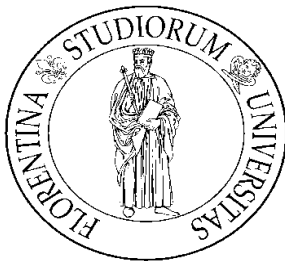


COMACCHIO (FE) , 1 APRILE 2016
PALAZZO BELLINI

***DIABETE GESTAZIONALE,
IPOTIROIDISMO ED ANEMIA
IN GRAVIDANZA***



Lo screening del diabete gestazionale: dall'
HAPO Study alle nuove linee guida del 2011. Il
punto della situazione



G. Mello,
Ottanelli

S.



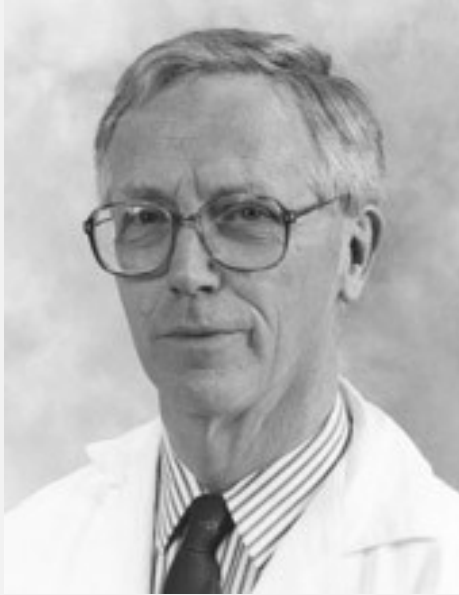
DIABETE GESTAZIONALE

DEFINIZIONE

Intolleranza ai carboidrati di vario grado e severità, con inizio o primo riconoscimento durante la gravidanza

IV International Workshop Conference on GDM, 1997

A NEW DEFINITION OF «HYPERGLYCEMIA IN PREGNANCY»



A new definition is needed for the condition which has been known for the past 30 years as "GDM".

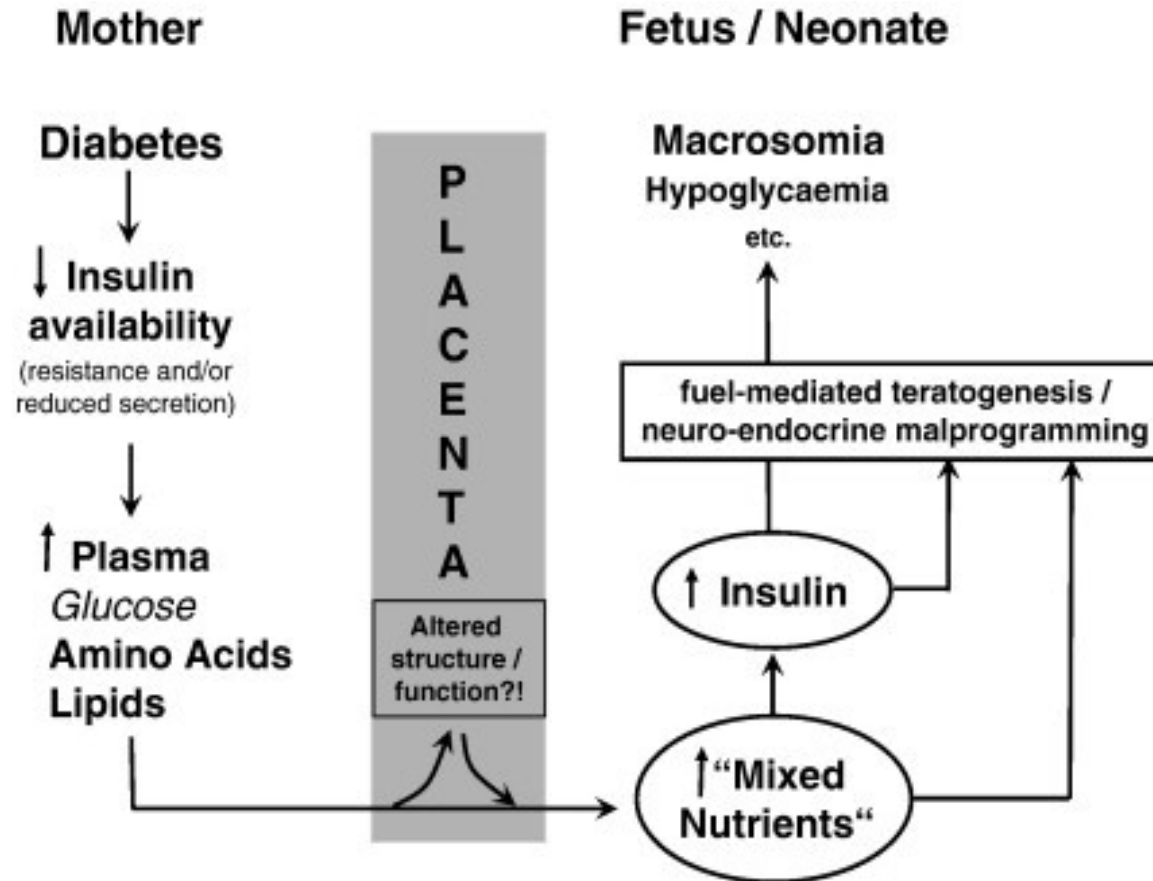
...The term used in the Hyperglycemia and Adverse Pregnancy Outcome study (HAPO) should be preferred :

'HYPERGLYCEMIA IN PREGNANCY'

«Maternal hyperglycemia less severe than in diabetes mellitus, but associated with increased risks of adverse pregnancy outcome»

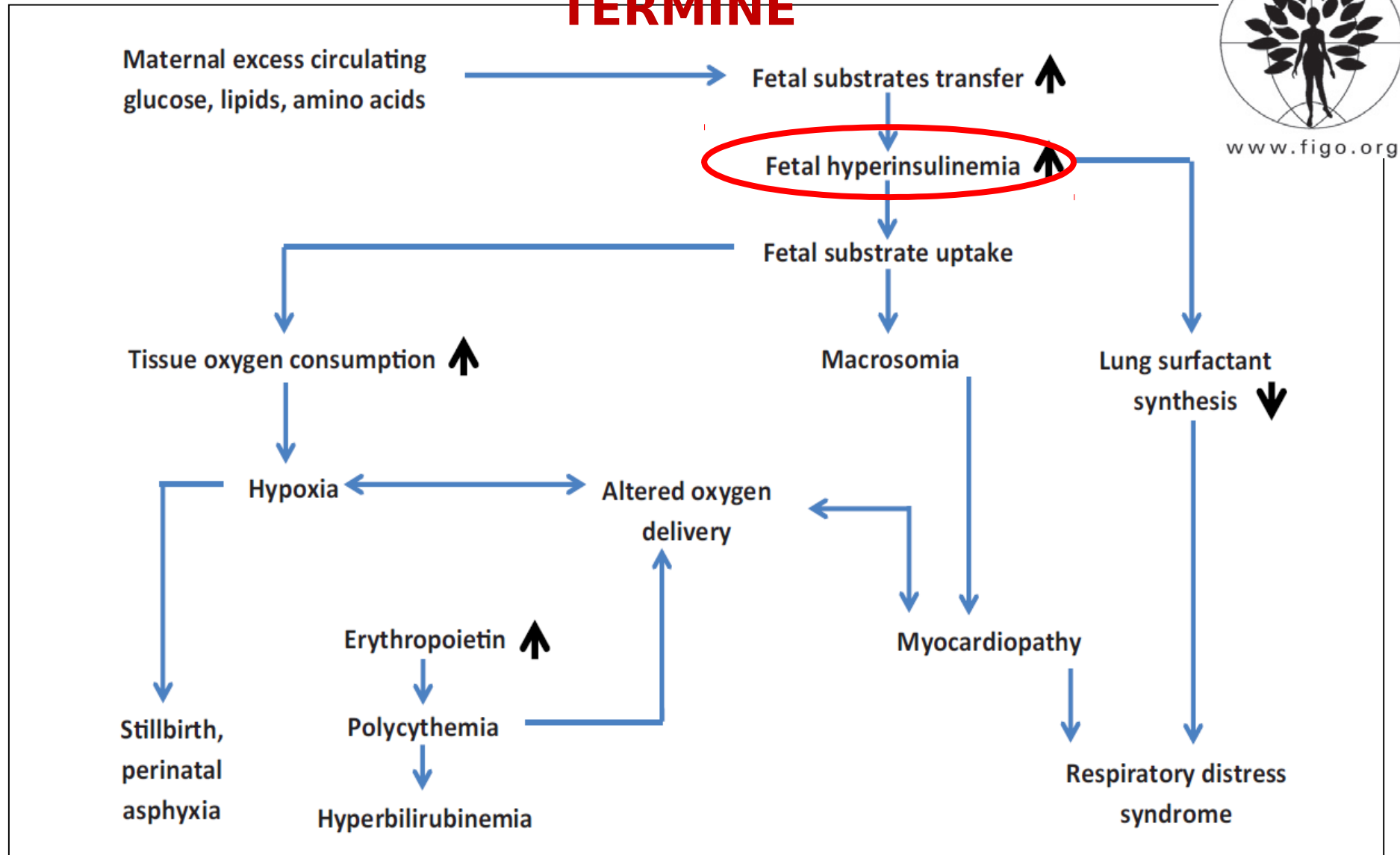


The Pedersen/Freinkel hypothesis, supplemented by the “perinatal programming” hypothesis on “fuel-mediated functional teratogenesis”



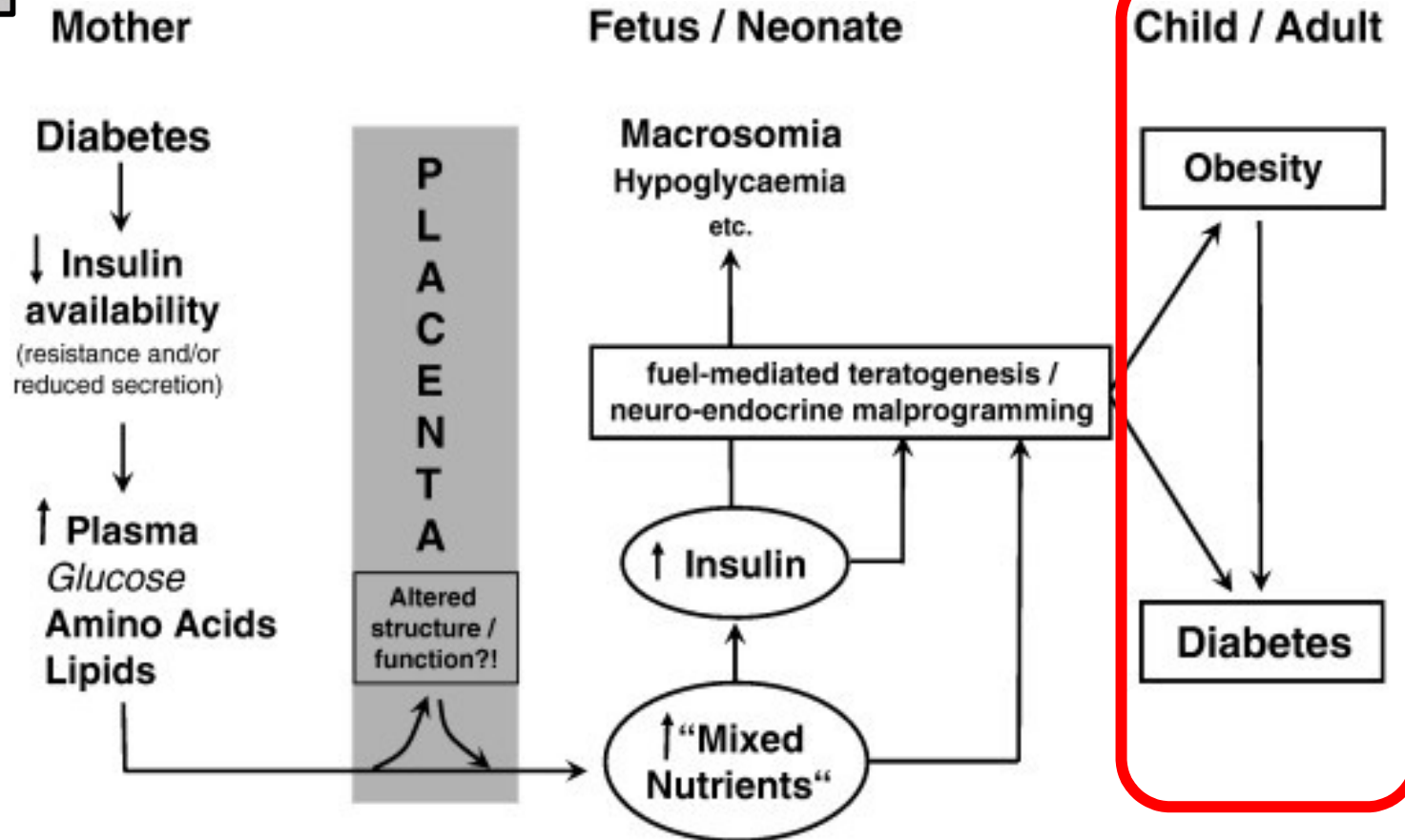
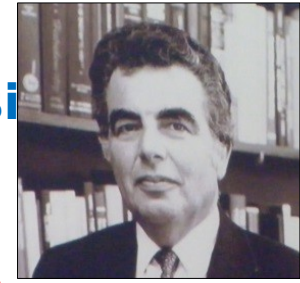
Pedersen et al. “Blood Sugar in Newborn Infants of Diabetic Mothers” *Acta Endocrinol* 1954
 Freinkel N. “Of pregnancy and progeny. Banting lecture 1980. *Diabetes* 1980
 Dorner G. et al. “Perinatal hyperinsulinism as possible predisposing factor for diabetes mellitus, obesity and enhanced cardiovascular risk in later life.” *Horm Metab Res* 1994

