

DIABETES PREGNANCY and TECHNOLOGY

in Lombardy - 2024

**DIABETE GESTAZIONALE- TUTTI I DUBBI SONO
RISOLTI?**

Terapia Medica Nutrizionale nel Diabete
Gestazionale

8 GIUGNO 2024 - BERGAMO -

Nadia Cerutti

Il /la dr./sa Nadia Cerutti dichiara di NON aver ricevuto negli ultimi due anni compensi o finanziamenti da Aziende Farmaceutiche e/o Diagnostiche

Dichiara altresì il proprio impegno ad astenersi, nell'ambito dell'evento, dal nominare, in qualsivoglia modo o forma, aziende farmaceutiche e/o denominazione commerciale e di non fare pubblicità di qualsiasi tipo relativamente a specifici prodotti di interesse sanitario (farmaci, strumenti, dispositivi medico-chirurgici, ecc.).

Children and adolescents (aged 5–19 years)*

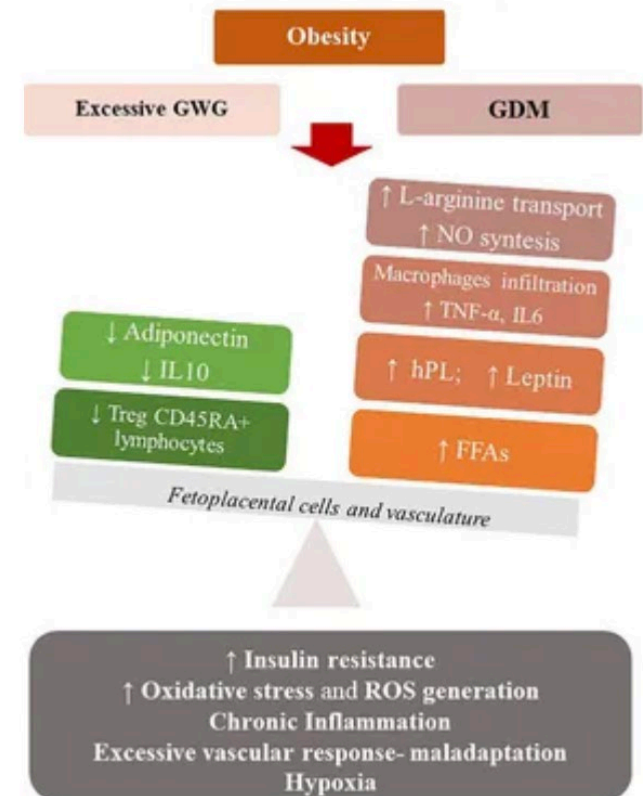
	Boys 2020	Boys 2025	Boys 2030	Boys 2035
Number with obesity (millions)	103	140	175	208
Proportion of all boys	10%	14%	17%	20%
	Girls 2020	Girls 2025	Girls 2030	Girls 2035
Number with obesity (millions)	72	101	135	175
Proportion of all girls	8%	10%	14%	18%

* For children and adolescents, obesity is defined using the WHO classification of +2SD above median growth reference.

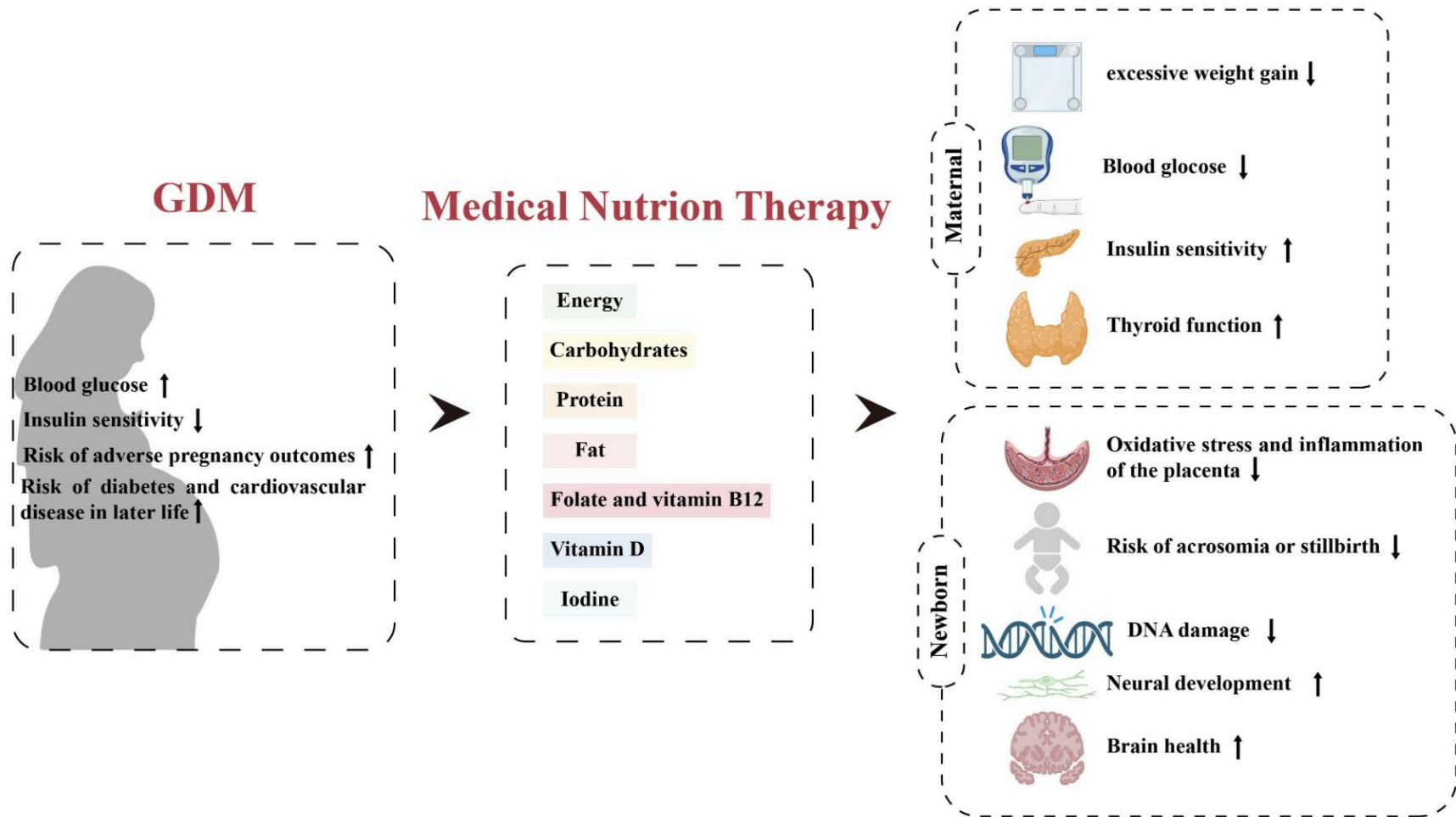
Adults (aged 20 years and over)

