



Valeria Manicardi

# Diabete: differenze di genere o differenza di cura tra donna e uomo ?

5 giugno 2020

DIRETTA LIVE FACEBOOK, h. 18



## Un'ora con AMD-SID-SIE-SIEDP

# La Medicina di Genere



**Sesso** = identifica  
le differenze  
biologiche



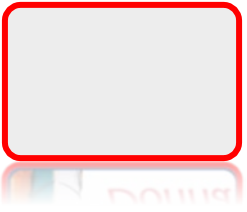
**Genere** =  
differenze socio-  
culturali, etniche,  
di ruolo,  
comportamentali  
tra l'uomo e la  
donna nella società

**e che sono determinanti di salute**

Non è una nuova disciplina, ma un nuovo approccio  
che attraversa tutte le discipline mediche

**WHO : Women are not little men**

# LA MEDICINA DI GENERE: UNA MISSIONE PER IL TERZO MILLENNIO

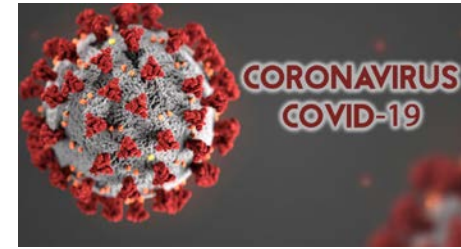


## Editoriale \_2015 -Prof Baggio

- 1. MALATTIE CARDIOVASCOLARI** . Maggiore mortalità nelle Donne x CHD.  
maggior Rischio di ICTUS se c'è FA  
minor TAO.  
Più rischio di Sc cardiaco
- 2. FARMACOLOGIA** : minor efficacia, maggiori effetti collaterali  
Statine, ASA, ACE-I, B-Bloccanti, ecc
- 3. CANCRO** – ter ormonale sostitutiva + fumo → > N Small Cell cancer  
- DT2 > ADK nelle F .
- 4. MALATTIE DEL FEGATO** – steatosi epatica > M ; HCV > F
- 5. METABOLISMO OSSEO E OSTEOPOROSI**: fratture > 65 a → > nelle D, ma  
mortalità dopo Frattura anca > M  
Osteoporosi sottovalutata nel M

**Necessità di ricostruire un equilibrio per capire come differenti segni clinici, procedure diagnostiche ed esigenze terapeutiche siano diverse in uomini e donne.**

# Un Esempio recente : Differenze di Genere nel COVID 19



**Anche nel Covid 19 ci sono delle differenze tra Donne e Uomini:**

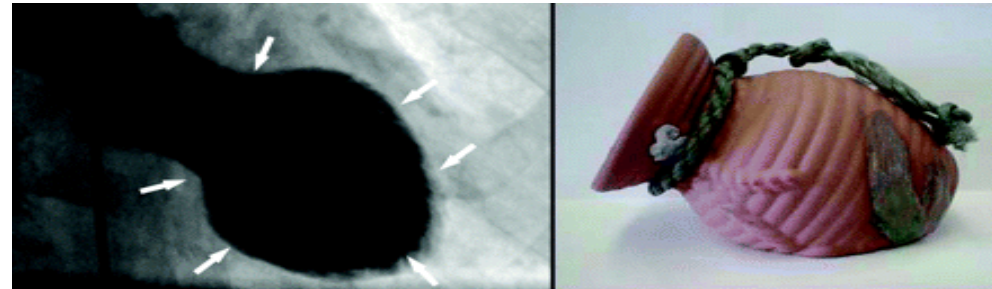
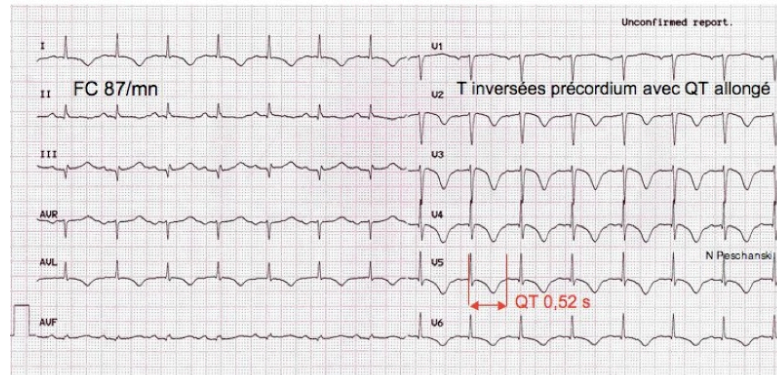
- **Le donne sembrano infettarsi di meno**
- **ma soprattutto sembrano avere forme meno severe**
- **Le donne si negativizzano più rapidamente**
- **Perché ?**

*Lo studio di VO lo ha documentato*

# Il Cuore delle Donne. La Sindrome di Takotsubo : Morire di crepacuore . Perché solo nelle donne ?



## Tako-tsubo Cardiomyopathie de stress



F3b9 ou Cc1b6

**l'ECG è quello di un Infarto acuto, ma alla Coronarografia non ci sono ostruzioni coronariche**



# Il cuore delle Donne con Diabete: Pari Opportunità .... ..di rischio CV:

**Le donne Diabetiche sono colpite da Infarto tanto come gli uomini:  
- hanno perso la protezione ormonale dall'infarto in età fertile**

Editorial

## Type 2 Diabetes and Cardiovascular Risk in Women

Giuseppina T. Russo,<sup>1</sup> Giovannella Baggio,<sup>2</sup>  
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Cardiovascular diseases (CVD) are the leading cause of death, also in diabetic women. Since 1998, when Haffner et al. [1] stated that subjects with type 2 diabetes mellitus (T2DM) had a CVD risk "equivalent" to previous myocardial infarction, a large number of studies have shown that this relative risk for CVD due to diabetes is greater in women than in men [2].

CVD in diabetic subjects is not entirely related to chronic hyperglycaemia and a number of other factors such as dyslipidemia, hypertension, hormonal, genetic, and environmental factors, as well as low-grade systemic inflammation and endothelial damage, lifestyle behaviours, adherence to therapies, and/or psychosocial factors may contribute to the worst outcomes observed in diabetic women. Notably, it is increasingly recognized that many of these factors show gender differences in their prevalence and/or association with CVD events, and this aspect should be specifically targeted when aiming at primary or secondary CVD prevention in diabetic subjects.

In this special issue, we looked at CVD in women with diabetes from different perspectives, giving a great contribution to this topic, in terms of mortality, management of risk factors, and therapies.

Two papers of this special issue looked at sex differences in CVD mortality associated with diabetes. One conducted on a large population-based sample from Italy demonstrated an excess of mortality in diabetic subjects as compared to nondiabetic ones and a greater impact of diabetes in females

than in males for mortality for all causes, for CVD, and for myocardial infarction and renal causes. In the other study, G. Luo et al. showed in a retrospective analysis that fasting plasma glucose was an independent predictor of in-hospital mortality for nondiabetic female patients.