ESPOSIZIONE ALLA IPERGLICEMIA MATERNA: COMPLICANZE FETALI E NEONATALI A BREVE TERMINE



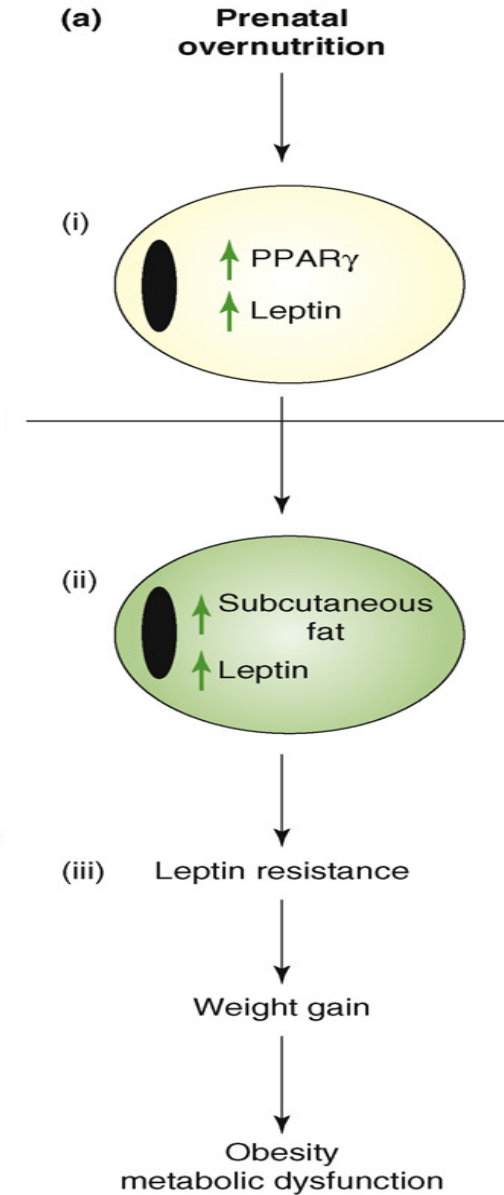
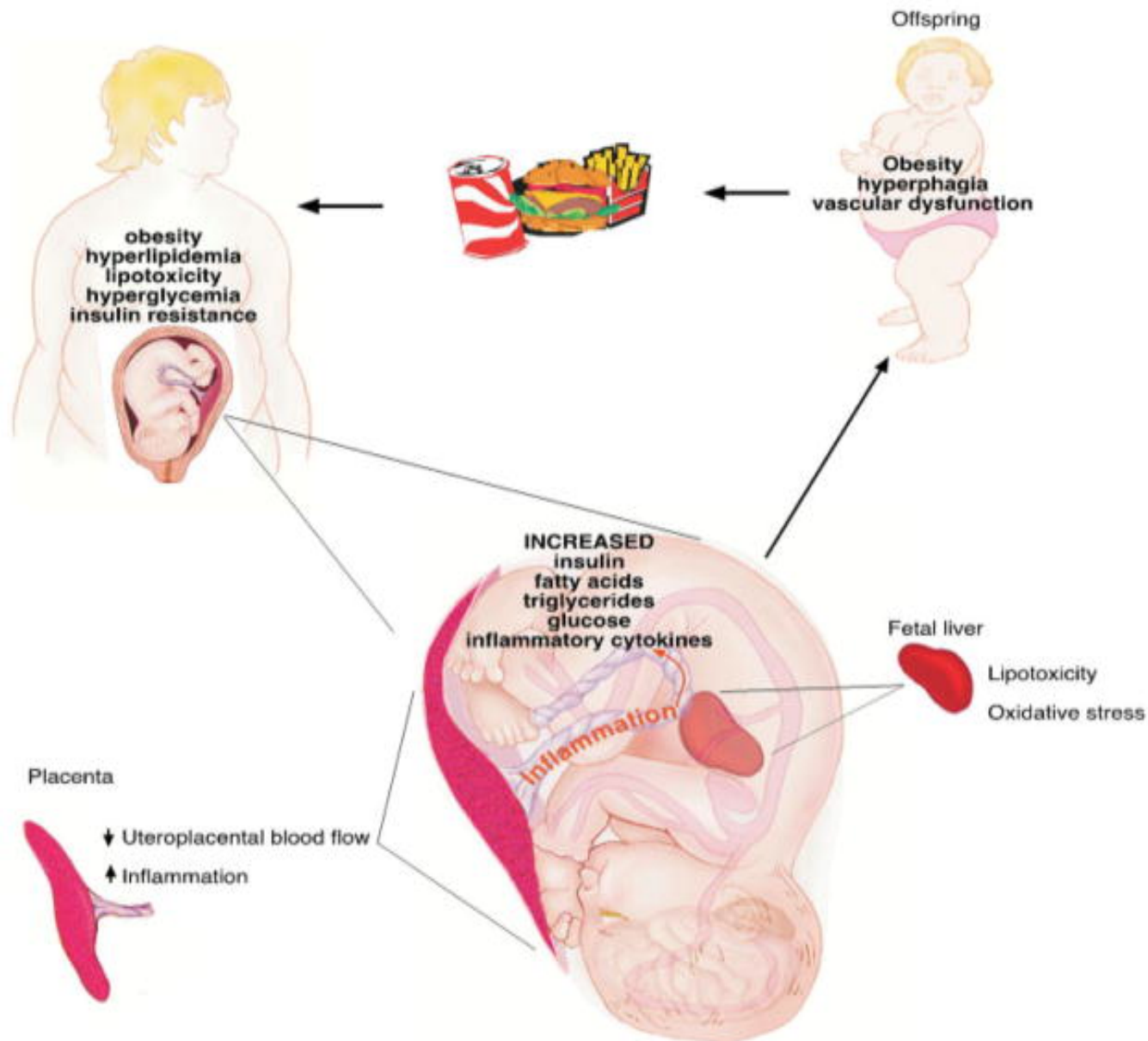


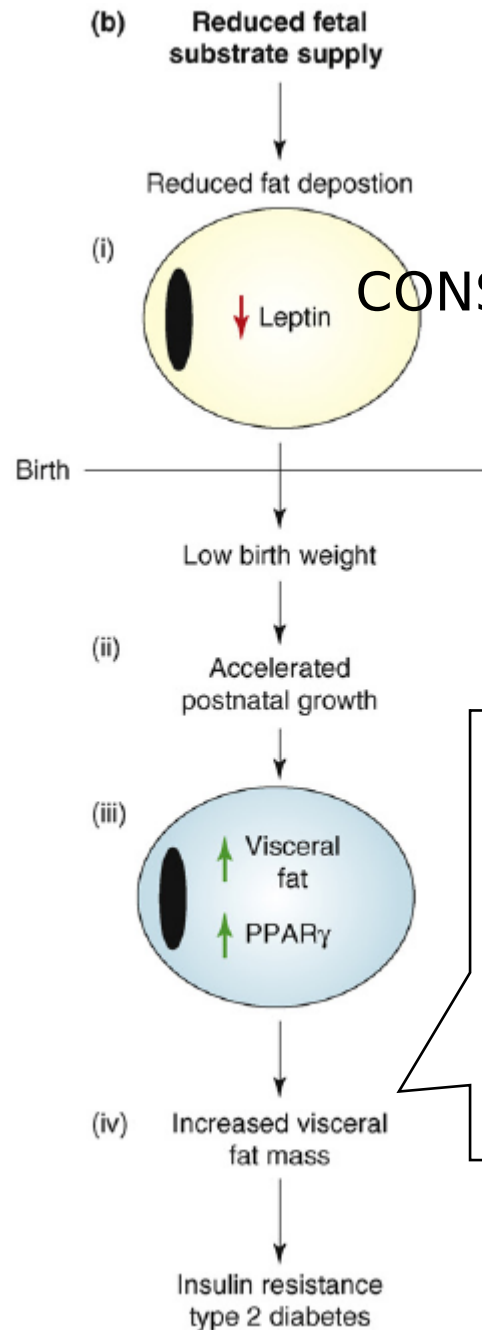
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Pedersen et al. "Blood Sugar in Newborn Infants of Diabetic Mothers" *Acta Endocrinol* 1954
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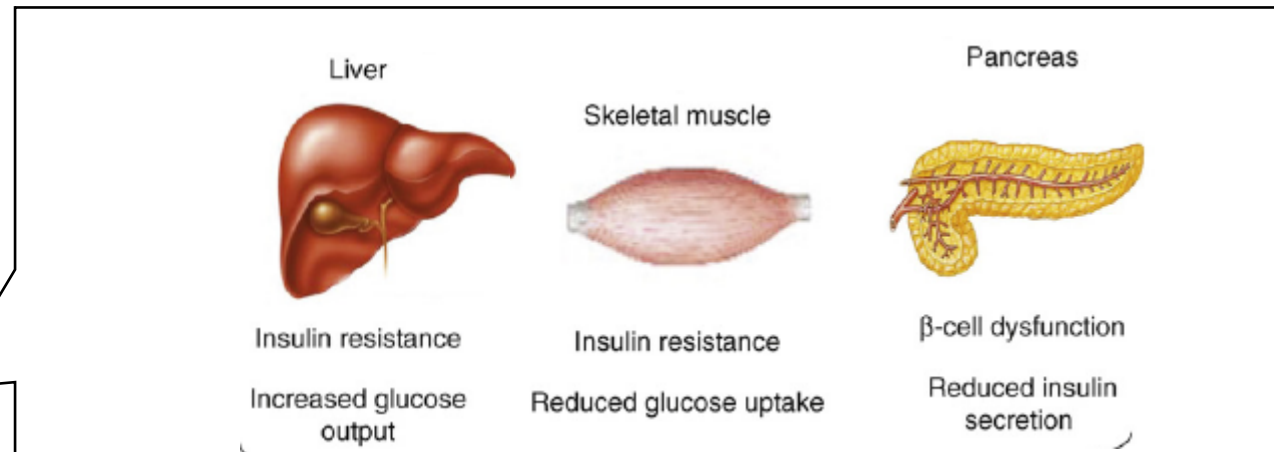
EFFETTO DELLA IPERGLICEMIA E/O DELLA OBESITÀ