	Men 2020	Men 2025	Men 2030	Men 2035
Number with obesity (millions)	347	439	553	690
Proportion of all men	14%	16%	19%	23%
	Women 2020	Women 2025	Women 2030	Women 2035
Number with obesity (millions)	466	568	693	842
Proportion of all women	18%	21%	24%	27%

World Obesity Atlas 2023



MNT and GDM rationale



Exercise during Pregnancy

For most women, pregnancy exercise is not only safe, but also **beneficial** for their babies' and their own health during pregnancy and after birth.

SAFETY

For healthy women in uncomplicated pregnancies, exercising is **safe** and does not lead to complications

Yet prior doctor's clearance is a must

BENEFITS

- Reduces risk of complications
- Eases pregnancy symptoms
- Ensures healthy weight gain
- Prepares body for labor

BEST PREGNANCY EXERCISES

- Brisk walking
- Kegels
- Swimming
- Stationary bicycling
- Prenatal yoga
- Jogging
- Dancing



EXERCISES TO AVOID

- Basketball
- Soccer
- Hot yoga
- Skiing
- Horseback riding
- Ice hockey
- Boxing

Self-monitoring of blood glucose during pregnancy: indications and limitations

Carlos Antonio Negrato¹ and Lenita Zajdenverg^{2*}

Self-monitoring of blood glucose (SMBG) is an important part of standard diabetes care. Frequent SMBG helps patients understand better the influence that food and exercise have on their blood glucose values, thus increasing their adherence to the treatment plan. SMBG should be performed using capillary blood, and the number of tests required to adequately monitor blood glucose levels depends on several factors: diet, physical activity, type of treatment (diet/insulin), and the risk of hypoglycemia [22].

the medical team. They should also do it in order to identify the individual variations of glycemic values and the factors determining them, thus having the necessary data for taking appropriate decisions regarding their lifestyle changes.

[SM70412027] MySuccess™ Report dexcom

	01 Dec - 07 Dec 17	08 Dec - 14 Dec 17	Change	
A1c %	0.0 %	0.0 %	N/A	
Mean Glucose	136	135	-1 %	✓
Standard Deviation	52	48	-8 %	✓
% in Hypoglycemia (< 55 mg/dL)	3	1	-67 %	✓
% in Low (≥ 55 and < 80 mg/dL)	12	12	0 %	✓
% in Target (≥ 80 and ≤ 130 mg/dL)	32	37	16 %	✓
% in High (> 130 and ≤ 240 mg/dL)	49	48	-2 %	✓
% in Hyperglycemia (> 240 mg/dL)	3	3	0 %	✓
Days Sensor Used	7	7	0 %	✓



Dietary habits, lifestyle, and gestational diabetes in immigrant women: a survey in Northwestern Tuscany (Central Italy)