Gender-specific prevalence and management of major and emerging CVD risk factors in different populations were also the main topic of several papers of this special issue.

The paper by S. Chen et al., with a very interesting experimental protocol, clarified the relationships of albuminuria, a well-recognized CVD risk factor, with circulating levels of angiotensin-1 (Ang-1), Ang-2, and vascular endothelial growth factor (VEGF) in serum and urine.

Potential gender differences in the distribution and control of major CVD risk factors were investigated in another three very large high-risk populations. Thus, in the eControl Study, a study on 286,791 patients with T2DM in Catalonia, Spain, J. Franch-Nadal et al. found that cardiometabolic control was worse in subjects with prior CVD; but control of several risk factors showed gender differences, favouring women with prior CVD only for smoking and BP, whereas LDL-cholesterol (LDL-C) levels were remarkably uncontrolled in women both with and without CVD.

The results of an overall bad control of LDL-C in women were also demonstrated in a very large Italian diabetic outpatient population from the Annals Study Initiative. This study, conducted on 415,294 patients (45.3% women) from



## Registri N-Hanes:

- Riduzione della CHD nella pop generale
- Non nel DM
- Aumento nelle Donne con DM



Intern J Endocrinology ,2015

# Excess risk of fatal coronary heart disease associated with diabetes in men and women: meta-analysis of 37 prospective cohort studies

Rachel Huxley, Federica Barzi, Mark Woodward

BMJ, 21 December 2006

## Abstract

**Objective** To estimate the relative risk of fatal coronary heart disease associated with diabetes in men and women.

**Design** Meta-analysis of 37 prospective cohort studies.

**Data sources** Studies were identified through Medline, Embase, and the Asia Pacific Cohort Studies Registry.

**Review methods** Studies were included if they reported relative risk estimates of the relationship between diabetes and fatal coronary heart disease, comparing men and women.

**Results** 37 studies of 1,100,000 participants were included. The summary relative risk of fatal coronary heart disease among a total of 1,100,000 participants with diabetes was 1.49 (95% confidence interval 1.31 to 1.67) compared with 1.00 among participants without diabetes.

The relative risk was significantly greater among women than it was among men: 1.50, 95% confidence interval 1.31 to 1.70 vs 1.49, 95% confidence interval 1.31 to 1.67.

**Donne con DM2 hanno un rischio aumentato di eventi CV e di mortalità del 50% rispetto ai maschi**

**Conclusions** The relative risk for fatal coronary heart disease associated with diabetes is 50% higher in women than it is in men. This greater excess coronary risk may be explained by more adverse cardiovascular risk profiles among women with diabetes, combined with possible disparities in treatment that favour men.

RR F vs M nei 29 studi corretti per fattori confondenti = **1,49**

**Le Donne Diabetiche hanno il 50% in più di rischio di Eventi CV fatali rispetto ai Maschi.**

**Cause :**

- **Peggior profilo di rischio CV**
- **Sottotrattamento con Statine, ASA, Antiipertensivi**
- 

found that only 35% of women with diabetes or cardiovascular disease were prescribed a statin compared with 45% of men with

States, women with diabetes were also less likely to be treated with aspirin and lipid lowering agents or to achieve recommended levels of blood pressure or low density lipoprotein cholesterol than were men.<sup>40 41</sup> Therefore more

# Le donne con T2DM hanno anche un aumentato rischio di Stroke (ICTUS)

Diabetologia (2006) 49:2859–2865  
DOI 10.1007/s00125-006-0493-z

ARTICLE

## Risk of stroke in people with type 2 diabetes in the UK: a study using the General Practice Research Database

H. E. Mulnier · H. E. Seaman · V. S. Raleigh ·  
S. S. Soedamah-Muthu · H. M. Colhoun ·  
R. A. Lawrenson · C. S. De Vries

**Age-adjusted HR for stroke in DM2  
subjects vs non diabetic subjects was:**

- **2.08 (95%CI:1.94-2.24)** in men
- **2.32 (95%CI: 2.16-2.49)** in women.

**The increase in risk attributable to  
diabetes was highest**

- in young women (HR **8.18**; 95%CI 4.31-15.51)  
and decreased with age.

**Table 4** Hazard ratios (95% CI) for stroke in diabetes compared with no diabetes stratified by sex and attained age-group

	All	Men	Women
Diabetes/no diabetes ( <i>n</i> )	41,799/ 202,733	22,178/ 107,285	19,621/ 95,448
Age (years)			
35–54	5.64 (3.91–8.13)	4.66 (2.96–7.33)	8.18 (4.31–15.51)
55–64	3.81 (3.23–4.49)	3.31 (2.69–4.07)	4.89 (3.71–6.45)
65–74	2.54 (2.31–2.79)	2.35 (2.07–2.65)	2.83 (2.45–3.28)
75–84	1.90 (1.75–2.06)	1.69 (1.49–1.90)	2.10 (1.89–2.34)
≥85	1.69 (1.49–1.92)	1.60 (1.28–1.99)	1.74 (1.49–2.03)
All ages	2.19 (2.09–2.32)	2.08 (1.94–2.24)	2.32 (2.16–2.49)





Research Article

# Sex Differences in the Effect of Type 2 Diabetes on Major Cardiovascular Diseases: Results from a Population-Based Study in Italy

**MACE**

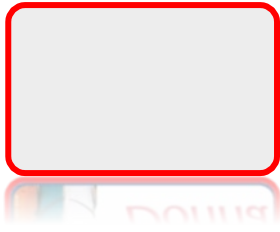
**Dati di Reggio E.**

Paola Ballotari,<sup>1,2</sup> Francesco Venturelli,<sup>3</sup> Marina Greci,<sup>4</sup> Paolo Giorgi Rossi,<sup>1,2</sup> and Valeria Manicardi<sup>5</sup>

EVENTO:	UOMINI			DONNE		
	SENZA DM2	CON DM2	IRR (95%CI)	SENZA DM2	CON DM2	IRR (95%CI)
ICTUS	37.28	74.70	1.86 (1.68-2.06)	30.10	61.73	1.81 (1.60-2.04)
INFARTO	39.04	78.02	1.78 (1.60-1.98)	16.13	47.58	2.58 (2.22-2.99)
SCOMPENSO	21.47	63.71	2.78 (2.48-3.12)	17.10	48.83	2.59 (2.27-2.97)

**Eccesso di Rischio di IMA nelle Donne con DT2 .**

**I Diabetici hanno un rischio aumentato di ICTUS , INFARTO e SCOMPENSO, ma le DONNE con DT2 hanno un RISCHIO di INFARTO >>> Maschi**



## La Medicina di Genere in Diabetologia nasce in AMD nel 2010 :

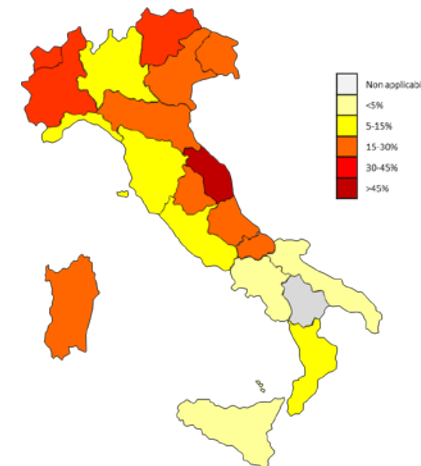
Cosa ci dicono gli Annali AMD sulle differenze di genere nel diabete di T1 e di T2 in Italia :



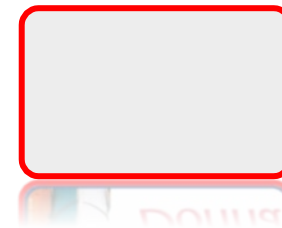
Esistono differenze genere (tra Donne e uomini) ?