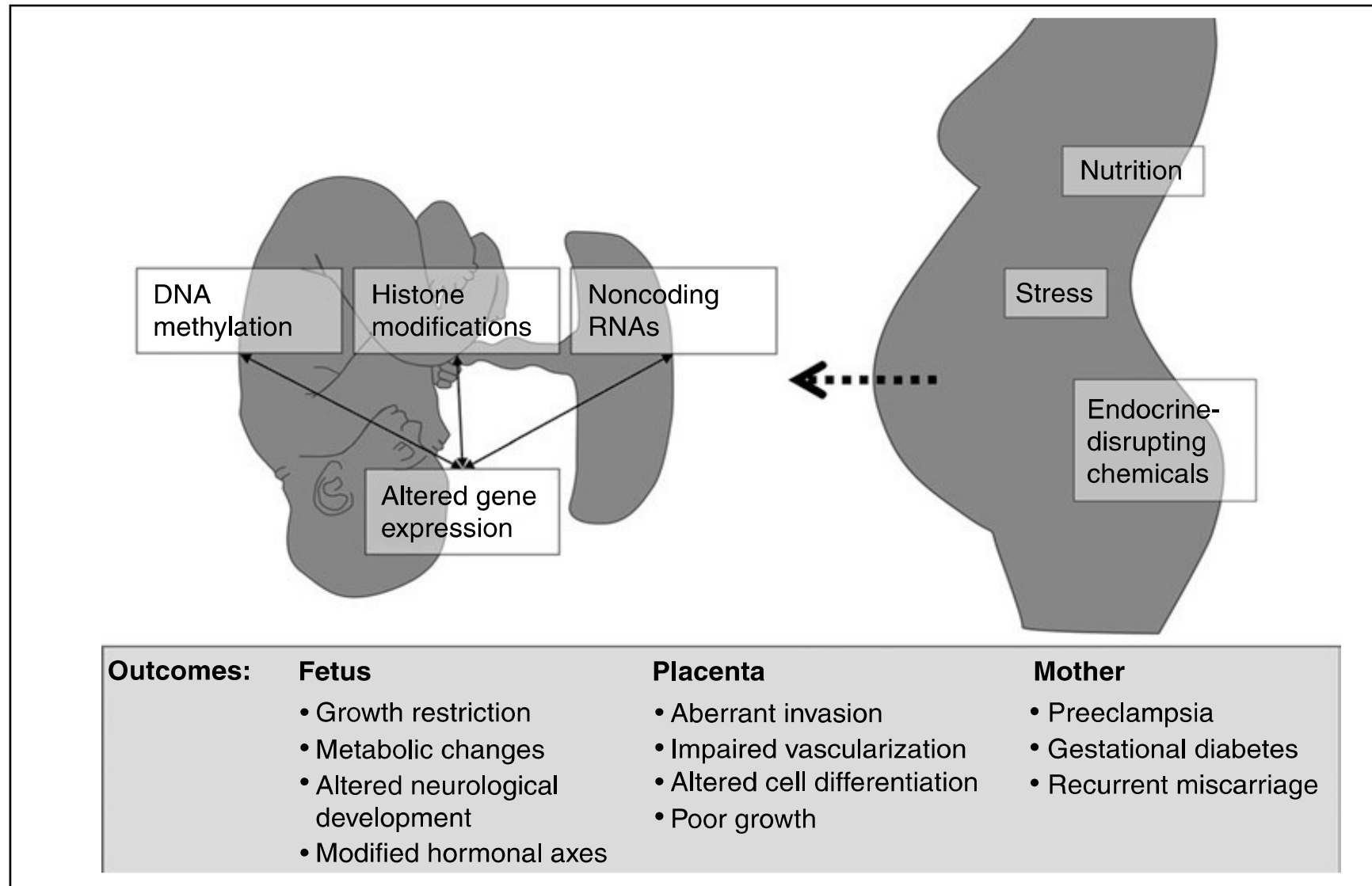
L' IPOTESI DI BARKER

CONSEGUENZE DELLA RIDOTTA NUTRIZIONE PRENATALE



T J Roseboom, *Heart* 2000;84:595–598
Beverly Muhlhausler¹ and Steven R. Smith²

NON SOLO UN PROBLEMA METABOLICO MA... GENETICO





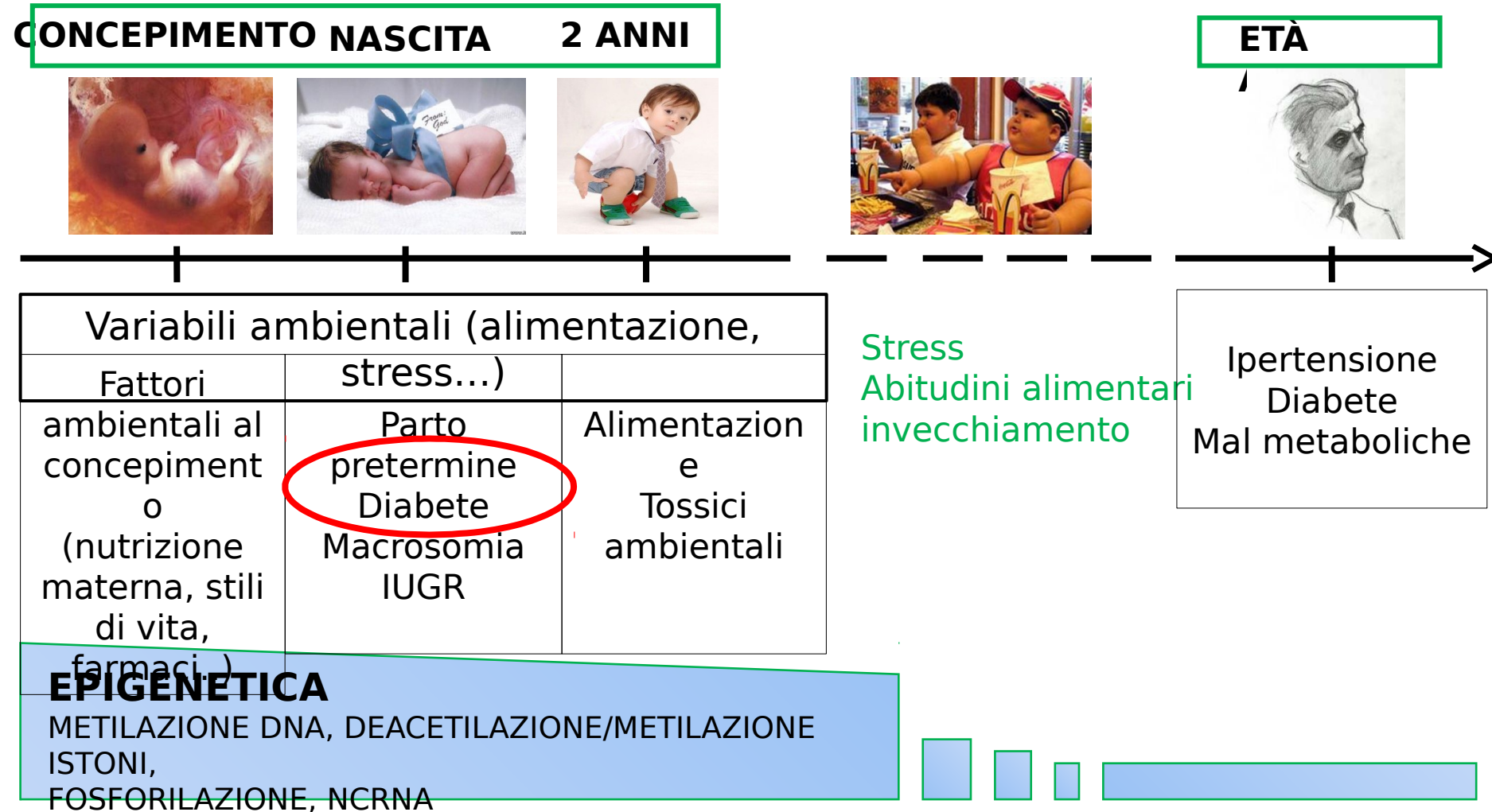
Nature vs. Nurture?

It's both. #epigenetics

#epigenetics  @HELP_UBC

QUALE OUTCOME: MORTALITA' O "SALUTE" FETALE ??

"The Developmental Origins of Health and disease"



We may be asking the **wrong question** with the **wrong tool** to identify pregnant women at risk for complications.

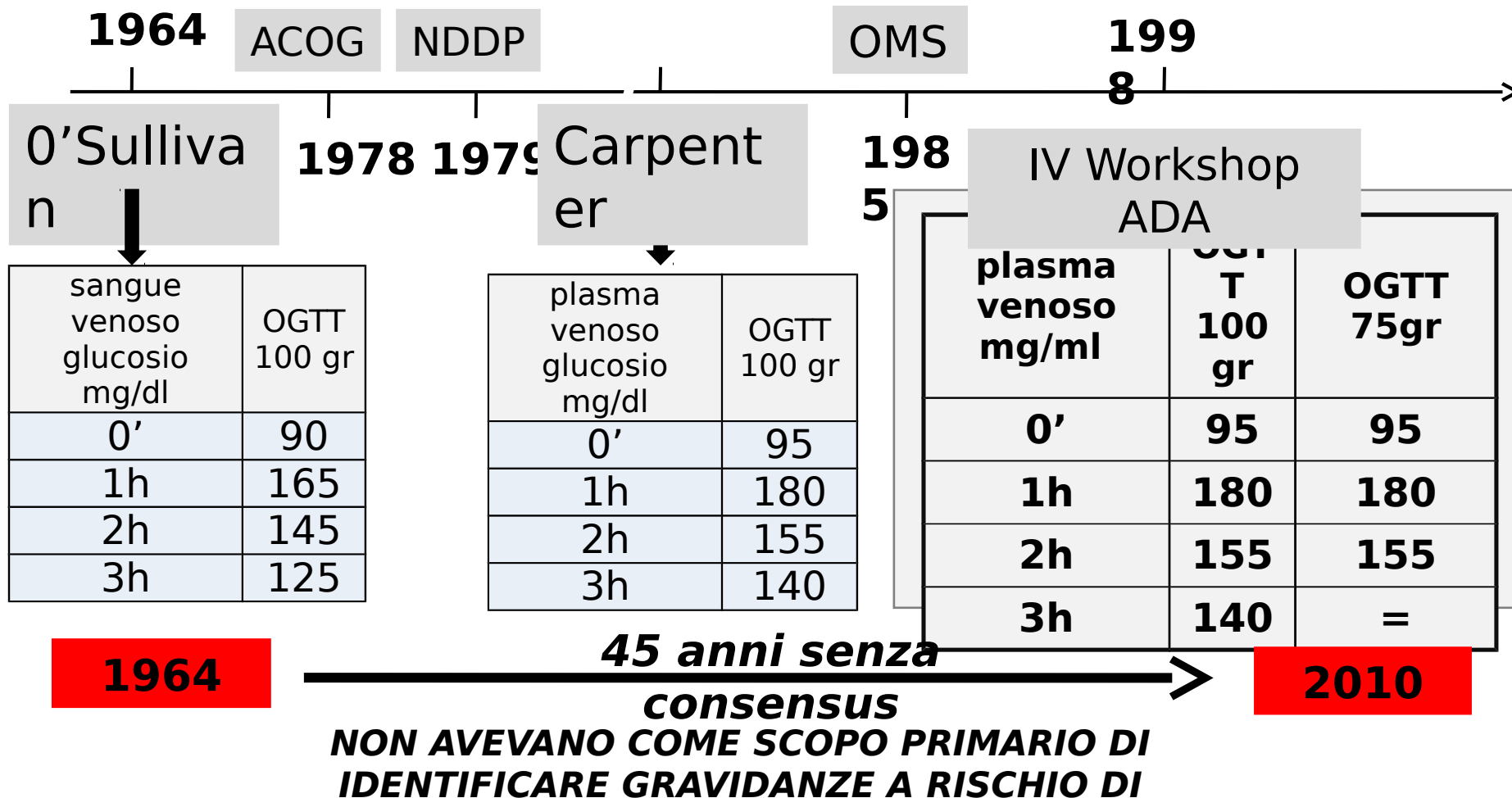
If the outcome variable is the health of the fetus and neonate, it is time to reassess the question and ask:

**“WHAT TEST BEST IDENTIFIES
GLUCOSE TOXICITY
FOR THE FETUS?”**



plasma venoso glucosio mg/dl	OGTT 100 gr
0'	105
1h	190
2h	165
3h	145

plasma venoso glucosio mg/dl	OGTT 75 gr
0'	≥126
2h	>200





The NEW ENGLAND
JOURNAL *of* MEDICINE

ESTABLISHED IN 1812

MAY 8, 2008

VOL. 358 NO. 19

Hyperglycemia and Adverse Pregnancy Outcomes

The HAPO Study Cooperative Research Group*



**STUDIO OSSERVAZIONALE
DOPPIO CIECO
15 CENTRI IN 9 PAESI
CA 25.000 DONNE ARRUOLATE IN
5.5 ANNI**

PROTOCOLLO

- **OGTT 75 GRAMMI, 24-32^A SETTIMANA (MEDIA 28 sett.)**
- **CAMPIONI A DIGIUNO, 1 ORA, 2 ORE**
- **GLICEMIA SU PLASMA VENOSO (METODO**
DATI SVELATES: GLUCOSE-OSSIDASI)

- **GLICEMIA A DIGIUNO >105 MG/DL (5.8 MMOL/L) O**
- **GLICEMIA DOPO 2 ORE >200 MG/DL (11.1 MMOL/L) O**
- **OGNI GLICEMIA < 45 MG/DL (2.5 MMOL/L)**
- **DOPO LA 34-37SG: GLICEMIA RANDOM >160 MG/DL(8.9MMOL/L)
GLICEMIA <45 MG/DL (2.5MMOL/L)**

CATEGORIE DI CONCENTRAZIONE DI GLUCOSIO

	Digiuno		1h		2h	
	mg/dl	mmol/l	mg/dl	mmol/l	mg/dl	mmol/l
1	<75	<4.2	<110	<6.2	<88	<4.9
2	75-79	4.2-4.4	110-129	6.2-7.2	88-103	4.9-5.8
3	80-84	4.5-4.7	130-149	7.3-8.3	104-123	5.9-6.8
4	85-89	4.8-4.9	150-169	8.4-9.4	124-141	6.9-7.8
5	90-94	5.0-5.2	170-199	9.5-10.5	142-159	7.9-8.8
6	95-99	5.3-5.5	199-218	10.6-11.6	160-177	8.9-9.8
7	≥100	≥5.5	≥219	≥11.7	≥178	≥9.9

Glicemia a digiuno e macrosomia nell'HAPO study

Glicemia a digiuno			BW>90° percentile	
Range	n.	%	n.	%
>=90	2784	11.9	491	17.6
80-89	8941	38.3	945	10.6
<80	11591	49.7	785	6.8

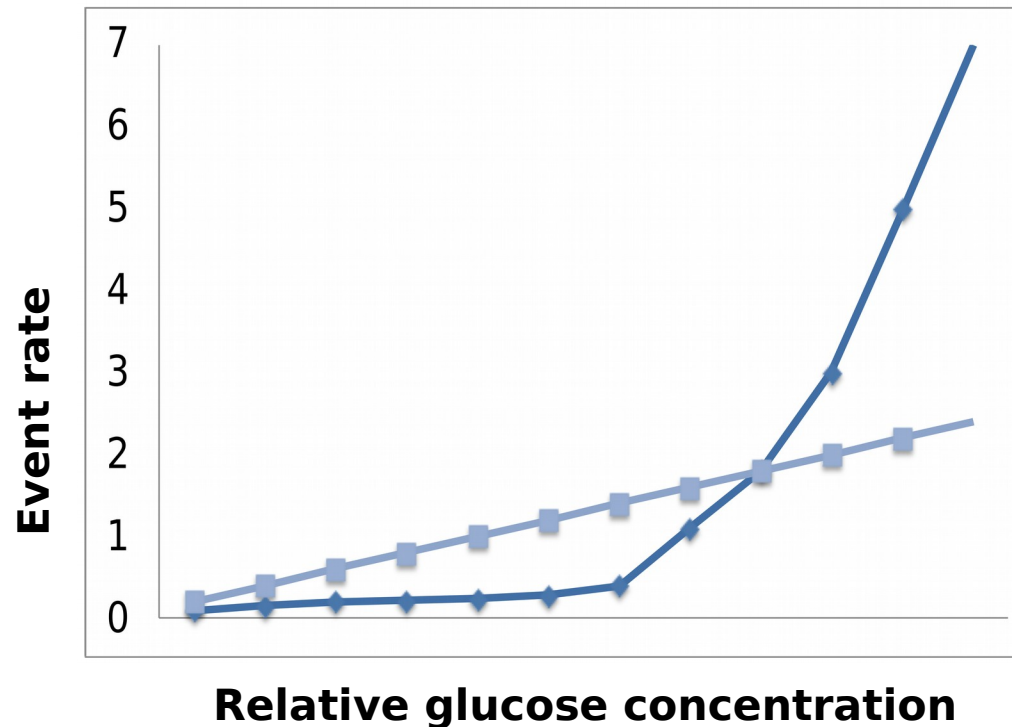
**≤ 90 mg/dL n. 20532 =
88%**



HAPO STUDY ENDPOINTS

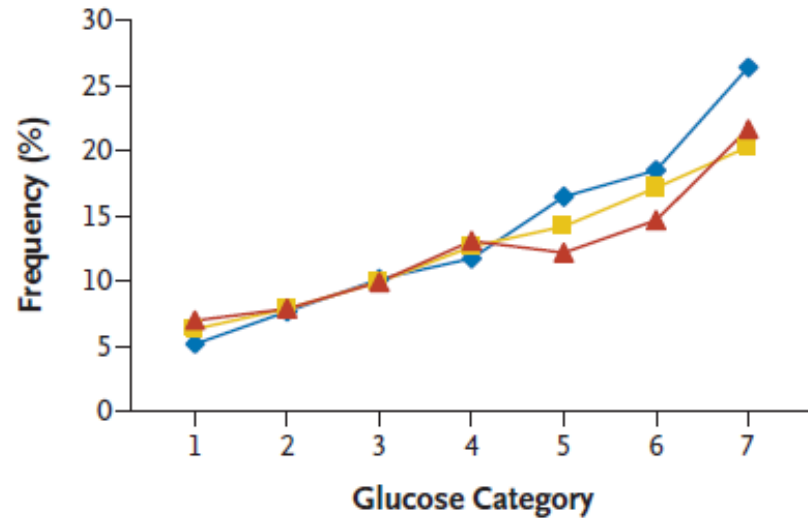
CORRELAZIONE FRA GLICEMIA MATERNA E:

