000**
Lung Cancer (*all ages*)	**-** **33.3 /100,000**	**8,500§** **9.8/100,000**

***** leading cause for all ages accounting for over 25% of all male cancer deaths,
° after breast and intestines **§**becoming second cause

Malvezzi M et al, Tumori May 2012

SIMG Società Italiana Salute Medicina Genere

Centro Studi Nazionale su Salute e Medicina di Genere

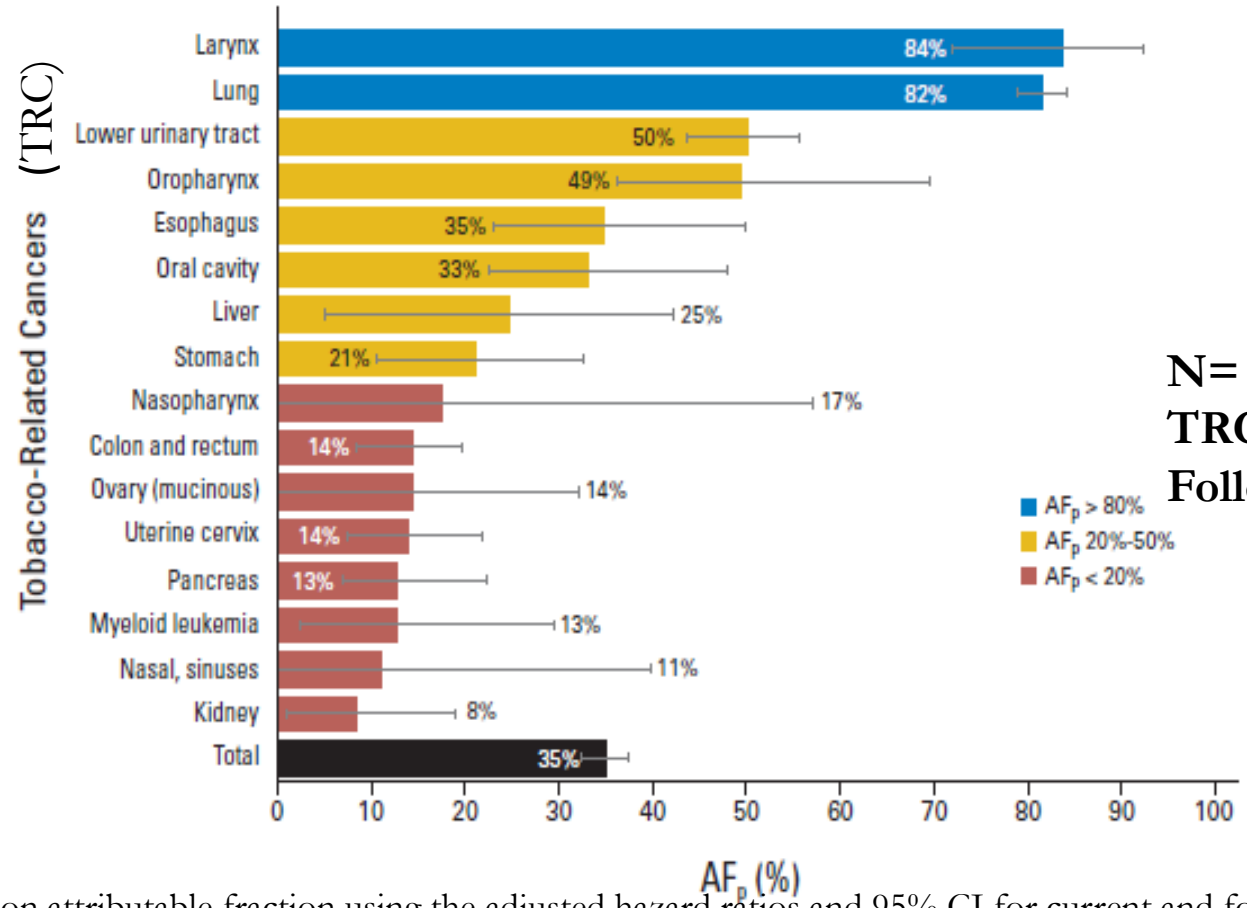
WHO data 2002-2005 (2009): smoking rate in some European Countries

	Adult ♂	Adult ♀	15yrs ♂	15 yrs ♀	educational programmes	part of primary health care programme
Albania	60 (60)	18 (19)	10.6 (17.6)	5.4(6.7)	yes	yes
Bulgaria	43.8 (48)	23(27)	28.7 (26.4)	26.4(31.8)	at regional level	no
Denmark	28(30)	23(28)	16.7	21	yes	no
Finland	27(28)	20(22)	28.3	32.2	yes	yes
France	30(36)	21.2(27)	26	27.7	yes	yes
Germany	37.1(33)	30.5(25)	32.2	33.7	yes	no
Italy	31.3(33)	17.2(19)	21.8	24.9	no	no
Netherlands	31(31)	25(26)	22.5	24.3	no	no
Norway	27.2(31)	24.8(28)	20.1	26.6	yes	yes
Poland	38(36)	25.6(25)	26.3(26)	17(31.7)	at regional level	at regional level
Spain	34.1(36)	22.4(27)	23.6	32.3	yes	yes
Sweden	14	19	11.1	19	yes	Yes
UK	28(25)	24(23)	20.3	27.4	yes	yes

http://www.lorenzinifoundation.org/20131010/Novello_slides.pdf

Impact of Cigarette Smoking on Cancer Risk in Europe

http://www.lorenzinifoundation.org/20131010/Novello_slides.pdf



N= 441,211
TRC=14,563
Follow-up=11yrs

[AFp= population attributable fraction using the adjusted hazard ratios and 95% CI for current and former smokers, plus either the prevalence of smoking among cancer cases or estimates from surveys in representative samples of the population in each country]