- nella **Qualità della Cura erogata** ?
- nel **profilo di rischio Cardio-Vascolare** ?
- Nel **trattamento e nella intensità della cura** ?

Strumento indispensabile : **Cartella Informatizzata SDC**



# Le 1° Monografie di genere



anno 2011

## Differenze di Genere

Nel DT2

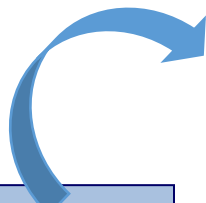
Nel DT1



415.320 DT2 seguiti da 236 servizi in Italia nel 2009.



28.802 DT1 seguiti da 320 servizi di diabetologia in Italia nel 2011



2012

2014

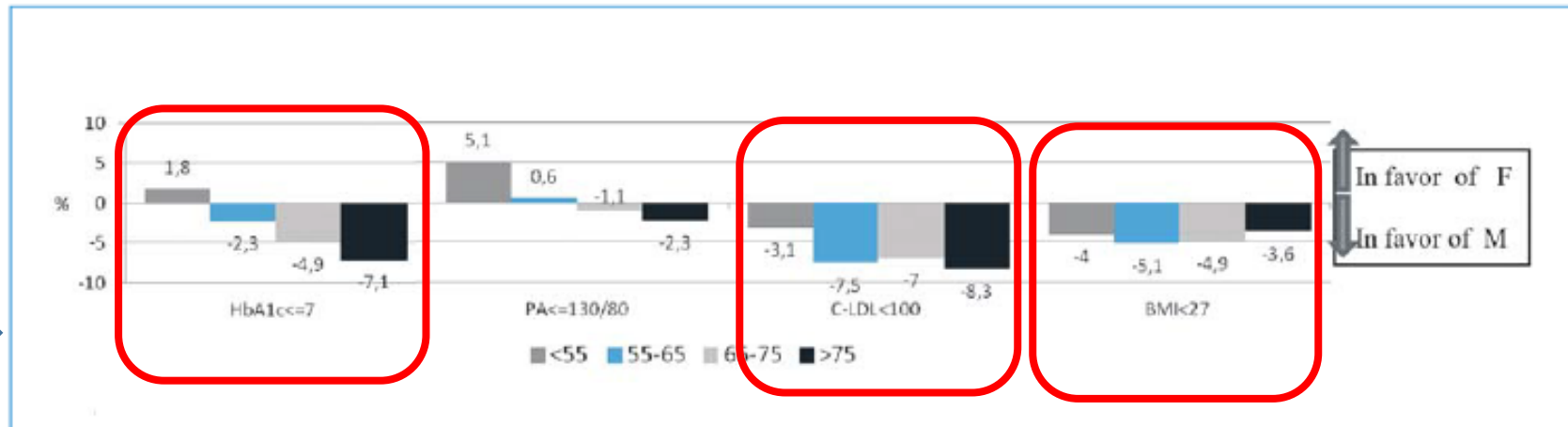
(Diabetes Care 36:3162-3168,2013).

(PLOS One – Ottobre 2016)

# Differenze di genere nel DT2



- COMPENSO METABOLICO (HbA1c)
- PROFILO LIPIDICO (LDL-C)
- OBESITA' (BMI)



**Figure 1.** Favorable outcomes in diabetic men and women and age (*AMD Annals*). The intermediate outcomes (target of HbA1c, PA, C-LDL, BMI) are systematically in favor of men, independently of age.

# Profilo LIPIDICO

*Il mancato raggiungimento dei target di LDL-C è sempre a sfavore delle Donne con DT2 :*

- **Sia trattate che non trattate con Statine**
- **le differenze aumentano con età e durata del DM.**



**Le Donne con DT2 più anziane sono a maggior rischio di CHD.**

**Donne DM2 senza CHD hanno lo stesso profilo sottopopolazioni HDL degli uomini con pregresso IMA: HDL meno ateroprotettiva (Atherosclerosis, 2010:204)**



## Research Article

### Age- and Gender-Related Differences in LDL-Cholesterol Management in Outpatients with Type 2 Diabetes Mellitus

Giuseppina Russo,<sup>1</sup> Basilio Pintaudi,<sup>2</sup> Carlo Giorda,<sup>3</sup> Giuseppe Lucisano,<sup>2</sup> Antonio Nicolucci,<sup>2</sup> Maria Rosaria Cristofaro,<sup>4</sup> Concetta Suraci,<sup>5</sup> Maria Franca Mulas,<sup>6</sup> Angela Napoli,<sup>7</sup> Maria Chiara Rossi,<sup>2</sup> and Valeria Manicardi<sup>8</sup>

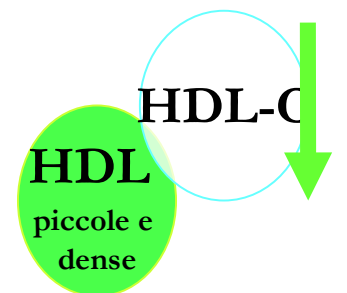
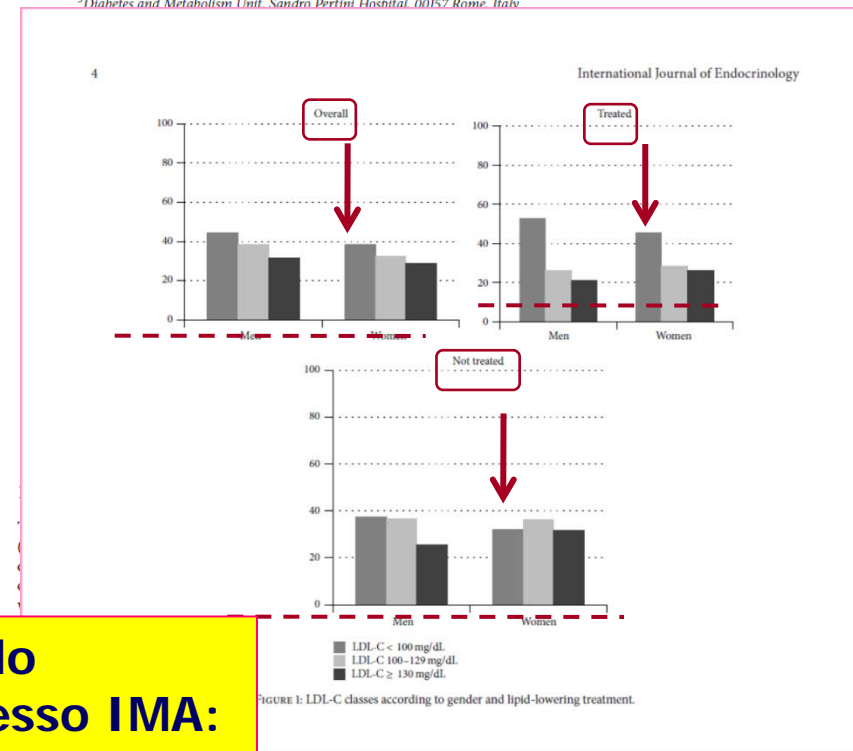
<sup>1</sup>Department of Internal Medicine, University of Messina, 98125 Messina, Italy