What is already known

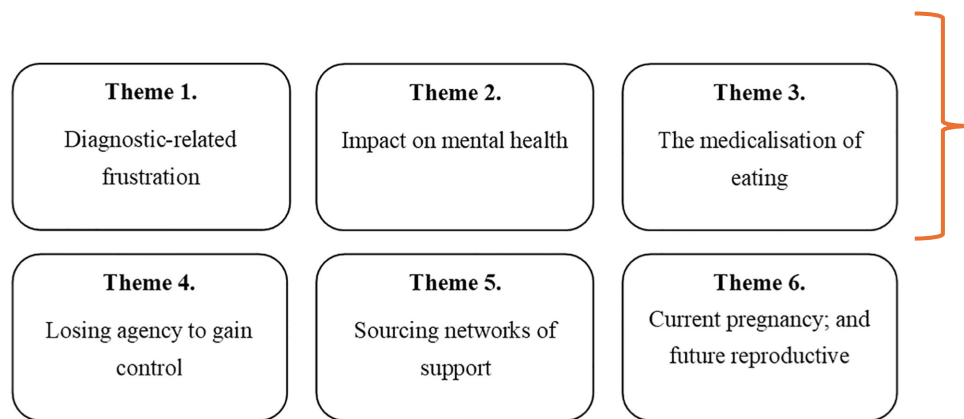
- Globally, gestational diabetes mellitus (GDM) represents one of the most common medical complications during pregnancy, with some ethnic groups at increased risk of adverse outcomes.
- Nutrition therapy and physical activity represent the first two steps in managing GDM, and immigrant women diagnosed with GDM have additional language and cultural obstacles in following lifestyle and dietary recommendations within a Western health care setting.



What this study adds

- Even if immigrant women gained good pregnancy outcomes, they showed lower adherence to a healthy diet at the time of GDM screening, with a low fibre intake and high consumption of carbohydrates, salty snacks, and sweetened beverages.
- An ethnic and tailored meal plan is needed to overcome cultural barriers in dietary recommendations during pregnancy both for health professionals providing advices and for immigrant women understanding them.

"It feels like medically promoted disordered eating": The psychosocial impact of gestational diabetes mellitus in the perinatal period



Anxiety and stress about food choices and how food would affect blood glucose, and health of their baby.

Changes to their diet also disrupted some women's relationship with food and triggered previous eating disorders.

Food consumption was discussed as a centre point of management and women's daily living.

"To think about every single thing you put in your mouth and for that potentially to harm your baby, it's just an absolute minefield."

"It just feels like it's kind of like medically promoted disordered eating"

ORIGINAL ARTICLE

Impact of binge eating during pregnancy on gestational weight gain and postpartum weight retention among women with gestational diabetes mellitus: LINDA-Brasil

Multicenter cohort study with 1,958 women with GDM

Prevalence of BE was 31.6% (95% confidence interval [CI] 29.5-33.6%) during pregnancy and 30.0% (95% CI 28.0-32.1%) at postpartum.

The risk of exceeding the IOM's recommendation for gestational weight gain was 45% higher (RR 1.45, 95% CI 1.29-1.63) in women who had BE during pregnancy compared to those who did not. T

he risk of having postpartum weight retention above the 75th percentile was 33% higher (RR 1.33, 95% CI 1.10-1.59) among those with BE compared to those without.



TRADITIONAL GDM DIET INFO VS INTUITIVE EATING WITH GDM

TRADITIONAL GDM DIET	INTUITIVE EATING WITH GDM
✗ Rigid ✗ Labels foods as "good" or "bad" ✗ Restriction of all carbohydrates ✗ Measures each portion	✓ Very flexible ✓ Adaptive to each individual ✓ Allows for curiosity and focuses on food pleasure ✓ Helps you add in foods rather than get rid of or restrict

The dangers of following “traditional GD advice”

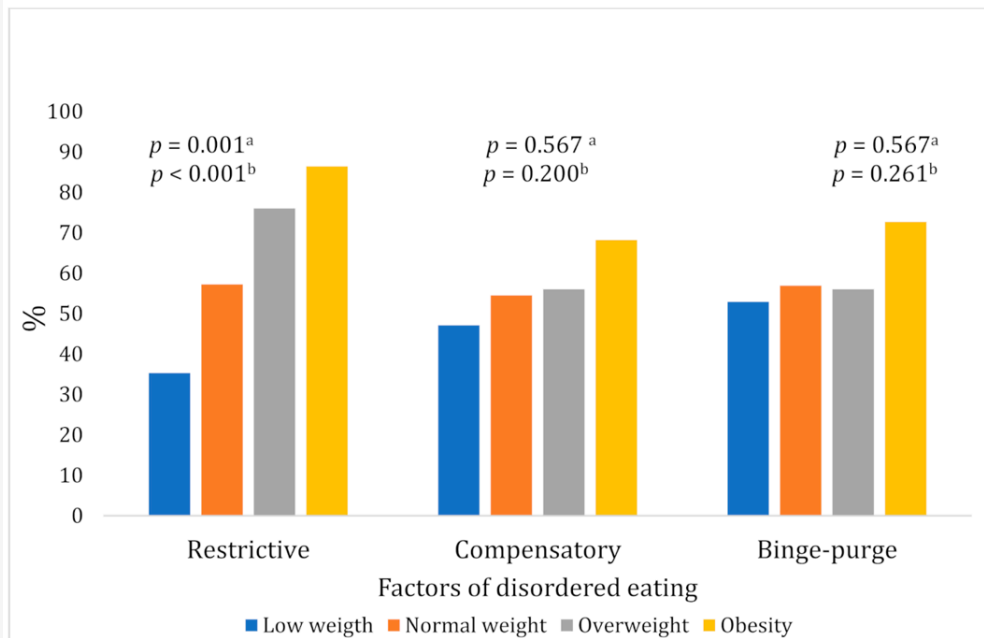
- Frequent dieting, anxiety associated with specific foods or meal skipping
- Chronic weight fluctuations
- Rigid rituals and routines surrounding food and exercise
- Feelings of guilt and shame associated with eating
- Preoccupation with food, weight and body image that negatively impacts quality of life
- A feeling of loss of control around food, including compulsive eating habits
- Using exercise, food restriction, fasting or purging to “make up for bad foods” consumed



What to look for



Figure 1. Disordered eating behaviors according to the pregestational BMI. ^a *p*-value based on Pearson's Chi Square; ^b *p*-value based on linear association Chi-square test.