- FREQUENZA PARTI CESAREI
- FREQUENZA MACROSOMIA
- IPERINSULINEMIA FETALE
- “OBESITÀ” NEONATALE (SPESSORE DELLE PLICHE)
- FREQUENZA IPOGLICEMIA NEONATALE

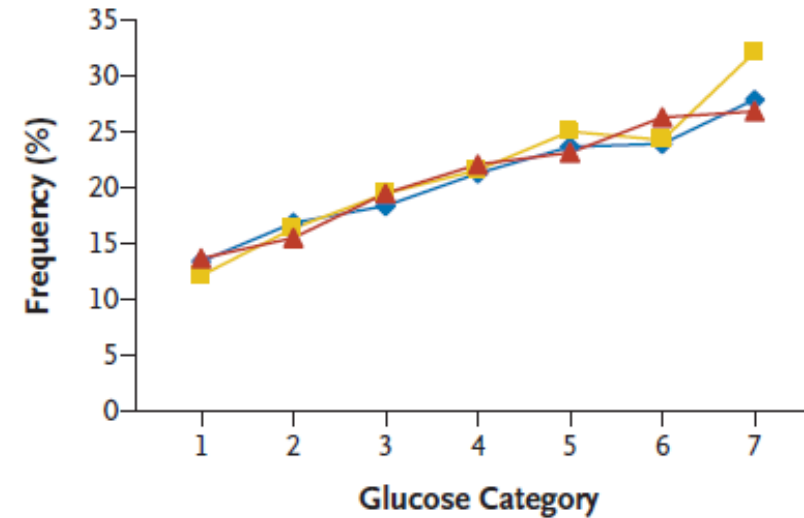


OUTCOME e CATEGORIE GLICEMICHE

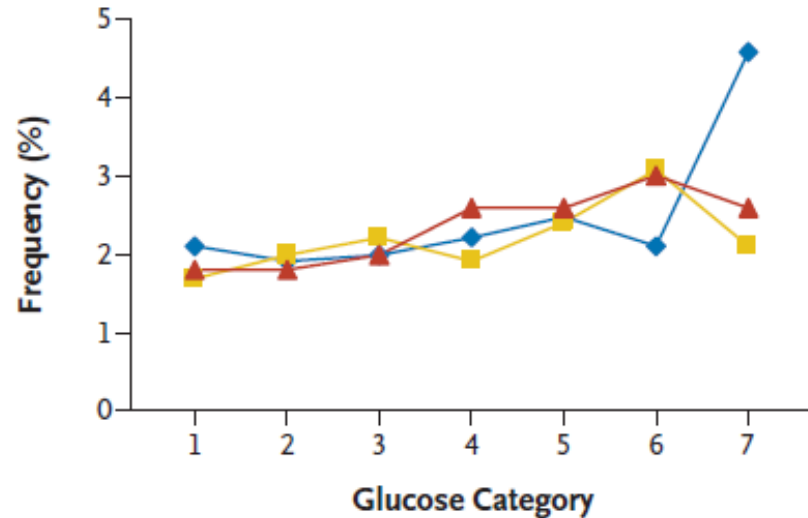
A Birth Weight >90th Percentile



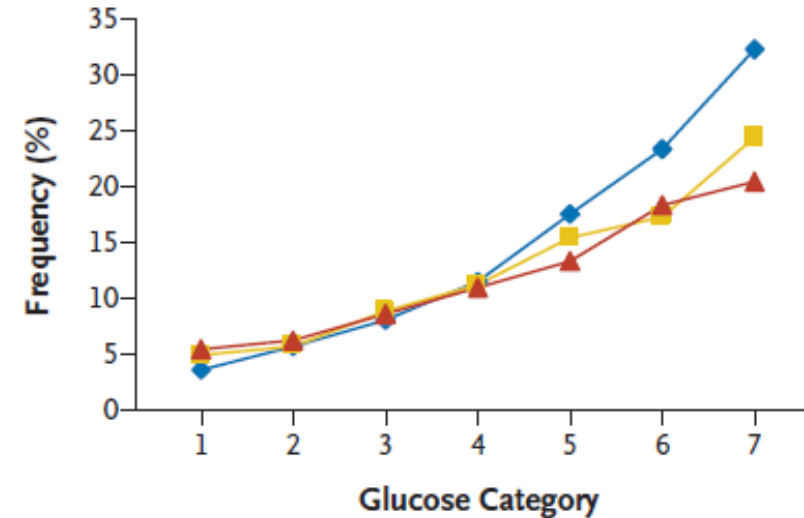
B Primary Cesarean Section



C Clinical Neonatal Hypoglycemia



D Cord-Blood Serum C Peptide >90th Percentile



—◆— Fasting glucose —■— 1-Hr glucose —▲— 2-Hr glucose

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Yuji Hiramatsu
Moshe Hod
Ghislaine Houde
Maribeth Inturrisi
Hak Chul Jang
Lois Jovanovic
Alexandra Kautzky-

OGTT 75 g

HOW MUCH IS TOO MUCH RISK?
Plasma Glucose Concentrations at
Specified OR

Glucose mg/dl*	1.5	1.75	2.0
FPG	90	92	95
1-Hr PG	167	180	191
2-Hr PG	142	153	162

*Mean of threshold values for : birthweight, cord
serum C-peptide, % body fat > 90th percentile

IADPSG Consensus Panel, Diab
Care 2010

Members
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John Kitzmiller
Siri Kjos
Mark Landon
Annunziata Lapolla
Julia Lowe
Lynn Lowe
Elisabeth Mathiesen
David McIntyre
Giorgio Mello
Sara Meltzer
Thomas Moore
Christopher Nolan
Jeremy Oats
Yasue Omori
Per Ovesen
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Diane Reader
Janet Rowan
Edmond Ryan
David Sacks
Ute Schaefer-Graf
Maria Inès Schmidt
Veeraswamy Seshiah
David Simmons
Catherine Spong
Takashi Sugiyama
Elisabeth Trimble
Surenda Varma

Frequencies of Outcomes: Glucose Values $<$ or $\geq$ Threshold



Outcome	% All Values $<$ Threshold	% Any $\geq$ 92/180/153
Birthweight $>90^{\text{th}}$ percentile	8.3	16.2
Cord C-peptide $>90^{\text{th}}$ percentile	6.7	17.5
% Body fat $>90^{\text{th}}$ percentile	8.5	16.6
Preeclampsia	4.5	9.1
Preterm birth (<37 weeks)	6.4	9.4
Shoulder dystocia/birth injury	1.3	1.8
Primary Cesarean section	16.8	24.4

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Hak Chul Jang
Lois Jovanovic
Alexandra Kautzky-Willer

24-28 SETTIMANE

OGTT 75 g
SOGGIE GLICEMICHE

Glicemia base **92** mg/dl 5.1
mmol/l

Glicemia 1h **180** mg/dl
10.0 mmol/l

Glicemia 2h **153** mg/dl
8.5 mmol/l

**DIAGNOSI DI DIABETE
GESTAZIONALE**
**SE UNO O PIÙ VALORI SONO AL DI
SOPRA**

**IADPSG Consensus Panel, Diab
Care 2010**

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ALLA PRIMA VISITA

**Glicemia a digiuno > 126
mg/dl**

Glicemia random > 200 mg/dl

DIABETE PREESISTENTE

* using a DCCT/UKPDS standardized assay

**Glicemia a digiuno 92-126
mg/dl**

DIABETE GESTAZIONALE

**IADPSG Consensus Panel, Diab
Care 2010**

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Ichiro Yasuhi

MARZO 2010

**International Association of Diabetes and
Pregnancy Study Groups Recommendations
on the Diagnosis and Classification of
Hyperglycemia in Pregnancy**



Diabetes Care



oma 27 Marzo 2010

Conferenza Nazionale di Consenso per lo screening e la diagnosi del Diabete Gestazionale, convocata dal **Gruppo di Studio “Diabete e Gravidanza” SID-AMD**, composta da delegati di tutte le società scientifiche e professionali e dagli esperti interessati alla cura e allo studio del diabete gestazionale a tergo riportati.

CRITICISM SSN TO IADPSG CRITERIA



INCREASE MEDICALIZATION OF PREGNANCY

INCREASE COSTS FOR MONITORING GDM



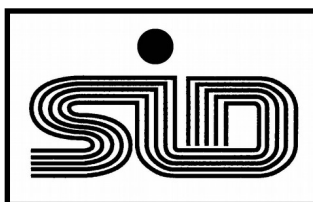
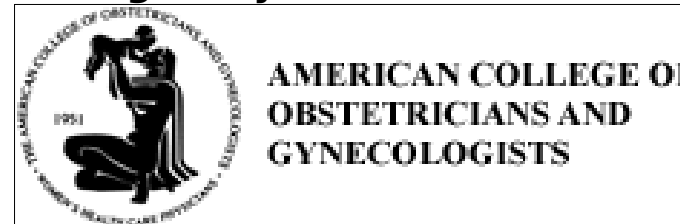
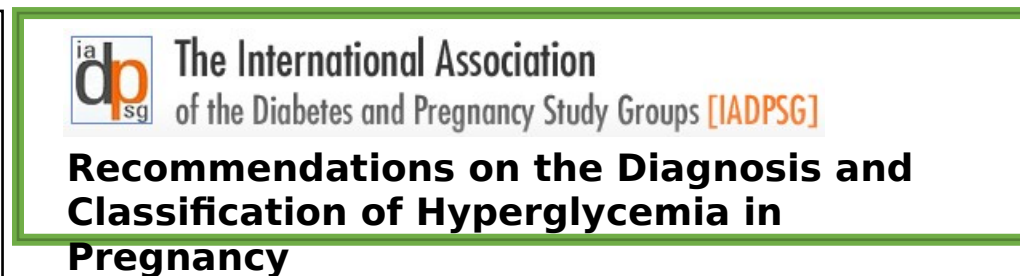
Gravidanza fisiologica



Screening e diagnosi di GDM



Mancanza di uniformità internazionale



NIH Development Conference:
Diagnosing Gestational Diabetes Mellitus





Gravidanza fisiologica



La diagnosi di diabete gestazionale viene posta sulla base dei criteri dell'Organizzazione mondiale della sanità (World Health Organization, WHO), riportati nella tabella 5.

Tabella 5. Criteri dell'Organizzazione mondiale della sanità per la diagnosi di GDM con OGTT (75 g)

	<i>Sangue intero venoso</i>	<i>Sangue intero capillare</i>	<i>Plasma venoso</i>	<i>Plasma capillare</i>
digiuno	$\geq 6,1$ mmol/L ≥ 110 mg/dL	$\geq 6,1$ mmol/L ≥ 110 mg/dL	$\geq 7,0$ mmol/L ≥ 126 mg/dL	$\geq 7,0$ mmol/L ≥ 126 mg/dL
2 ore	$\geq 6,7$ mmol/L ≥ 120 mg/dL	$\geq 7,8$ mmol/L ≥ 140 mg/dL	$\geq 7,8$ mmol/L ≥ 140 mg/dL	$\geq 8,9$ mmol/L ≥ 160 mg/dL



Gravidanza fisiologica



Screening per problemi clinici Diabete Gestazionale **Aggiornamento 2011**

Tabella 5. Criteri per la diagnosi di GDM con OGTT 75 g

<i>glicemia plasmatica</i>	<i>mg/dl</i>	<i>mmol/l</i>
digiuno	≥92	≥5,1
dopo 1 ora	≥180	≥10,0
dopo 2 ore	≥153	≥8,5



Protocollo per lo screening e la diagnosi del Diabete Gestazionale (1)



Al primo appuntamento in gravidanza, a tutte le donne che non riportano determinazioni precedenti, va offerta la determinazione della **glicemia plasmatica** per identificare le donne con diabete preesistente alla gravidanza.

Sono definite affette da **diabete preesistente** alla gravidanza le donne con valori di:

- ❖ glicemia plasmatica a digiuno ≥ 126 mg/dl (7,0 mmol/l),
- ❖ glicemia plasmatica *random* ≥ 200 mg/dl (11,1 mmol/l),
- ❖ HbA1c (standardizzata ed eseguita entro le 12 sett.) $\geq 6,5\%$



Protocollo per lo screening e la diagnosi del Diabete Gestazionale (2)

raccomandato lo screening per il diabete gestazionale, eseguito **utilizzando fattori di rischio definiti.**

A 16-18 sett.

Gestanti con almeno una delle seguenti condizioni:

- diabete gestazionale in una gravidanza precedente
- BMI pregravidico ≥ 30
- glicemia plasmatica fra 100 e 125 mg/dl (5,6-6,9 mmol/l) precedentemente o all'inizio della gravidanza,

*deve essere offerta un **OGTT con 75 g di glucosio** e un ulteriore OGTT 75 g a 28 settimane di età gestazionale se la prima*



Protocollo per lo screening e la diagnosi del Diabete Gestazionale (3)



A 24-28 settimane

Gestanti con almeno **una** delle seguenti condizioni:

- eta ≥ 35 anni
- BMI pregravidico ≥ 25 kg/m²
- Macrosomia fetale in una gravidanza precedente ($\geq 4,5$ kg)
- Anamnesi familiare di diabete (parente I° grado con DM2)
- Appartenenza ad aree ad alta prevalenza di diabete:

Asia meridionale (India, Pakistan, Bangladesh), Caraibi,

Popolazione di origine africana, Medio Oriente

Emirati Arabi Uniti, Iraq, Giordania, Siria, Oman, Qatar, Kuwait, Libano, Egitto)

SE NEGATIVA A 16-18 SETT

- DG in una gravidanza precedente

- BMI pregravidico ≥ 30



Protocollo per lo screening e la diagnosi del Diabete Gestazionale (3)



Sono definite affette da diabete gestazionale le donne con **uno o più valori** di glicemia plasmatica superiori alle soglie:

plasmatica	Mg/dl	Mmol/l
<i>mg/dl mmol/l</i>		
digiuno	≥ 92	≥ 5,1
dopo 1 ora	≥ 180	≥ 10,0
dopo 2 ore	≥ 153	≥ 8,5

Alle donne cui è stato diagnosticato un diabete gestazionale deve essere offerto un OGTT 75 g non prima che siano trascorse 6 settimane dal parto.