<sup>2</sup>Department of Clinical Pharmacology and Epidemiology, Fondazione Mario Negri Sud, Via Nazionale, 66030 S. Maria Imbaro, Italy

<sup>3</sup>Diabetes and Metabolism Unit, ASL TOS, 10023 Chieri, Italy

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<sup>5</sup>Diabetes and Metabolism Unit, Sandro Pertini Hospital, 00152 Rome, Italy



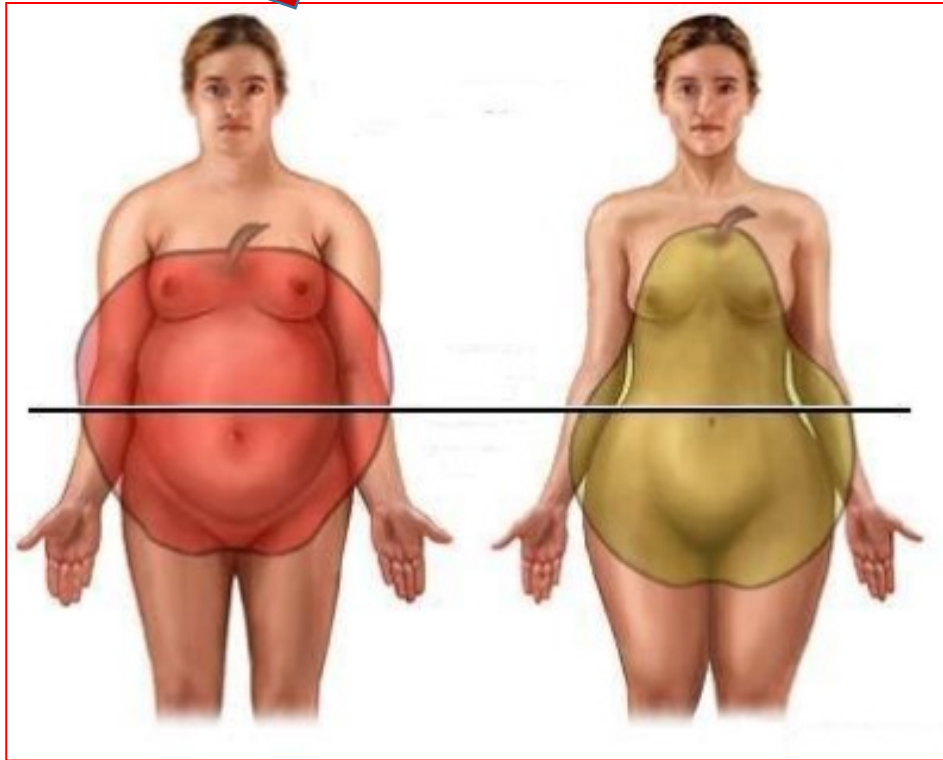


# DOMANDE



Un'ora con AMD-SID-SIE-SIEDP

**Le donne sono più obese** : sta aumentando la **Obesità Addominale (Viscerale)** che correla con il rischio cardiovascolare



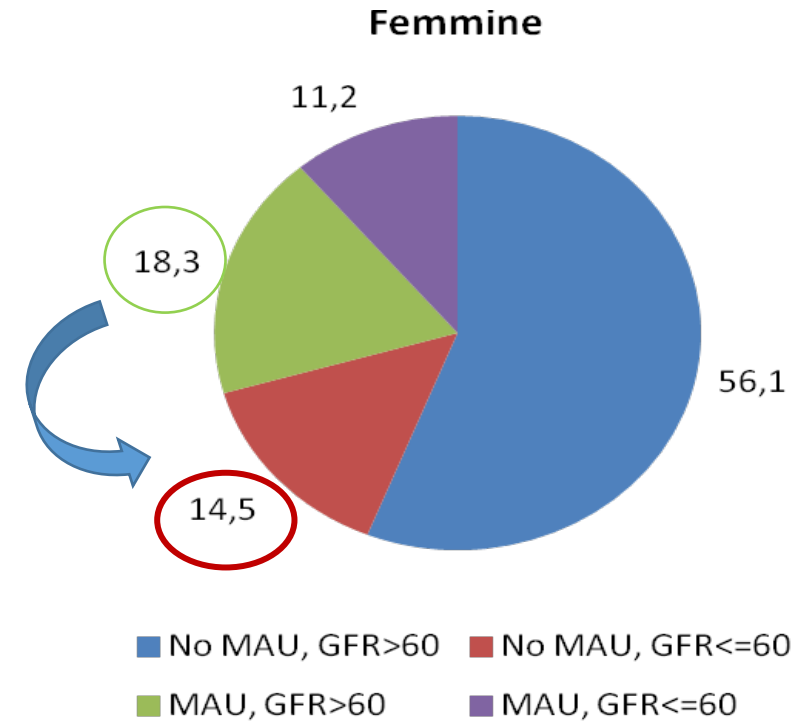
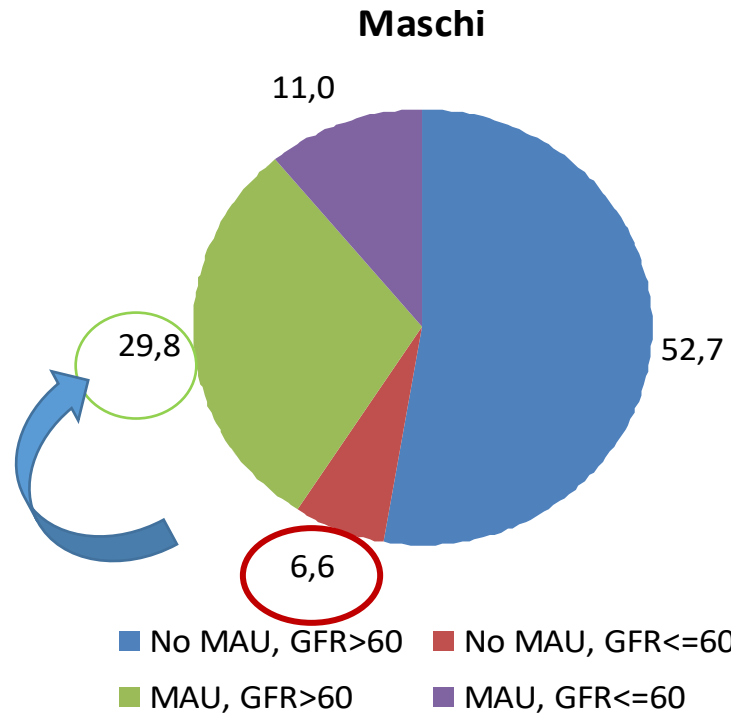
**Donne: Circ Vita < 88 cm**