- The **American Diabetes Association** recommends that all women with GDM receive nutrition counseling by a registered dietitian (RD).
- MNT is the **primary therapy** for 30–90% of women diagnosed with GDM.
- Individualization of MNT depending on maternal weight and height, physical activity level, and lifestyle is recommended.
- All women should receive **individualized counseling**
- Food plan should be individualized & culturally appropriate



Goals:

- Providing the **required nutrients** for **normal fetal growth** and **maternal health**.
- **Prevent excessive maternal weight gain**, particularly in women who are overweight or have gained excess weight in pregnancy.
- **Prevent ketosis.**

Nutrition intervention for GDM has been recognized as the **cornerstone of therapy.**

In patients receive diet therapy:

- Fewer patients require insulin therapy
- Decrease HbA1c
- lower serious perinatal complications among the infants:
 - ✓ lower perinatal mortality
 - ✓ lower % large-for-gestational-age
 - ✓ Less macrosomia

Crowther ,2005, Reader,2006, Cheung,2009

Group		MNT (307)	Non-MNT (181)	χ^2	p
PIH	Yes	23 (7.49)	12 (6.63)	0.13	0.72
	No	284 (92.51)	169 (93.37)		
VC	Yes	7 (2.28)	4 (2.21)	0.003	0.96
	No	300 (97.72)	177 (97.79)		
Insulin	Yes	63 (20.25)	77 (42.54)	26.99	<0.001
	No	244 (79.48)	104 (57.46)		
Abnormal amniotic fluid	Yes	31 (10.10)	33 (18.23)	6.61	0.01
	No	276 (89.90)	148 (81.77)		
Premature birth	Yes	5 (1.63)	4 (2.21)	0.21	0.65
	No	302 (98.37)	177 (97.79)		
PPROM	Yes	25 (8.14)	24 (13.26)	3.30	0.07
	No	282 (91.86)	157 (86.74)		
Cesarean section	Yes	106 (34.53)	116 (64.09)	40.13	<0.001
	No	201 (65.47)	15 (8.29)		
Macrosomia	Yes	30 (9.77)	50 (27.62)	26.48	<0.001
	No	277 (90.23)	131 (72.38)		
Neonates hypoglycemia	Yes	7 (2.28)	9 (4.97)	2.60	0.11

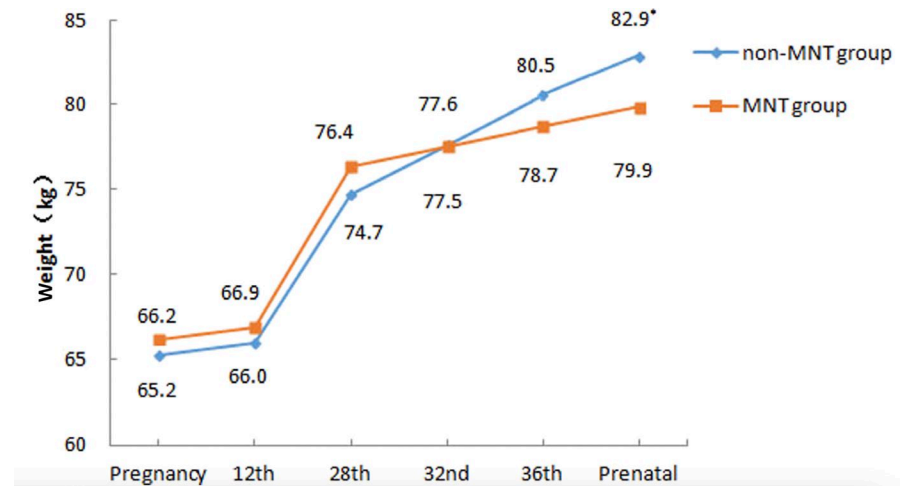


Figure 1 Weight change of pregnant women with GDM. * $p < 0.05$, weight between the two groups. GDM = gestational diabetes mellitus; MNT = medical nutrition therapy.