Protocollo per lo screening e la diagnosi del Diabete Gestazionale (3)



Non devono essere utilizzati:

- la glicemia plasmatica a digiuno,
- il *glucose challenge test* (GCT) o minicurva,
- l' OGTT 100 g
- la glicosuria.

Table 1. Results of the national survey on GDM screening and diagnostic procedures.

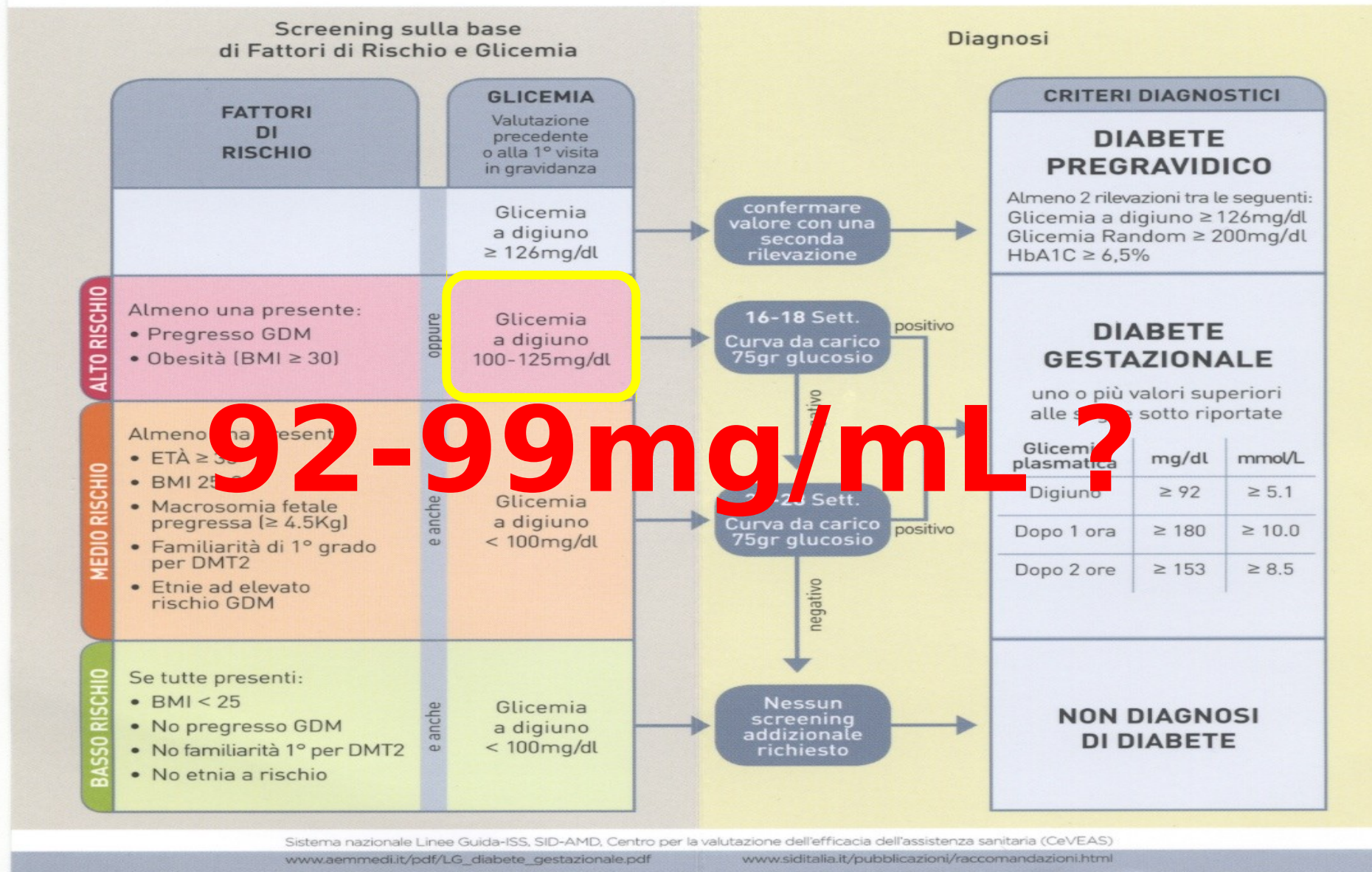
N (%)	
Specialist who manages screening and diag	
diabetologist and gynecologist with the diabetologist and gynecologist with di	
Diagnostic strategy (%): two-steps (glucose challenge	
Screening procedure (%): selective ri	
Type of OGTT performed (%):	
Gestational age when the OGTT is perform high risk (%):	
as 16-18 24-28	
Diagnostic criteria used for the interpretati (%):	
Carper	
OGTT execution in the case of FPG ≥ 5.1 m mg/dl) (%):	



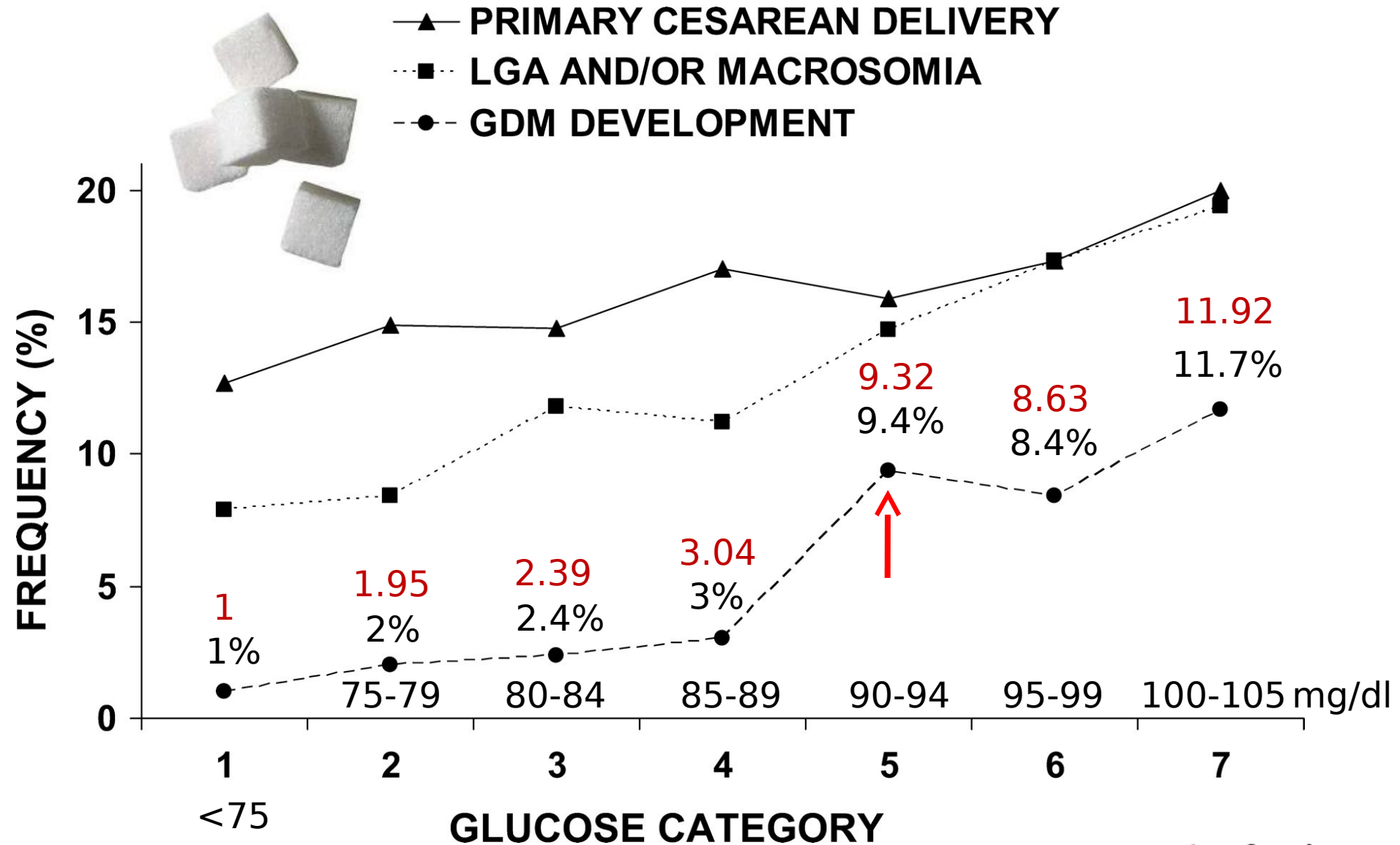
Raccomandazioni per lo screening e la diagnosi del GDM

AMD-SID, SNLG-ISS, CeVEAS

Aggiornamento 06.07.2011



The relationship between maternal first-trimester fasting glucose level and frequency of primary outcomes.



Correspondence between first-trimester fasting glycaemia, and oral glucose tolerance test in gestational diabetes diagnosis

F. Corrado^{a,*}, R. D'Anna^a, M.L. Cannata^a, M.L. Interdonato^a, B. Pintaudi^b, A. Di Benedetto^b

	FPG <5.1 mmol/l(685)	FPG≥5.1 mmol/l (53)	p
Age (yrs)	30.63±5.24	33.42 ±4.36	0.0001
Prepregnancy BMI (kg/m2)	23.80 ±7.32	27.9 ±5.81	0.0001
Gestational age (weeks)	26.0 ±2.7	25.3 ±2.3	ns
Parity>1(%)	46.4%	58.4	ns
First trimester FPG (mmol/l)	4.3 ±0.4	5.3 ±0.16	0.0001
Prevalence of GDM (%)	9.3%	45.3%	0.0001

OR 8.0 (4.4-14.6) FPG ≥5.1 mmol/l vs FPG <5.1 mmol/l

OR 7.1 (3.8-13.1) adjusted for prepregnancy BMI and maternal age

739 MOTHERS WITH NEGATIVE SCREENING TEST FOR GDM
followed by Careggi University Hospital, Florence (January 2011-

		October 2012)		Statistical significance
MATERNAL AND FETAL OUTCOMES		FPG $\geq$ 92 mg/dl (177)	FPG < 92 mg/dl (562)	
PREGRAVIDIC BMI		21.24 $\pm$ 0.43	26.74 $\pm$ 8.18	n.s.
G.A. at birth		39.7 $\pm$ 0.7	39.2 $\pm$ 0.21	n.s.
AGA		82/111 (73.88%)	284/363 (78.24%)	n.s.
SGA		12/111 (10.81%)	54/363 (14.87%)	n.s.
LGA		17/111 (15.32%)	25/363 (6.89%)	P=0.01
PI $\geq$ 2.85		30/111 (27.02%)	95/363 (26.17%)	n.s.
Birth weight$\geq$4000 g		14/111 (12.61%)	20/363 (5.5%)	P=0.01
Birthweight $\geq$ 4500 g		2/111 (1.8%)	2/363 (0.55%)	n.s.
NEONATAL OUTCOME	FPG $\geq$ 92 mg/dl PI $\geq$ 2.85	FPG < 92 mg/dl PI $\geq$ 2.85	P	
LGA	12/111 (10,8%)	11/363 (3,0%)	P=0.002	

Mello G., Mecacci F., Nardini C. et al. : Personal data

FIRST TRIMESTER PLASMA GLUCOSE LEVELS IN GDM: CLINICAL ASPECTS

	<92mg/dl	≥92mg/dl	
FPG at first visit (mg/dl)	80.5±6.1	98.2±6.2	0.000
Prepregnancy BMI (kg/m ²)	23.6±4.1	24.1±4.4	ns
Age>35yrs (%)	45.4	44.4	ns
BMI>25 (kg/m ²)	16.4	31.7	0.016
Insulin therapy(%)	20	47.6	0.001
Ponderal index(g/cm ³)	2.80±0.2	2.67±0.31	ns

Lapolla A, Dalfra MG, Mello G: Personal Data

Short Report: Epidemiology

New International Association of the Diabetes and Pregnancy Study Groups (IADPSG) recommendations for diagnosing gestational diabetes compared with former criteria: a retrospective study on pregnancy outcome



A. Lapolla, M. G. Dalfrà, E. Ragazzi*, A. P. De Cata and D. Fedele

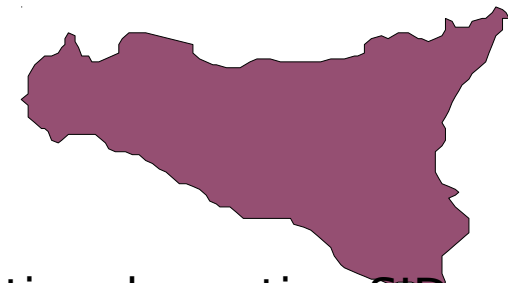
Methods Using the new IADPSG criteria, 3953 pregnancies were retrospectively reclassified as 1815 women with normal glucose tolerance and 2138 with gestational diabetes, 112 (2.8%) of whom would have been classified as normal according to the older criteria.

Results Of the 2138 women classified as abnormal by the new criteria, the 112 women now reclassified as abnormal were younger and had a lower pre-pregnancy BMI than the 2026 women who had also been classified as abnormal by the previous criteria. The 100-g oral glucose tolerance test showed significantly higher glucose levels in these 112 women than in the 1815 women reclassified as normal ($P < 0.0001$). Caesarean section was significantly more frequent ($P < 0.01$) and the ponderal index for the newborn significantly higher in these reclassified women than in those classified as normal ($P < 0.0001$), and their basal glucose levels correlated significantly with the ponderal index ($P < 0.05$).