**Uomini: Circ Vita < 102 cm**

# Differenze di genere e funzione renale : presenza di MAU e di riduzione del GFR (%)

**RENE**



Nephrol Dial Transplant (2014) 29: 657–662  
 doi: 10.1093/ndt/gft506  
 Advance Access publication 6 January 2014


## Kidney dysfunction and related cardiovascular risk factors among patients with type 2 diabetes

Salvatore De Cosmo<sup>1</sup>, Maria Chiara Rossi<sup>2</sup>, Fabio Pellegrini<sup>2</sup>, Giuseppe Lucisano<sup>2</sup>, Simonetta Bacci<sup>1</sup>,  
 Sandro Gentile<sup>3</sup>, Antonio Ceriello<sup>4</sup>, Giuseppina Russo<sup>5</sup>, Antonio Nicolucci<sup>2</sup>, Carlo Giorda<sup>6</sup>,  
 Francesca Viaggi<sup>7</sup>, Roberto Pontremoli<sup>7</sup> and the AMD-Annals Study Group



# Il genere influenza le scelte Terapeutiche ?



 European Heart Journal (2011) 32, 1337–1344  
doi:10.1093/eurheartj/ehr027

**CLINICAL RESEARCH**

## Factors influencing underutilization of evidence-based therapies in women<sup>†</sup>

Raffaele Bugiardini<sup>1\*</sup>, Andrew T. Yan<sup>2</sup>, Raymond T. Yan<sup>2</sup>, David Fitchett<sup>2</sup>, Anatoly Langer<sup>2</sup>, Olivia Manfrini<sup>1</sup>, and Shaun G. Goodman<sup>2</sup>, on behalf of the Canadian Acute Coronary Syndrome Registry I and II Investigators\*

<sup>1</sup>Dipartimento di Medicina Interna, Cardioangiologia, Epatologia (Padiglione 11), University of Bologna, Via Massarenti 9, 40138 Bologna, Italy; and <sup>2</sup>Terrence Donnelly Heart Centre, Division of Cardiology, St. Michael's Hospital, University of Toronto and the Canadian Heart Research Centre, Toronto, Ontario, Canada

Received 18 October 2010; revised 8 January 2011; accepted 25 January 2011; online publish-ahead-of-print 7 March 2011

See page 1313 for the editorial comment on this article (doi:10.1093/eurheartj/ehr083)

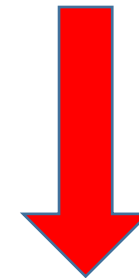
**Aims** Previous studies have reported differences in the use of cardiovascular medications for acute coronary syndromes (ACSs) according to the sex of the patient. We analysed which clinical factors are associated with underutilization of evidence-based therapies in women.

**Methods and results** From the Canadian Registry of ACS I and II, 6558 patients (4471 men and 2087 women) with a final diagnosis of ACS were selected for the current analysis. Covariates were chosen using the approach described by Blackstone. The final selected model included 23 patient clinical variables. Women were less likely than men to receive beta-blockers (75.76 vs. 79.24%;  $P < 0.01$ ), lipid-modifying agents (56.37 vs. 65.44%;  $P < 0.0001$ ), and angiotensin-converting enzyme (ACE)-inhibitors (55.52 vs. 59.99%;  $P < 0.01$ ). Female sex and clinical decision not to investigate with cardiac catheterization were the strongest independent predictors for not receiving lipid-modifying agents and ACE-inhibitors. Age, Killip class 2, and Killip class 3/4 were significant independent predictors of underutilization of beta-blocker use. Women were older ( $69 \pm 12$  vs.  $64 \pm 12$ ;  $P < 0.01$ ) with a higher prevalence of Killip class  $\geq 2$  (19.95 vs. 15.54%;  $P < 0.068$ ), and they were less likely to be referred for cardiac catheterization (41.9 vs. 49.6%;  $P < 0.001$ ).

**Conclusions** The current findings demonstrate that underutilization of evidence-based therapies in women with ACS compared with men is associated with multiple factors related to the patient (age), the consequences of the disease (congestive heart failure), and the physician's assessment of patient risk (decision to catheterize). Female gender remains associated with underutilization of lipid-modifying agents and ACE-inhibitors despite adjustment for these confounders.

**Keywords** Women • Evidence-based therapies

Il genere femminile  
Resta un predittore  
indipendente di sotto  
Utilizzo di Statine  
e ACE-I



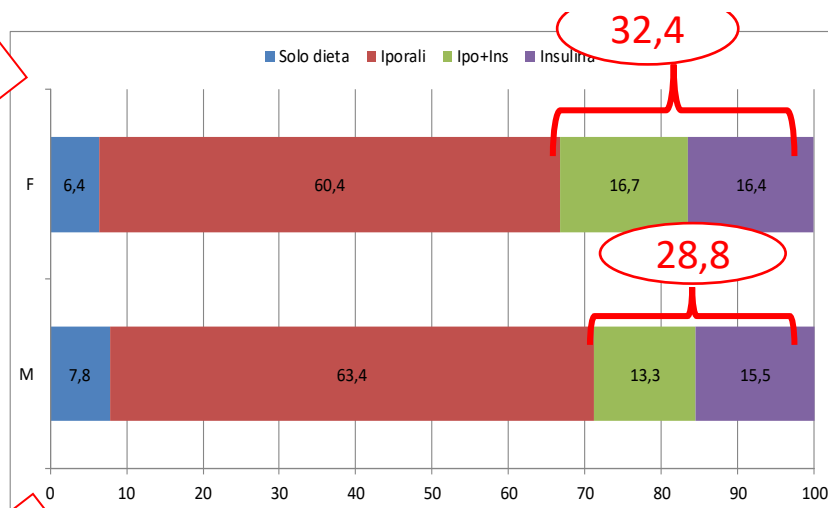
Sottotrattamento  
delle donne con  
Diabete vs uomini