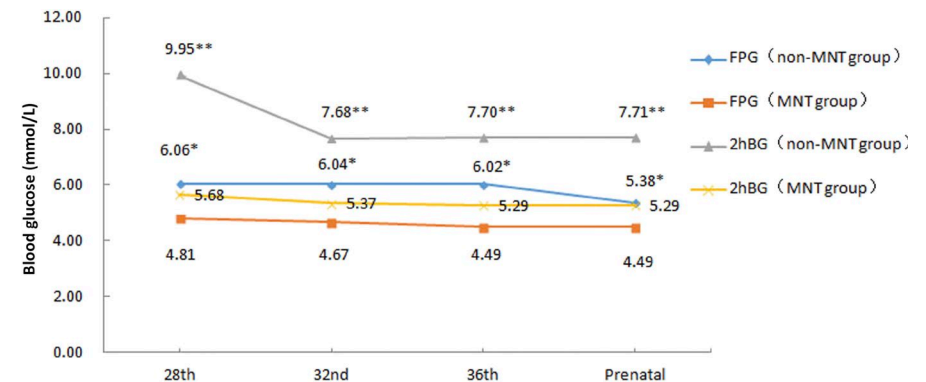


Figure 2 Changes in blood glucose of pregnant women with GDM. * $p < 0.001$, FPG between the two groups. ** $p < 0.001$, 2hBG between the two groups. 2hBG = 2-hour blood glucose; FPG = fasting plasma glucose; GDM = gestational diabetes mellitus; MNT = medical nutrition therapy.

Prevent excessive maternal weight gain



“Weight gain during pregnancy for women with GDM should be similar to that of women without diabetes”

BMI before pregnancy	Recommended weight gain in pregnancy
< 18.5	12.5 - 18 kg
18.5 - 24.9	11.5 - 16 kg
25 - 29.9	7 - 11.5 kg
> 30	5 - 9 kg



Prevent ketosis.

Overweight and obese women:

Severe calorie restriction **<1500** calories per day or 50% restriction increases **ketonuria** and **ketonemia**.

American Diabetes Association have suggested:

a 30–33% calorie restriction for obese women with GDM, noting a minimum **1800** calorie

ADA,2000



The caloric intake of pregnant women with GDM according to ADA-FIGO

BMI prior to pregnancy (kg/m ²)	Caloric intake (kcal/kg/day)
<18.5 (underweight)	35–40
18.5–24.9 (normal weight)	30–34
25–29.9 (overweight)	25–29
≥30 (obesity)	Maximum 24 kcal/kg/day or a reduction of 30–33% of the prior caloric intake

Prevent ketosis.