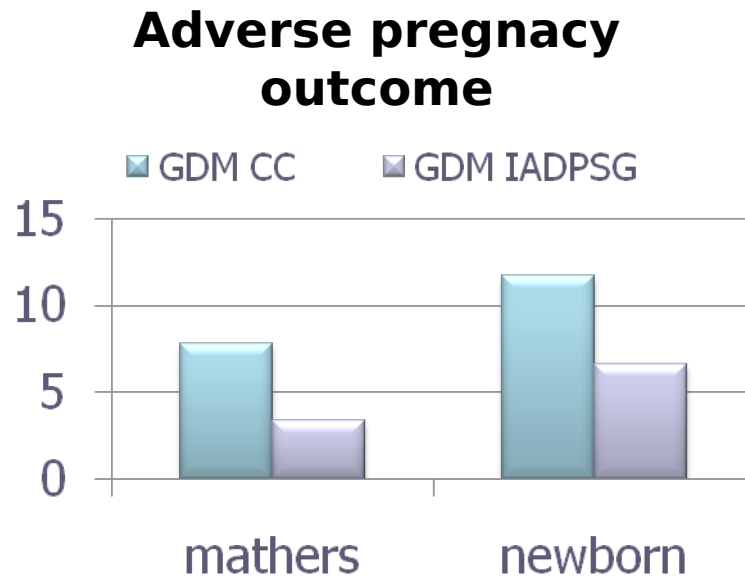
Conclusion The new criteria for diagnosing gestational diabetes identified a group of women previously classifiable as normal according to the 4th International Workshop Conference criteria, but revealing metabolic characteristics and pregnancy outcomes resembling those of women who would have been considered to have gestational diabetes by the previous criteria.

RECLASSIFICATION OF OLD G-IGT OR NGT ACCORDING WITH IADPSG CRITERIA

- 5.5% of NGT women according with Carpenter and Coustan criteria were GDM according with IADPSG criteria
- The frequency of GDM increased of 3.9%
- Prepregnancy BMI was significantly higher (32.2 ± 8.8)
- Adverse pregnancy outcome
 - Mothers 22.2%
 - Newborn 33.3%



OUTCOME OF PREGNANCY IN WOMEN DIAGNOSED WITH CARPENTER E COUSTAN CRITERIA AND IADPSG CRITERIA



- in women , in which gestational diabetes was diagnosed according with IADPSG criteria, a 50% reduction in adverse pregnancy outcome has been observed.

The impact of adoption of the International Association of Diabetes in Pregnancy Study Group criteria for the screening and diagnosis of gestational diabetes



Karli Mayo, MD; Nir Melamed, MD; Hilde Vandenberghe, PhD, FCACB, DABCC;
Howard Berger, MD

TABLE 1

Effect of the IADPSG vs CDA criteria on the rate of GDM

Criteria	GDM rate
CDA 2008	
GDM overall (≥ 1 abnormal values, GDM plus IGT)	7.3% (385/5249)
GDM (≥ 2 abnormal values)	3.2% (166/5249)
IGT (1 abnormal value)	4.1% (219/5249)
IADPSG	
GDM overall (≥ 1 abnormal values)	10.3% [(155+385)/5249]
Proportion attributed to the lower threshold values only (≥ 2 abnormal values)	5.0% (263/5249)
Proportion attributed to using only ≥ 1 abnormal values to define GDM	5.3% (277/5249)

CDA, Canadian Diabetes Association; GDM, gestational diabetes mellitus; IADPSG, International Association of Diabetes in Pregnancy Study Group; IGT, impaired glucose tolerance.

Mayo. Impact IADPSG diagnostic criteria on GDM. *Am J Obstet Gynecol* 2015.

The impact of adoption of the International Association of Diabetes in Pregnancy Study Group criteria for the screening and diagnosis of gestational diabetes



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TABLE 4

Association of different levels of glucose intolerance with the risk of adverse pregnancy outcome: multivariate analysis

Outcome	GCT-NEGATIVE group (n = 4183)	OGTT-NEGATIVE group (n = 526)	OGTT- IADPSG group (n = 155)	OGTT-CDA group (n = 385)
Composite adverse outcome	1.0 (referent)	0.9 (0.8–1.2)	1.4 (1.1–1.9) ^a	1.4 (1.1–1.8) ^a
Hypertensive complications	1.0 (referent)	0.9 (0.6–1.7)	3.0 (1.7–5.6) ^a	1.2 (0.7–2.1)
CD	1.0 (referent)	1.1 (0.9–1.4)	1.4 (1.01–1.2) ^a	1.3 (1.05–1.7) ^a
LGA (greater than 90th percentile)	1.0 (referent)	1.2 (0.9–1.6)	1.8 (1.1–2.9) ^a	1.5 (1.1–2.2) ^a

Data reflect the results of a multivariable logistic regression analysis and are expressed as odds ratios (95% confidence interval) using the GCT-NEGATIVE group as reference and are adjusted for maternal age, gestational age, and infant sex.

CD, cesarean delivery; CDA, Canadian Diabetes Association; GCT, glucose challenge test; IADPSG, International Association of Diabetes in Pregnancy Study Group; LGA, large for gestational age; OGTT, oral glucose tolerance test.

^a Statistically significant at a *P* value < .05.

Mayo. Impact IADPSG diagnostic criteria on GDM. *Am J Obstet Gynecol* 2015.

The impact of adoption of the International Association of Diabetes in Pregnancy Study Group criteria for the screening and diagnosis of gestational diabetes



Karli Mayo, MD; Nir Melamed, MD; Hilde Vandenberghe, PhD, FCACB, DABCC;
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CONCLUSION: The use of the IADPSG criteria instead of the CDA criteria would result in a considerable increase in the rate of GDM, but this also appears to identify additional women at similar risk of adverse pregnancy outcome. Further studies are needed to determine whether this observation persists after controlling for confounders such as body mass index as well as whether treatment in these cases would improve perinatal outcome.

**SCREENING UNIVERSALE O SELETTIVO,
BASATO SUI FATTORI DI RISCHIO**

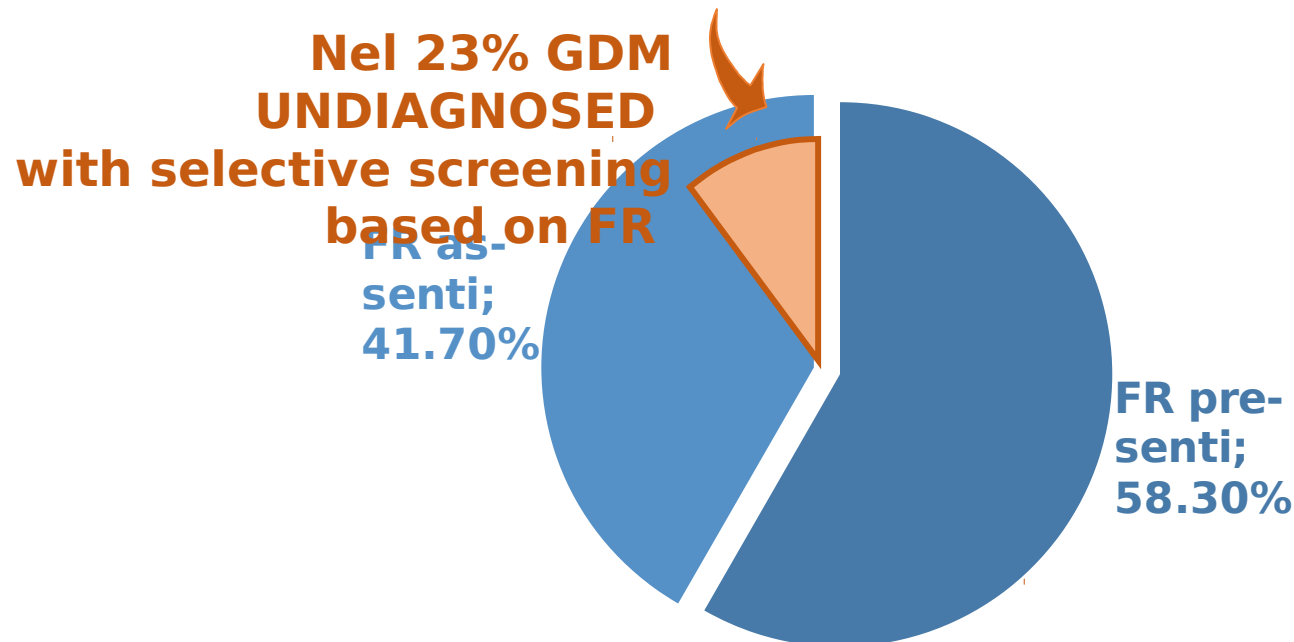
Italian risk factor-based screening for gestational diabetes

F. Corrado¹, B. Pintaudi², G. Di Vieste², M. L. Interdonato¹, M. Magliarditi¹, A. Santamaria¹, R. D'Anna¹, and A. Di Benedetto²

to compare universal screening (IADPSG) (ADA) versus selective screening (Italian National Institute of Health). 1015 consecutive pregnant women were screened for GDM according to the IADPSG's panel criteria, while all the risk factors for each patient were registered.



GDM rate 11% vs 3% (found in our previous report)





ADOZIONE NUOVI CRITERI IADPSG A LIVELLO INTERNAZIONALE



NICE National Institute for
Health and Care Excellence
Published: 25 February 2015



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The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

PRACTICE BULLETIN
NUMBER 137, AUGUST 2013

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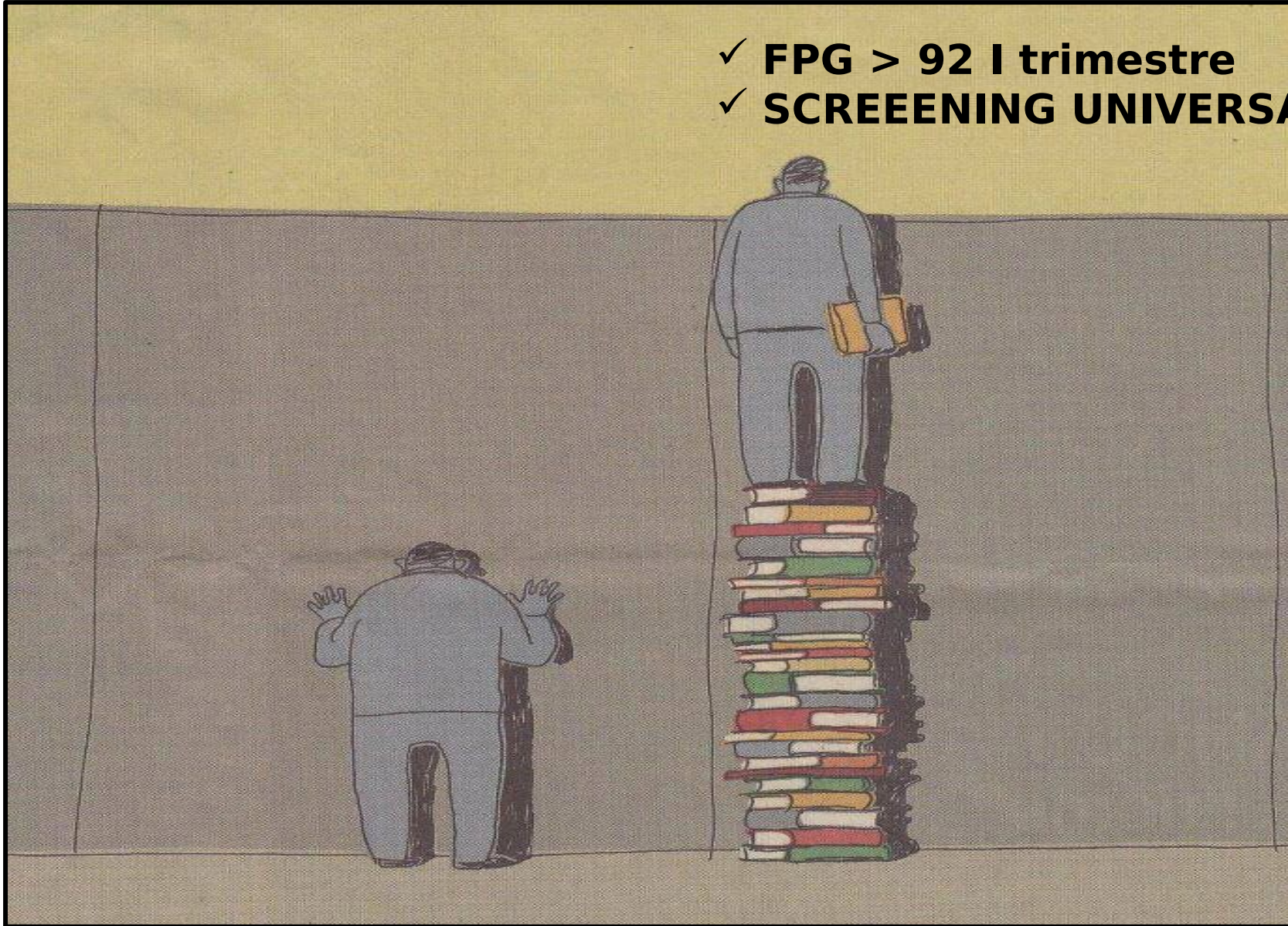