WHO : Women are not little men

# DT2 – Trattamento del diabete in Italia (2011): Appropriatezza e Intensità

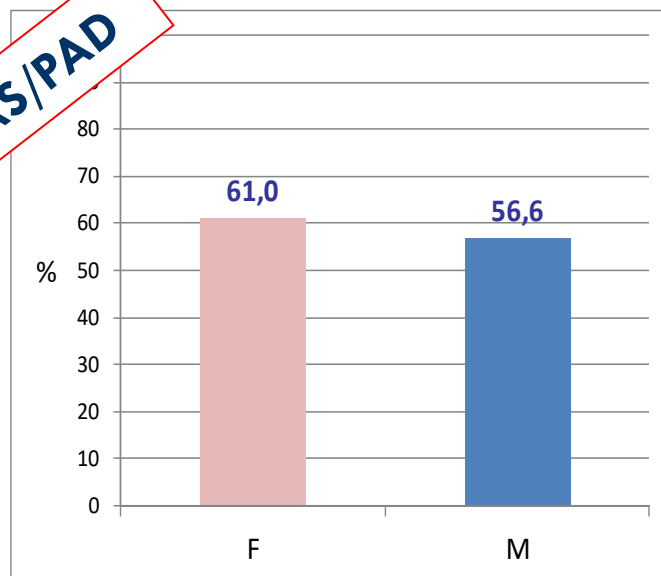


**Compenso metabolico**



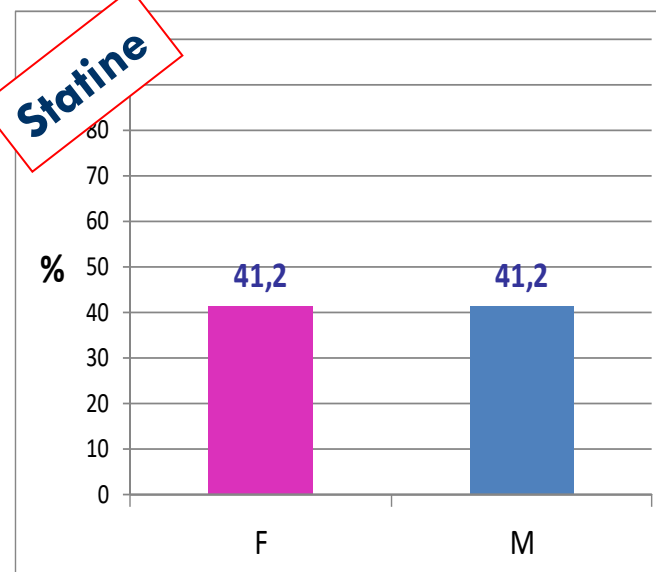
**Le donne con DT2 sono trattate più intensamente :  
con Insulina e Insulina + Ipo-Orali**

**PAS/PAD**



**Le donne sono più trattate con farmaci antiipertensivi e con più di 2 farmaci.**

**Statine**



**Stessa % di M e F trattati con statine**

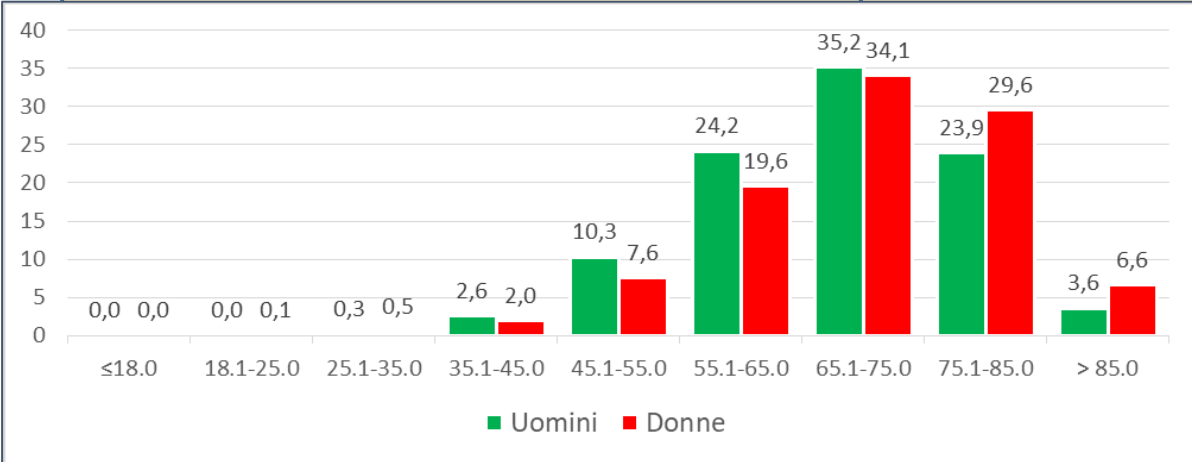


# Dopo 6 anni cosa è cambiato ? DT2

222 servizi di diabetologia nell'anno 2016.

2011 DT2 2016

Indicatore	Maschi (M) (%)	Femmine (F) (%)	Delta F-M (%)	Maschi (M) (%)	Femmine (F) (%)	Delta F-M (%)
<b>N</b>	<b>227.169</b>	<b>188.125</b>		<b>242.422</b>	<b>184.696</b>	
		92,2	-0,4	96,9	97,0	+0,1
		72,4	-1,7	72,5	72,1	-0,4
		12,1	-1,5	21,5	19,0	-2,3
<b>HbA1c ≤7,0%</b>	45,5	41,7	-3,8	52,6	48,8	-3,8
<b>HbA1c &gt;8,0%</b>	26,9	29,1	+2,2	18,7	21,2	+2,5
<b>HbA1c &gt;9,0% nonostante il trattamento con insulina</b>	47,3	37,6	-9,7	30,1	24,6	-5,5

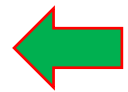


Si confermano le stesse differenze a sfavore delle Donne : meno donne che riescono ad ottenere una HbA1c ≤ 7 % /53 mmol) e più donne con HbA1c > 9% (75 mmol)