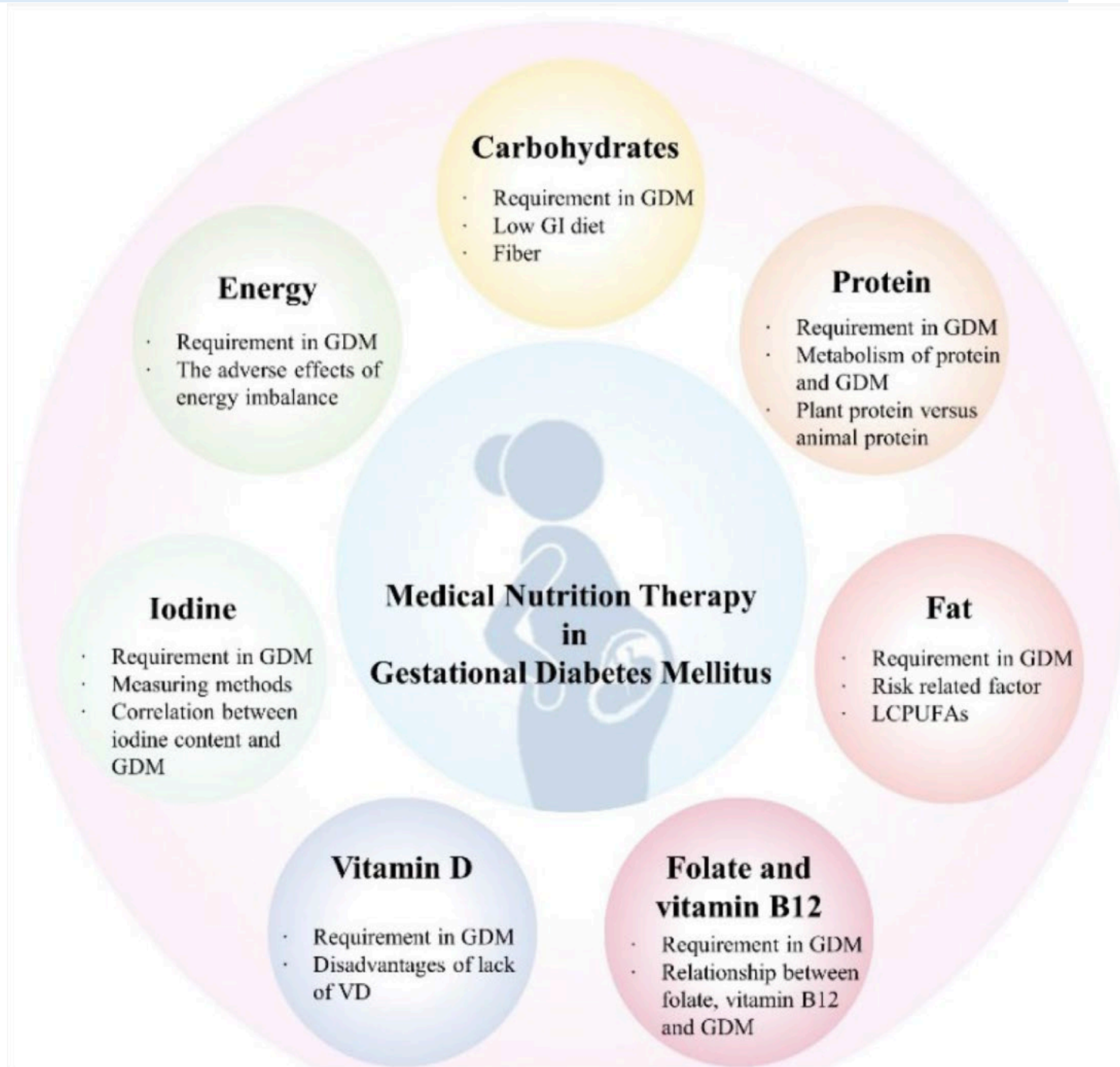


Macronutrients	% caloric intake	
Carbohydrates	35–50% (minimum 175 g/day) (ADA)	
Proteins	71 g/day (ADA)	
Lipids	1.	20–35% (IOM)
	2.	30–35% (DDG)

Carbohydrate

- The 2002 Dietary Reference Intake Report set a minimum level of **130 g/day** for **non-pregnant** women and **175 g/day** for **pregnancy**; this is an additional 45 g carbohydrate for fetal brain development and functioning.
- An **evening snack** is usually needed to prevent accelerated ketosis overnight.

Overview of medical nutrition therapy in gestational diabetes mellitus treatment



Low GI and High Quality of Carbohydrates

Gestational Diabetes Mellitus: The Impact of Carbohydrate Quality in Diet

• coarse barley bread • strawberries, apples, pears, oranges • milk & soy milk • natural yoghurt • oatmeal, beans	30 - 50 
• pearled barley, lentils • greyfruit, cherry, apricot, plum • dark chocolate 70% cocoa • whole milk • cashews, walnuts	10 - 30 
• hummus, chickpeas • garlic, onion, green pepper • eggplant, broccoli, cabbage, tomatoes • mushrooms • lettuce	0 - 10 

positive effects

on certain metabolic outcomes, such as **2 h PPG**, FPG, and likely, **lipid profile** in patients with GDM.

Most clinical studies observed a **significant reduction in insulin requirement**.

not shown to have a marked influence on other obstetric maternal or fetal outcomes (body weight gain, birth weight, proportion of LGA, and macrosomia)

Interestingly, current evidence suggests that an LGI nutritional approach is reasonably safe in GDM, **since it was not associated to adverse fetal-maternal outcomes in clinical trials**.

In clinical care, giving LGI advice in pregnancy complicated by GDM might therefore be considered, especially in women with uncontrolled PPG or FPG, before starting insulin treatment.

Safety and efficacy of supplements in pregnancy

Benjamin Brown and Ciara Wright

There is substantial evidence on the importance of maternal diet for the health of the fetus. The nutrient status of the fetus is mostly dependent on maternal intake and it has been known for many years that deficiencies in critical nutrients can lead to malformations and poor health outcomes for both the mother and offspring. It is because of this that, often, pregnancy is a time that expectant mothers will focus on their health and nutrient intake.

Supplement use is very common in pregnancy. Studies show that multivitamin use (excluding folic acid alone) ranges **from 78% to 98%** in different cohorts across the United States, Canada, and Australia.

Quale nutraceutico in gravidanza?

- Possedere un meccanismo d'azione non competitivo e reversibile, che determini il ritardo di assorbimento dei soli carboidrati, senza effetti collaterali dovuti a questi ultimi, che fermentano una volta giunti al colon, e in assenza di tossicità.
- Agire principalmente sulla glicemia e sui picchi glicemici (il picco mattutino è il più difficile, nella condizione gravidica, da tenere sotto controllo), migliorando il controllo glicemico nel suo complesso e collateralmente anche il profilo lipidico.
- Possedere dati sperimentali in vitro e di farmacologia animale, ma soprattutto evidenze cliniche sull'essere umano, che ne dimostrino il meccanismo d'azione e ne garantiscano efficacia e sicurezza.
- Devono essere inoltre chiaramente definite dosi e durata del trattamento e il razionale alla loro base.

I NUTRACEUTICI NELLA TERAPIA DEL DIABETE GESTAZIONALE: UNA NUOVA FRONTIERA?

Sprio Elisa*, Lovati Elisabetta*, Lucotti Pietro*, Iadarola Carmine*, Di Sabatino Antonio*

* U.O.C. Medicina 1, Fondazione IRCCS Policlinico San Matteo, Università di Pavia

Sebbene non emergano differenze statisticamente significative sul ricorso alla terapia insulinica tra GC e GI, è interessante notare che tra queste ultime, il ricorso ad una terapia insulinica prandiale si sia reso necessario in particolare tra le pazienti che non avevano assunto Gdue regolarmente (GI “scarsamente complianti”). Infatti solo una paziente del gruppo che assumeva l’integratore con regolarità (GI “complianti”), ha dovuto introdurre l’insulina ai pasti, in associazione all’insulina basale.

la riduzione delle glicemie post-prandiali è più marcata a colazione e pranzo nel gruppo che ha effettuato l’integrazione (GI), rispetto al gruppo di controllo (-8 [17] vs -5 [17] mg/dl a colazione, -9 [14] vs -3 [11] a pranzo), sebbene tale differenza non raggiunga una significatività statistica.