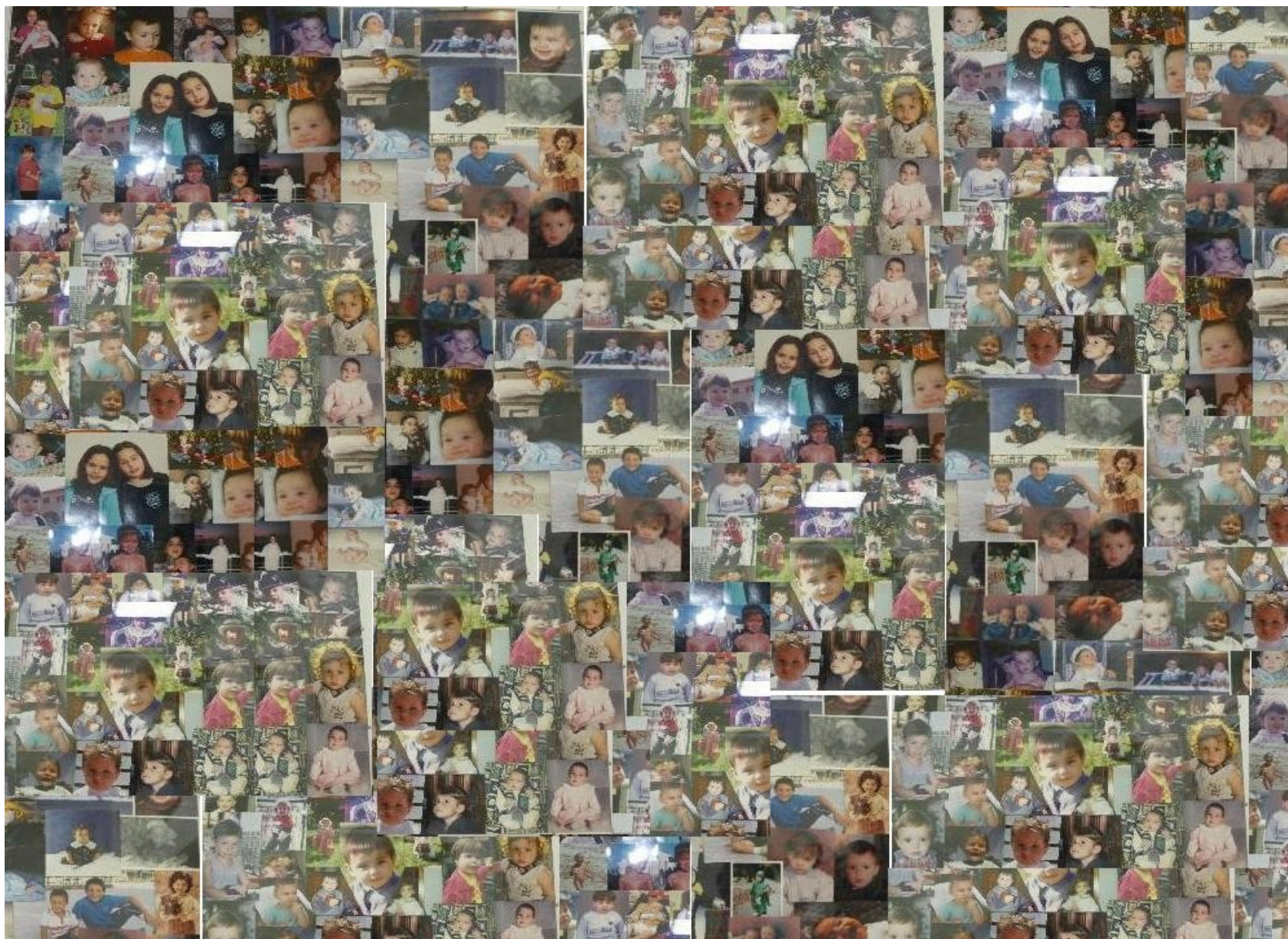
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APPLICAZIONE DELLE LINEE GUIDA MA NON SOLO...

- ✓ **FPG > 92 I trimestre**
- ✓ **SCREENING UNIVERSALE**



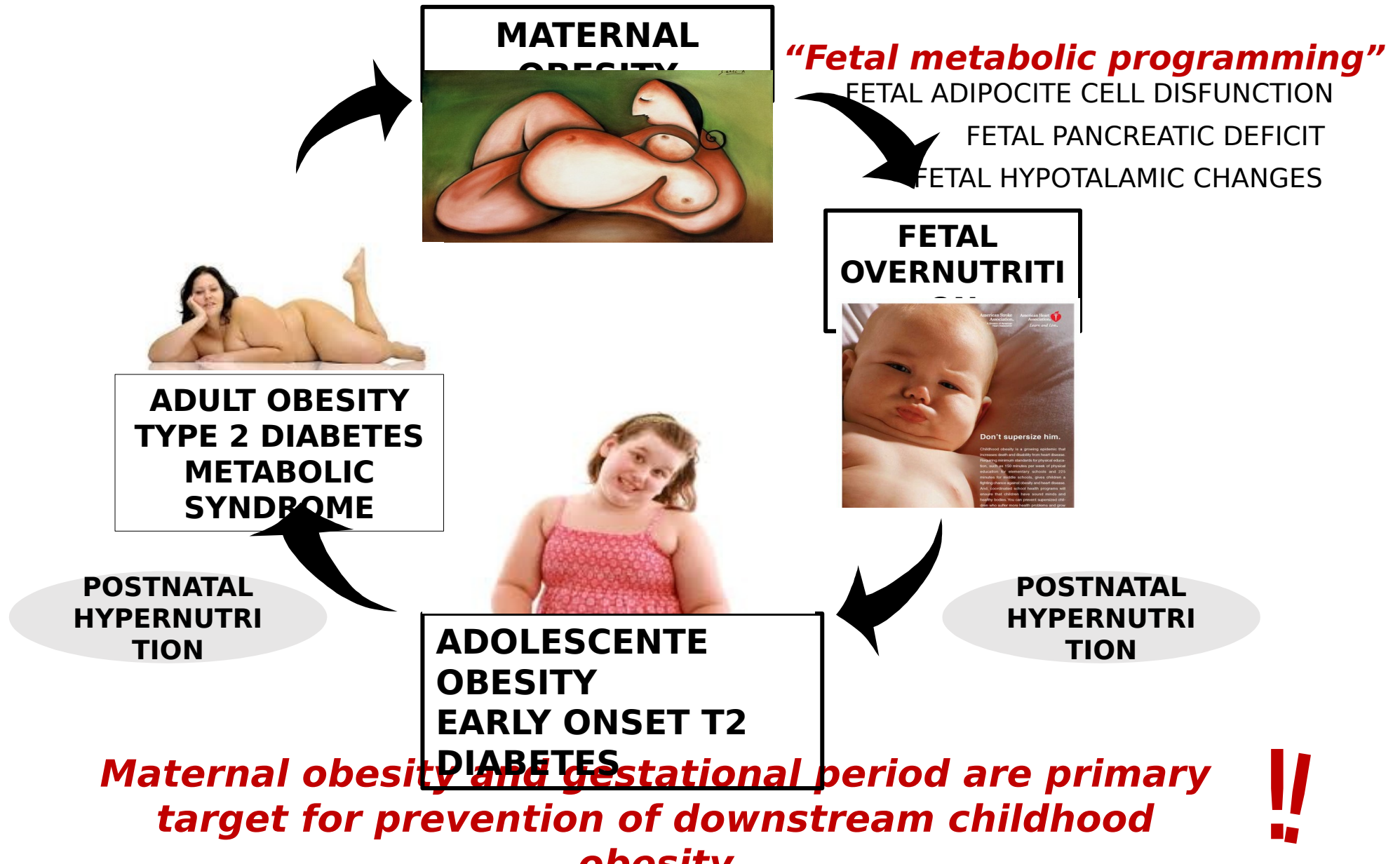


GRAZIE PER L'ATTENZIONE

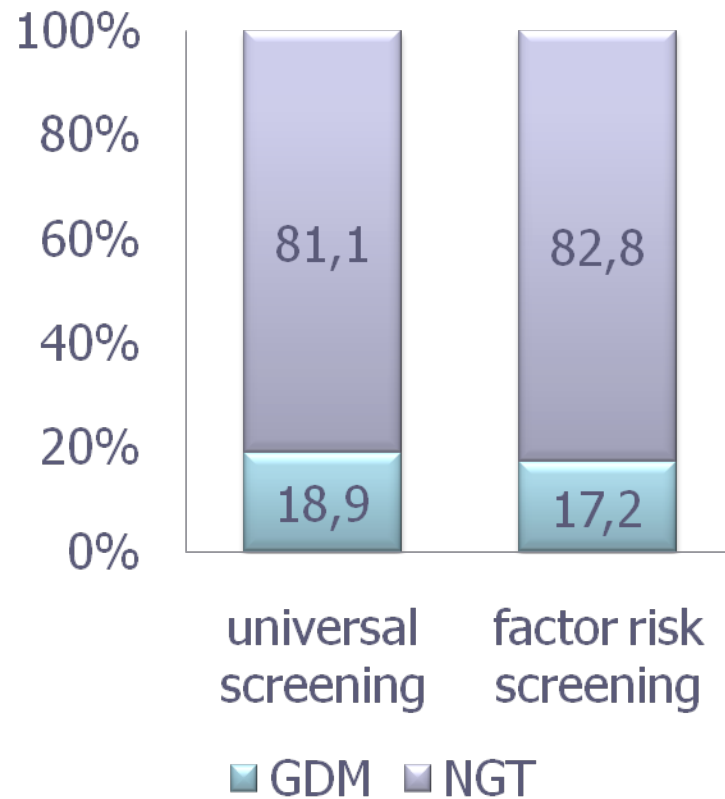




INTERGENERATIONAL CICLE OF OBESITY

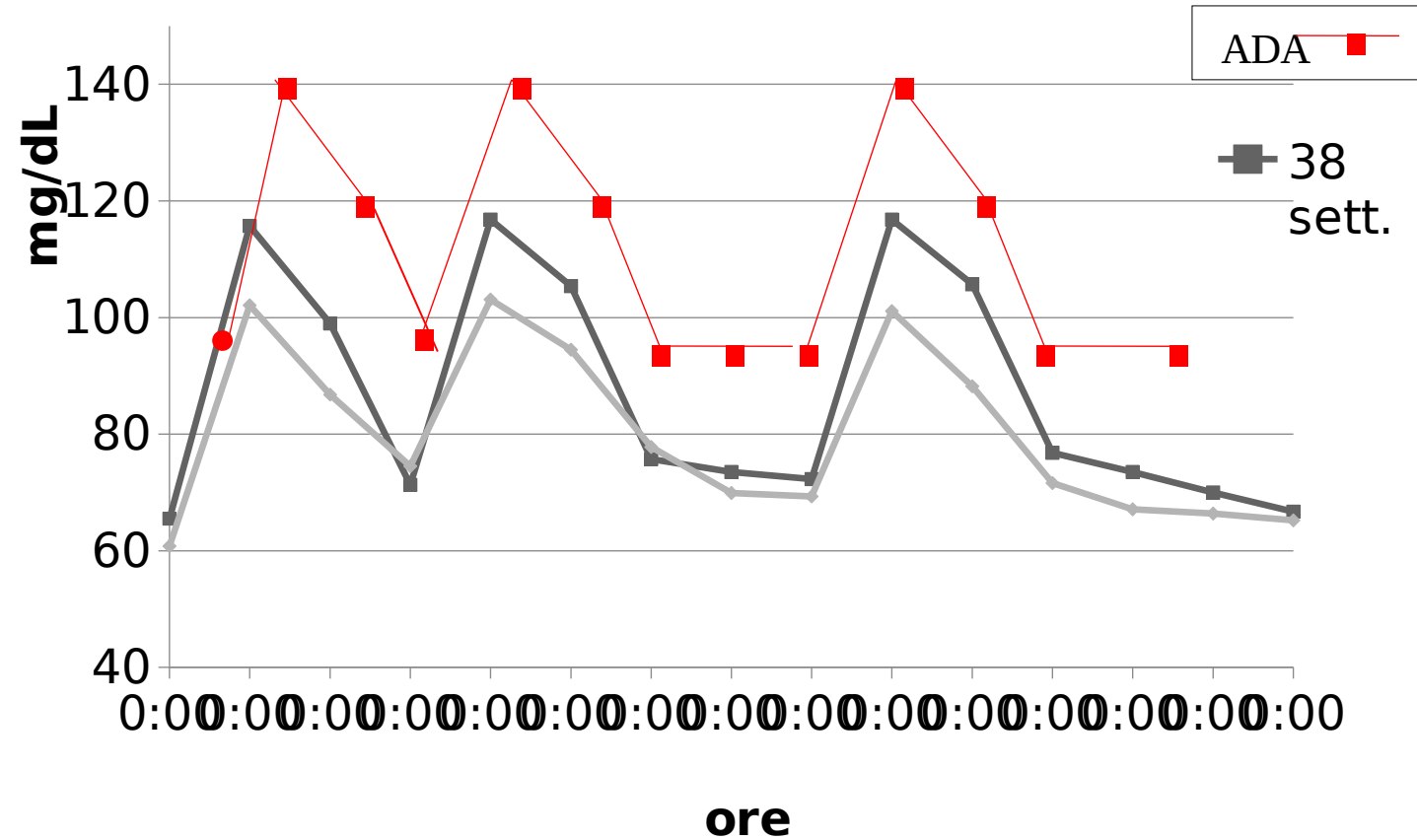


RISK FACTOR SCREENING VERSUS UNIVERSAL SCREENING



- Risk factors in 83% of women
- 17% of women screened for GDM in universal screening were without risk factors
- 11.6% of women without risk factors were diagnosed affected by GDM in universal screening

Diurnal glucose profiles at different gestational ages (venous plasma)