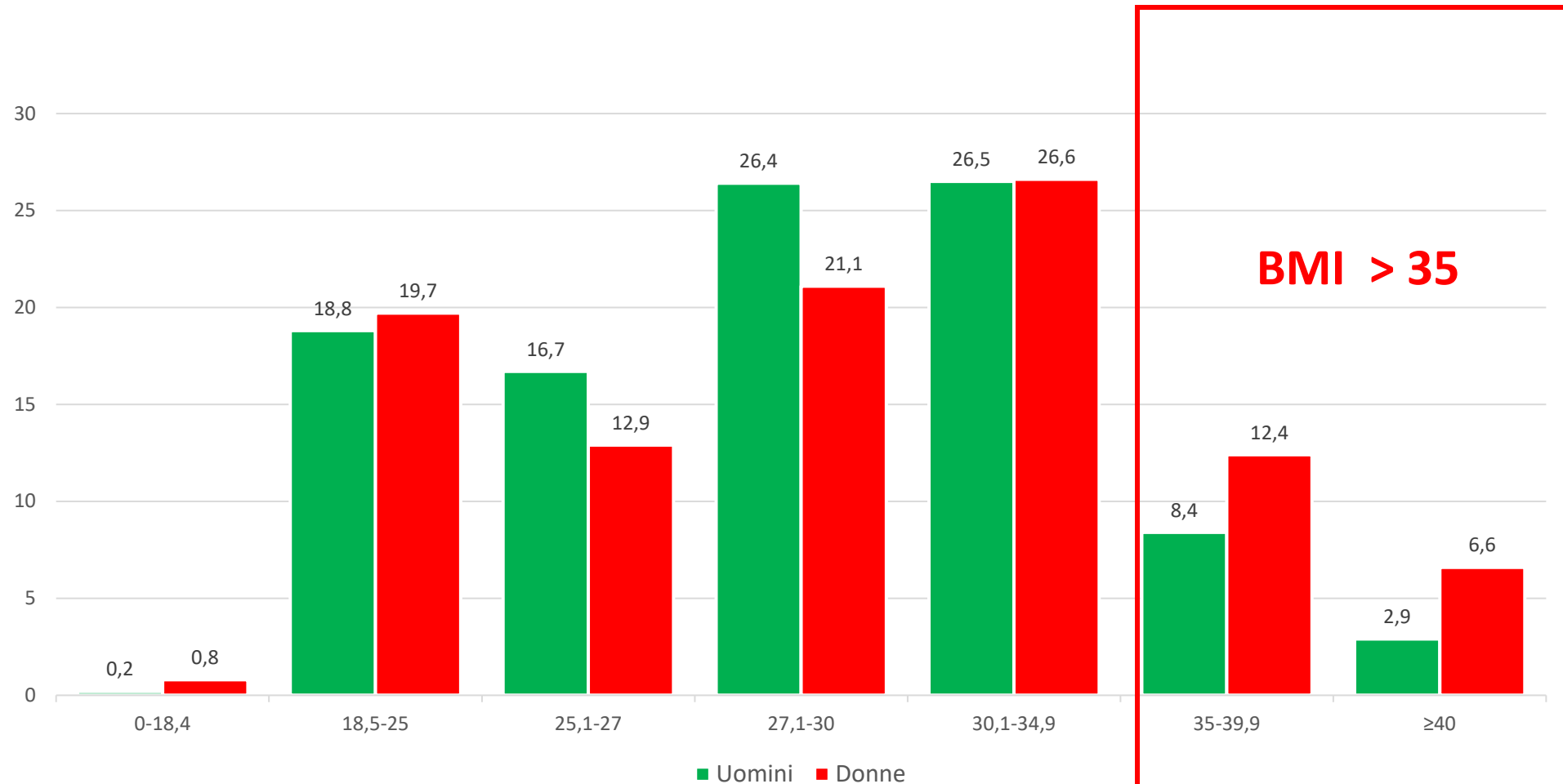
# Dopo 6 anni cosa è cambiato ?



Indicatore	2009			2016		
	Maschi (M) (%)	Femmine (F) (%)	Delta F-M (%)	Maschi (M)(%)	Femmine (F) (%)	Delta F-M (%)
C-LDL <100 mg/dl	44,6	38,4	-6,2	62,7	53,9	-8,8
C-LDL ≥130 mg/dl	23,6	28,9	+5,3	12,7	17,6	+4,9
C-LDL ≥130 mg/dl non trattati con statine	58,5	58,3	-0,2	52,3	51,6	-0,7
C-LDL ≥130 mg/dl nonostante terapia con statine	21,1	25,9	+4,8	10,1	14,3	+4,2
Pressione arteriosa <140/90 mmHg	43,8	41,9	-1,9	52,1	52,6	+0,5
Pressione arteriosa ≥140/90 mmHg	56,2	58,1	+1,9	47,9	47,4	-0,5
Pressione arteriosa ≥140/90 mmHg non trattati	34,2	29,8	-4,4	28,4	23,7	-4,7
Pressione arteriosa ≥140/90 mmHg nonostante il trattamento	60,5	62,2	+1,7	50,0	49,9	-0,1
Tattamento ipolipemizzante	41,2	41,2	0,0	56,7	55,9	-0,8
Tattamento antiipertensivo	56,6	61,0	+4,4	67,5	71,3	+3,8
Score Q <15	7,2	8,5	+1,3	4,6	5,4	+0,8
Score Q >25	38,8	34,2	-4,6	52,7	50,0	-2,7
BMI ≥30 Kg/m <sup>2</sup>	37,1	46,8	+9,7	38,0	45,8	+7,8
Fumatori	21,5	11,8	-9,7	20,5	12,2	-8,3



# BMI per genere : Annali 2018



**Più donne con  
gradi di  
obesità medio-  
severa**

## **Acute Myocardial Infarction in Women**

### **A Scientific Statement From the American Heart Association**

*Abstract*—Cardiovascular disease is the leading cause of mortality in American women. Since 1984, the annual cardiovascular disease mortality rate has remained greater for women than men; however, over the last decade, there have been marked reductions in cardiovascular disease mortality in women. The dramatic decline in mortality rates for women is attributed partly to an increase in awareness, a greater focus on women and cardiovascular disease risk, and the increased application of evidence-based treatments for established coronary heart disease. This is the first scientific statement from the American Heart Association on acute myocardial infarction in women. Sex-specific differences exist in the presentation, pathophysiological mechanisms, and outcomes in patients with acute myocardial infarction. This statement provides a comprehensive review of the current evidence of the clinical presentation, pathophysiology, treatment, and outcomes of women with acute myocardial infarction. (*Circulation*. 2016;133:00-00. DOI: 10.1161/CIR.000000000000351.)

### **Obesity and Type 2 DM**

compared with lean women.<sup>169</sup> Obesity is a major risk factor for AMI in women and increases their risk almost 3-fold.<sup>170</sup> The risk of AMI associated with the metabolic syndrome is higher in younger women than any of the other groups, increasing their odds of AMI almost 5-fold.<sup>171</sup> DM, related to obesity and the metabolic syndrome, is associated with a higher relative risk of coronary events in women compared with men, in part as a result of a higher rate of coexisting risk factors in women with DM<sup>170</sup> and better survival (relative to men) of women without DM.<sup>172</sup> DM is an especially powerful risk factor in young women, increasing their risk of CHD, including ACS, by 4- to 5-fold.<sup>173</sup> For both men and women with DM, mortality after STEMI or UA/NSTEMI is significantly increased compared with their nondiabetic counterparts at 30 days and 1 year.<sup>174</sup>