Variabili indagate	GC (n 35)	GI (n 29)	GI complianti (n 20)	GI scarsamente complianti (n 9)
Terapia insulinica n (%)	17 (49%)	15 (52%)	11 (55%)	4 (44%)
Solo basale, n (%)	10 (29%)	10 (35%)	9 (45%)	1 (11%)
Solo rapida, n (%)	3 (9%)	1 (3%)	0 (0%)	1 (11%)
Basal-bolus, n (%)	4 (11%)	4 (14%)	2 (10%)	2 (22%)
Glicemia 1h dopo colazione (1° controllo) media [DS] mg/dl	124 [18]	124 [17]	124 [17]	124 [17]
Glicemia 1h dopo colazione (ultima visita) media [DS] mg/dl	118 [14] 119 [15]	114 [14]* 117 [15]	117 [15]* 117 [15]	115 [12]* 117 [15]
Delta glicemia 1h dopo colazione 1° vs ultimo controllo media [DS] mg/dl	-5 [17]	-8 [17]	-8 [17]	-8 [17]
Glicemia 1h dopo pranzo (1° controllo) media [DS] mg/dl	122 [12]	123 [13]	123 [13]	123 [13]
Glicemia 1h dopo pranzo (ultima visita) media [DS] mg/dl	118 [13] 119 [15]	121 [14]* 122 [14]	121 [15]* 122 [14]	120 [12]* 122 [14]
Delta glicemia 1h dopo pranzo 1° vs ultimo controllo media [DS] mg/dl	-3 [11]	-9 [14]	-1 [14]	-1 [14]
Glicemia 1h dopo cena (1° controllo) media [DS] mg/dl	125 [14]	123 [15]	123 [15]	123 [15]
Glicemia 1h dopo cena (ultima visita) media [DS] mg/dl	117 [10] 121 [14]	118 [15]* 119 [15]	119 [15]* 119 [15]	119 [15]
Delta glicemia 1h dopo cena 1° vs ultimo controllo media [DS] mg/dl	-4 [15]	-4 [14]	-4 [14]	-4 [14]

- Il nutraceutico può essere preso in considerazione:
 - nel primissimo stadio di iperglicemia e non solo come supporto alla terapia insulinica
 - anche nelle fasi finali della gravidanza, dove le curve da carico sono pressoché normali ma vi sono alterazioni legate al metabolismo glucidico.

Garantire la assenza di effetti a livello tiroideo

(cfr. Desenzani P Rivista Società Italiana di Medicina Generale N.1 VOL.26 2019).

Il particolare processo produttivo della miscela delle due alghe (in rapporto fra loro 95:5) porta al quasi totale abbattimento dello IODIO presente tipicamente nelle miscele algali

UNA CAPSULA CONTIENE 75 µg, il che equivale al 50% del VNR (Valore Normale di Riferimento ex RDA dell'EFSA)

Iodide

La quota stimata per evitare la carenza in gravidanza e di 200 µg/die (contro i 150 µg degli adulti) secondo LARN ed EFSA, 250 µg/die secondo il documento congiunto WHO/UNICEF.

Il livello massimo tollerabile (UL) definito dai LARN e di 600 µg/die.