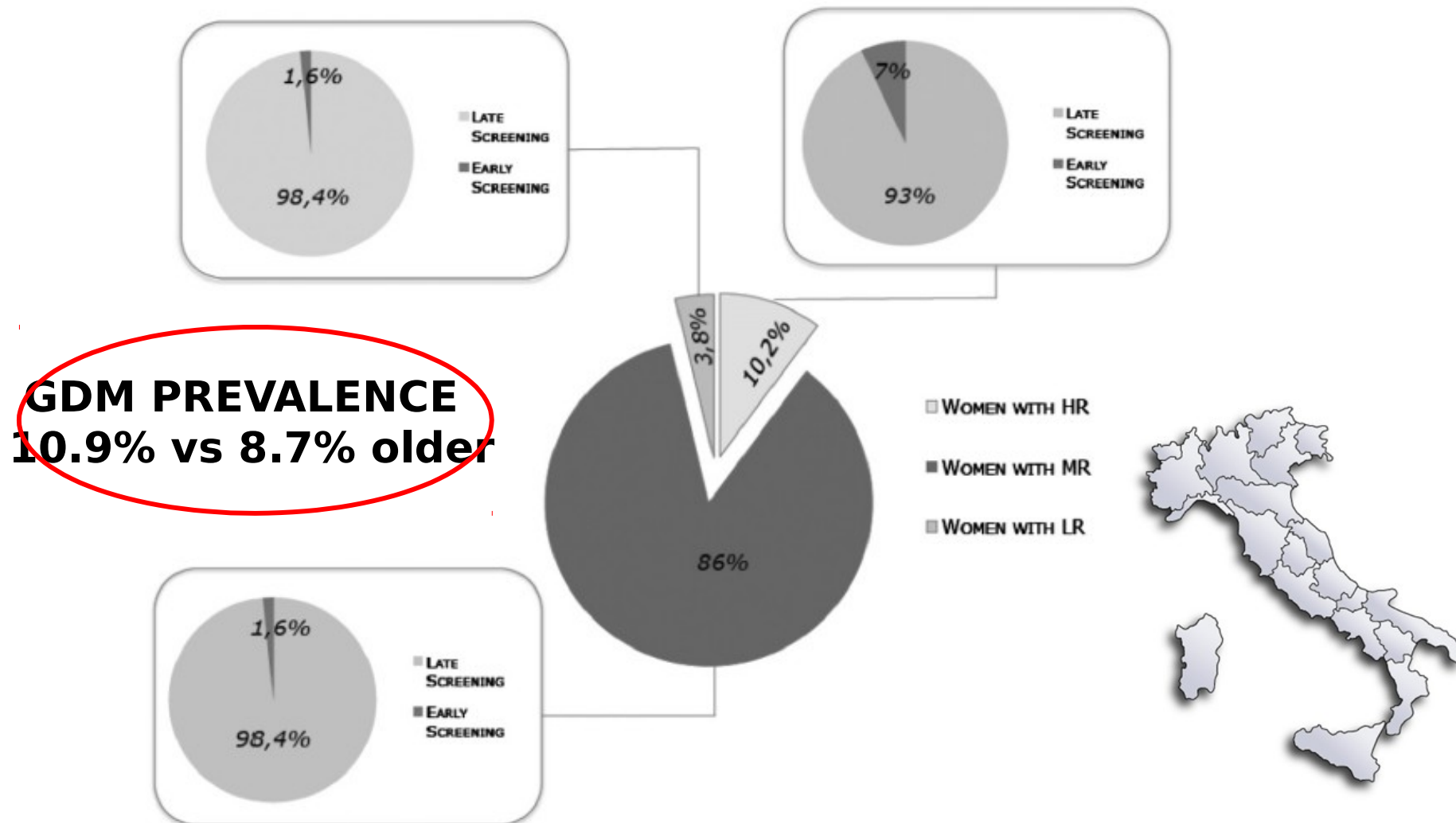


...it is time to revise our guideline for care of pregnant diabetic women to allow us to provide optimal nutrition for the fetus by taking action when the peak postprandial glucose level is elevated above the normal range. The normal range is now defined as a 1-h postprandial glucose level <105 mg/d.

Yovanovic L. 2002

Selective screening for GDM in Italy: application and effectiveness of National Guidelines

Emilia Lacaria¹, Cristina Lencioni², Laura Russo², Matilde Romano¹, Paolo Lemmi², Lorella Battini³, Stefano Del Prato¹, Alessandra Bertolotto¹, and Graziano Di Cianni²





**SOD MEDICINA PRANATALE AOU CAREGGI
CENTRO DI RIFERIMENTO REGIONALE MEDICINA MATERNO-FETALE E
GRAVIDANZE AD ALTO RISCHIO**

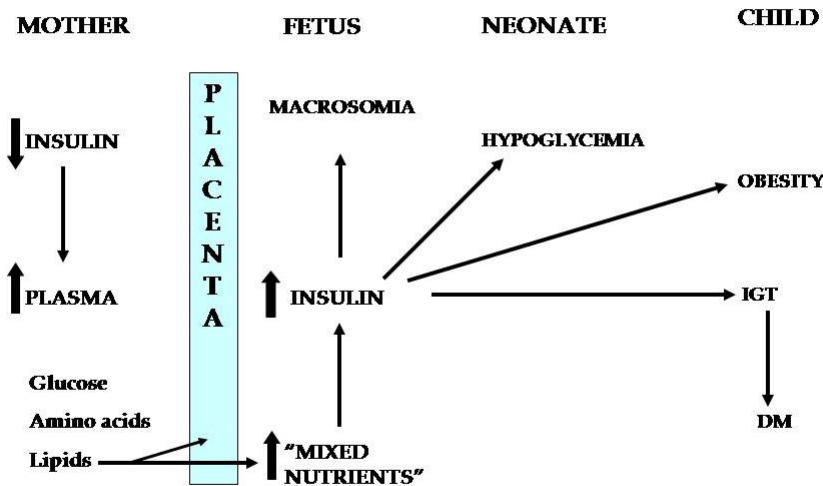
FUEL-MEDIATED TERATOGENESIS



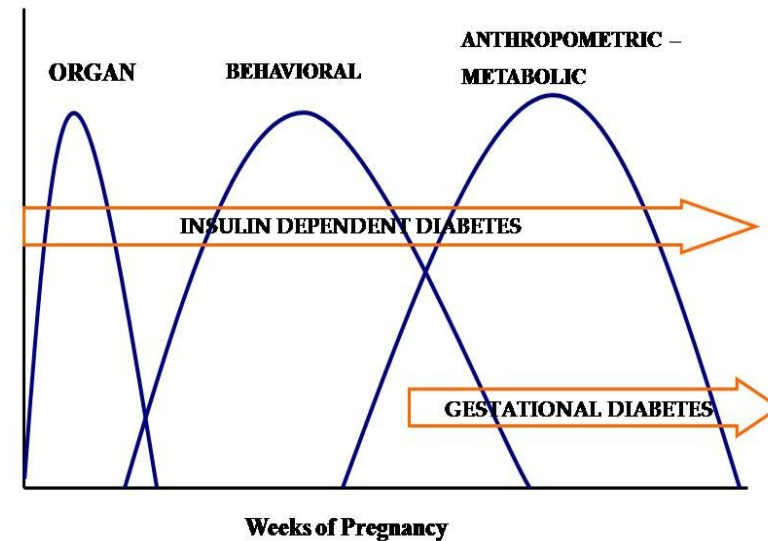
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Banting Lecture 1980 Of Pregnancy and Progeny

PEDERSEN/FREINKEL HYPOTHESIS

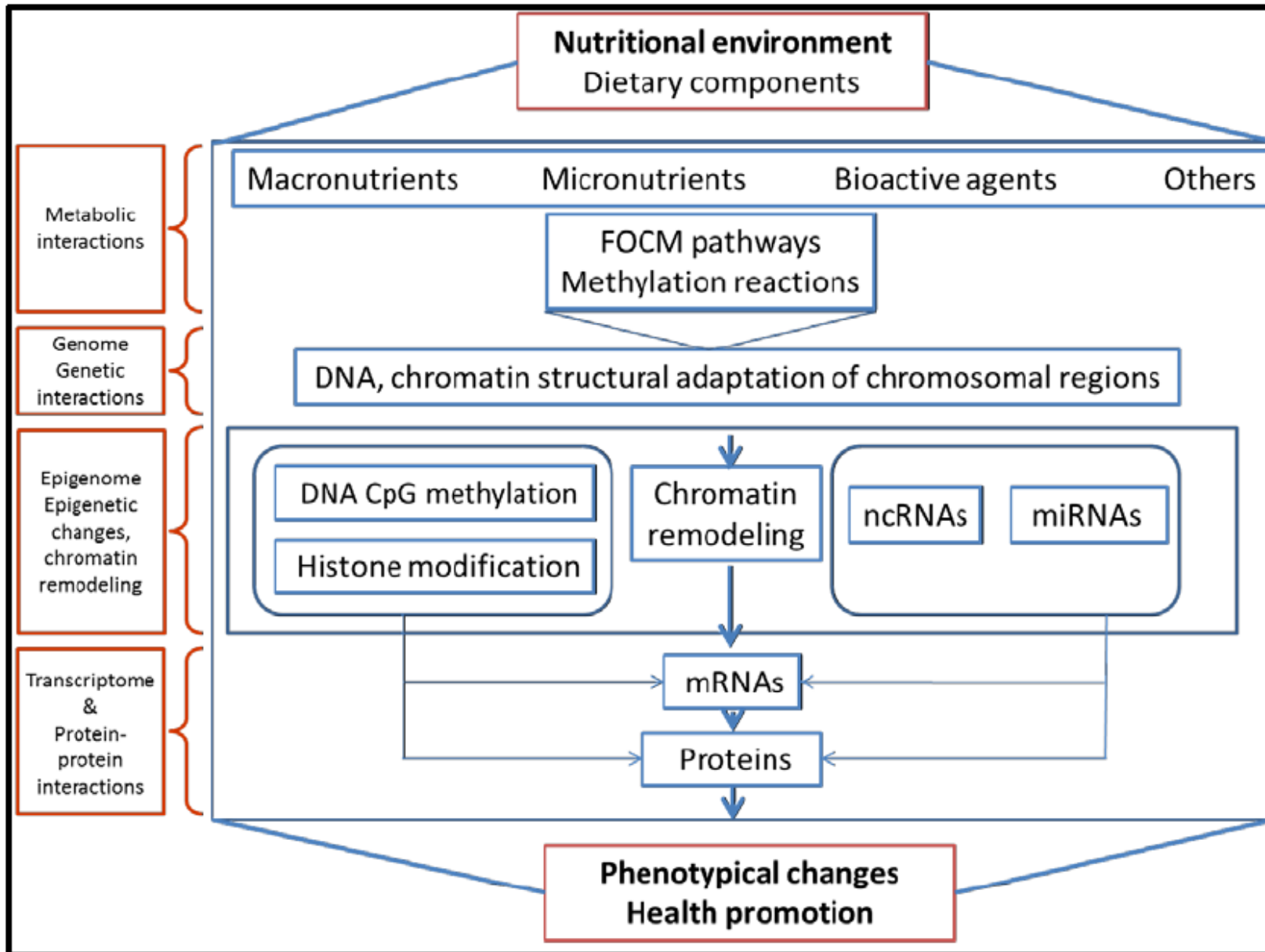


Permanent change in habitus caused by abnormal concentrations of nutrients during period of intrauterine development

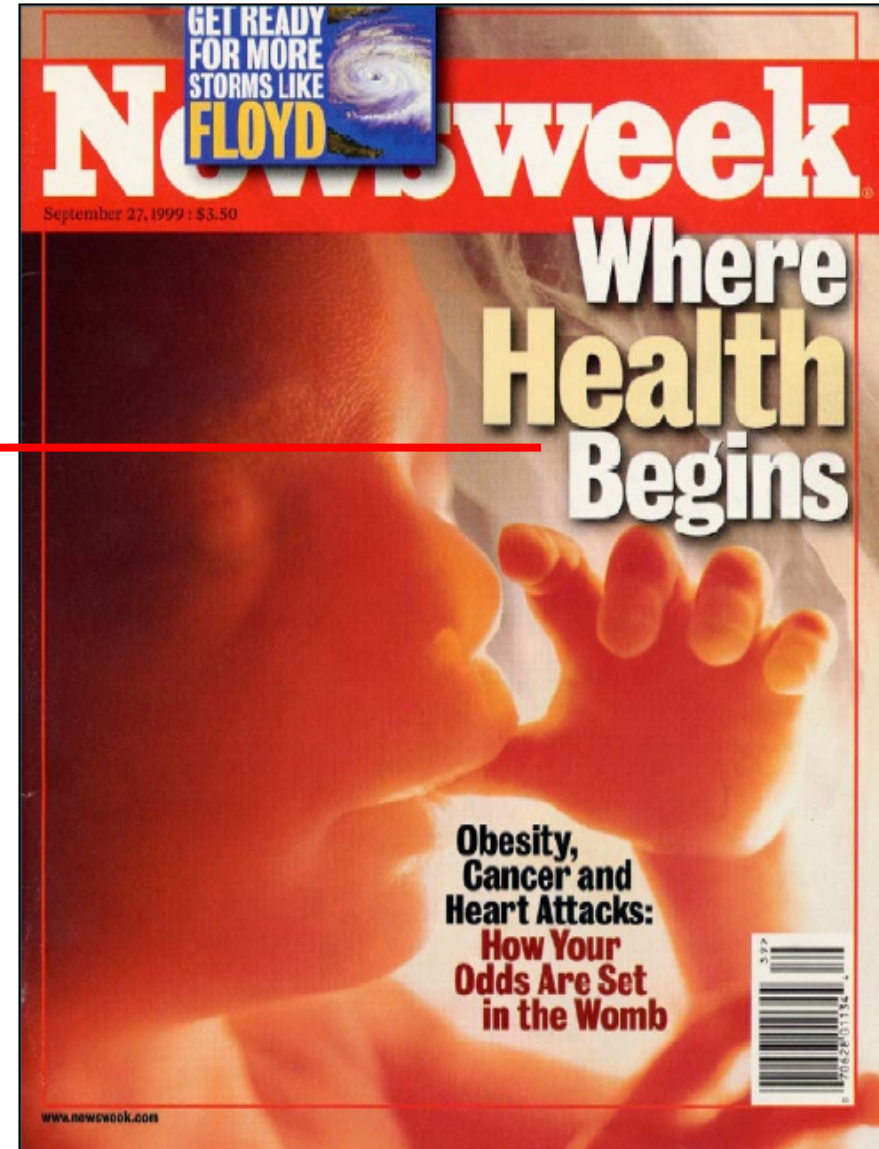


Potential long-range effects upon the fetus of altered interactions in maternal fuels during pregnancy. Fuel-mediated teratogenesis as the basis for long-range anatomic and functional changes.

NON SOLO UN PROBLEMA METABOLICO MA... GENETICO



ma anche.... **SALUTE FETALE NELLA VITA ADULTA**



Correspondence between first-trimester fasting glycaemia, and oral glucose tolerance test in gestational diabetes diagnosis

F. Corrado^{a,*}, R. D'Anna^a, M.L. Cannata^a, M.L. Interdonato^a, B. Pintaudi^b, A. Di Benedetto^b

There was no complete correspondence between the first-trimester fasting glucose value and the 2-h 75-g OGTT in the diagnosis of GDM. Thus, if the OGTT is considered the gold

been nearly doubled by the new ADA criteria [4]. Indeed, our present study found an additional 3.9% of patients who should have been monitored and treated for perhaps no obvious reason early in pregnancy. These extra 29 patients, diagnosed because of a first-trimester FPG greater or equal to 5.1 mmol/L, but less than 7.0 mmol/L, represent the FPR of a test that exposes women diagnosed as GDM to the likely medicalization of otherwise healthy pregnancies. Moreover, as paradoxically suggested