**BMI=>30 : F 45,8%**

**OBESITA':  
Maggior fattore di rischio  
di Infarto nella donna(x3)**

**S.Meabolica e DM : x 4 - 5  
Nelle donne giovani**



ANNALI 2011



### Gender differences in type 2 diabetes (Italy)

Valeria Manicardi<sup>1</sup>, Maria Chiara Rossi<sup>2</sup>, Elisabetta L Romeo<sup>3</sup>, Annalisa Giandalia<sup>3</sup>, Mariella Calabrese<sup>4</sup>, Elena Cimino<sup>5</sup>, Daniela Antenucci<sup>6</sup>, Paola Bollati<sup>7</sup>, Patrizia Li Volsi<sup>8</sup>, Ada Maffettone<sup>9</sup>, Guglielmina Speroni<sup>10</sup>, Concetta Suraci<sup>11</sup>, Elisabetta Torlone<sup>12</sup>, Giuseppina Russo<sup>3</sup> (on behalf of Gruppo Donna AMD)

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#### Key messages

- Gender-differences have been reported in diabetic patients: in Italy they are less pronounced than in other countries, but it exists despite equal access to specialist care.
- The likelihood to reach metabolic targets (HbA1c, LDL-C, BMI, PA) is systematically unfavorable in diabetic women as compared with men.
- Diabetic women have a worse lipid profile than men, and have a 2-fold higher CHD risk compared

enze di genere nell'utilizzo di questi farmaci. iologici, e non solo, non ancora del tutto cono- lono queste differenze e vanno esplorati. a: genere, diabete di tipo 2, rischio cardiovas-

**Nel DT2 in Italia ci sono differenze a sfavore delle donne (meno evidenti che in altri paesi), ma **non ci sono sottotrattamenti nelle donne****

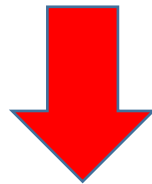
- Pathophysiological factors are involved in the greater difficulty to reach LDL-C targets in diabetic women, despite the same drug treatment in Italy.



# Ci sono differenze di Genere : SI'

quali le ragioni ?

- ✓ **Differente accessibilità alle cure ? – NO**
- ✓ **Differente trattamento ? – NO**
- ✓ **Differente raggiungimento degli obiettivi terapeutici ?- SI'**
- **e controllo dei fattori di rischio CV nel DT2**



- ✓ **Differente aderenza alla terapia ?**
- ✓ **Differenze biologiche ?**
- ✓ **Diversa risposta ai farmaci ?**





**Ricerca**

## Ricerca sugli animali



## Ricerca sugli umani



***Donne poco rappresentate nei trials clinici!!!!***



# RISPOSTA alle STATINE , all' ASPIRINA.....

## Statin Therapy for Secondary Prevention: Is There a Gender Difference? Test for Interaction in Meta-Analysis Revisited

Gutierrez et al,<sup>1</sup> in an analysis of 11 trials with 43,193 patients, concluded that statin therapy has no benefit on stroke and all-cause mortality in women. The investigators found statistically significant 21% and 18% reductions in mortality and stroke with statins for men but only 19% and 8% reductions in women, which did not reach statistical signifi-

- I pazienti che interrompono le statine **dopo un IMA** hanno una maggiore probabilità di morire (circa 3 volte).
- L'effetto dell'interruzione delle statine è maggiore rispetto a beta-bloccanti ed ASA.

## Statine e ASA in prev 2aria Meno efficaci nelle donne

1 – donne meno rappresentate

2 – la terapia con Statine non ha effetti benefici sullo Stroke e su tutte le cause di morte nelle Donne Diabetiche in Prev 2aria.

**RESISTENZA alle Statine o  
Discontinuità terapeutica ?  
Le donne interrompono la  
terapia più spesso degli  
uomini ???**



E nel DT1 ?

RESEARCH ARTICLE

## Gender-Disparities in Adults with Type 1 Diabetes: More Than a Quality of Care Issue. A Cross-Sectional Observational Study from the AMD Annals Initiative

Valeria Manicardi<sup>1</sup>\*, Giuseppina Russo<sup>2</sup>\*, Angela Napoli<sup>3</sup>\*, Elisabetta Tortlone<sup>4</sup>\*, Patrizia Li Volsi<sup>5</sup>\*, Carlo Bruno Giorda<sup>6</sup>\*, Nicoletta Musacchio<sup>7</sup>\*, Antonio Nicolucci<sup>8</sup>\*, Concetta Suraci<sup>9</sup>\*, Giuseppe Lucisano<sup>8</sup>\*, Maria Chiara Rossi<sup>8</sup>\*, AMD Annals Study Group<sup>11</sup>

INDICATORI di ESITO INTERMEDIO	Donne	Uomini
Soggetti con HbA1c ≤ 7,0%	25,3	30,8
Soggetti con HbA1c ≥ 8,0%	39,4	34,4
Soggetti con colest.LDL < 100 mg/dl	49,4	49,4
Soggetti con colest.LDL ≥ 130 mg/dl	16,4	17,2
Soggetti con PA ≥ 140/90 mmHg	24,3	30,7
Soggetti con BMI ≥ 30 Kg/m <sup>2</sup>	13,0	11,8
Soggetti con micro/macroalb (%)	23,0	28,7
Soggetti con eGFR <60 mg/dl*1.73 m <sup>2</sup> (%)	8,3	6,7
Soggetti fumatori (%)	21,6	30,1

F-M: -5  
F-M: +5

A target :  
M: 1 su 3  
F: 1 su 4

F-M: +6

Differenze  
M-F



Terapia ?

## Le Donne con DT1 sono più trattate con Microinfusori da Insulina



- Il compenso migliora sia nei M che nelle F con il Micro



**MDI: 1 donna su 4 è a target per HbA1c → CSII : 1 donna su 3 è a target**

# L'assistenza al Diabete in Italia (SSN)

**Non ci sono differenze nella qualità di cura erogata e nei trattamenti** nella Rete Italiana dei servizi per il Diabete , ma esiti peggiori per le donne

## **Come ridurre il Rischio CV delle Donne con Diabete T2?**

- **Trattare subito !**
- **Verificare l'aderenza alle cure**
- **Intensificare i trattamenti**  
**tenendo conto delle differenze**  
**per raggiungere i target desiderati**



- **Nel DT1 non trascurare gli altri FdR : Pressione Arteriosa, Lipidi /colesterolo, Fumo....**

**Ma**

**Le donne sono più obese**  
→ **Fanno meno attività fisica ?**



**.....cambiare anche i ruoli sociali .....**





# DOMANDE



Un'ora con AMD-SID-SIE-SIEDP

# Un'ora con AMD-SID-SIE-SIEDP



## COMITATO SCIENTIFICO

Giacomo Vespasiani, Natalia Visalli,  
Massimiliano Petrelli, Ivana Rabbone, Salvatore Cannavò



Seguici su

Associazione Medici Diabetologi AMD  
Fondazione Diabete Ricerca Onlus  
Società Italiana di Endocrinologia  
SIEDP Società Italiana di Endocrinologia e Diabetologia Pediatrica