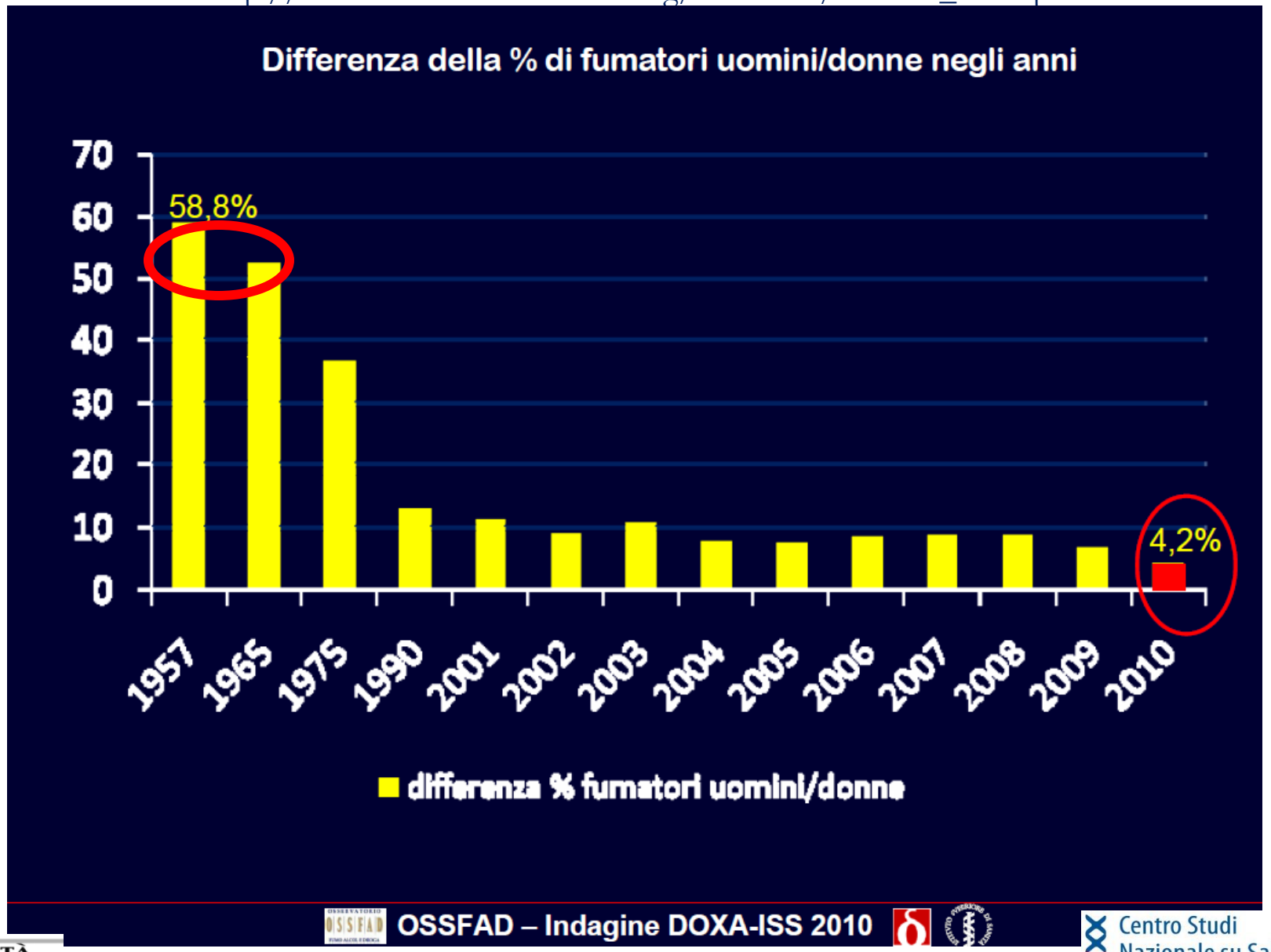
Agudo A et al, JCO Dec 2012

SOCIETÀ ITALIANA SALUTE MEDICINA GENERE

Centro Studi Nazionale su Salute e Medicina di Genere

Italia: come è cambiata la differenza dell'abitudine tabagica fra uomo e do

http://www.lorenzinifoundation.org/20131010/Novello_slides.pdf



SIMG Società Italiana Salute Medicina Genere

Centro Studi Nazionale su Salute e Medicina di Genere