Dietary Protein

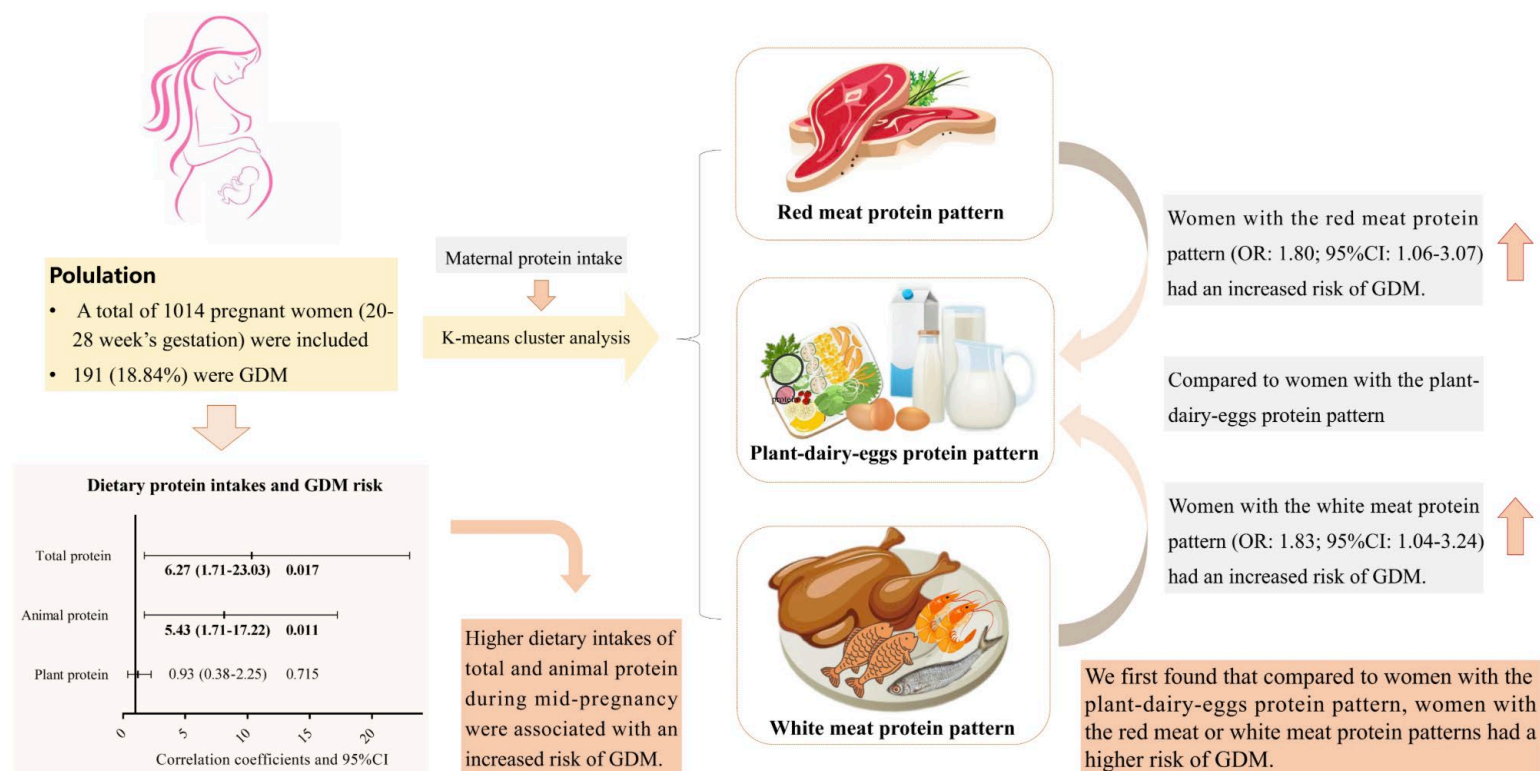


Macronutrients	% caloric intake	
Carbohydrates	35–50% (minimum 175 g/day) (ADA)	
Proteins	71 g/day (ADA)	
Lipids	1.	20–35% (IOM)
	2.	30–35% (DDG)

Dietary protein **may act as a precursor of gluconeogenesis** to stimulate hexosamine biosynthesis or activate the mTOR signaling pathway, thus playing a crucial role in the pathogenesis of insulin resistance.

Studies have shown that replacing energy from carbohydrates by increasing total protein may be significantly associated with a higher risk of GDM

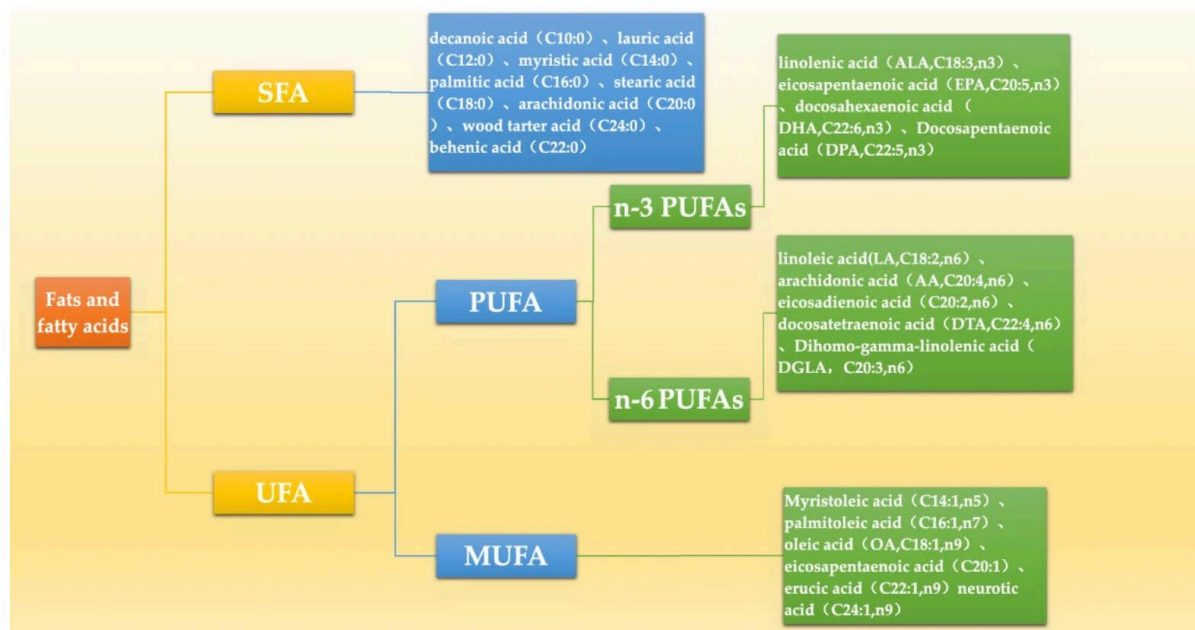
Dietary Protein Patterns during Pregnancy Are Associated with Risk of Gestational Diabetes Mellitus in Chinese Pregnant Women



Dietary Fat

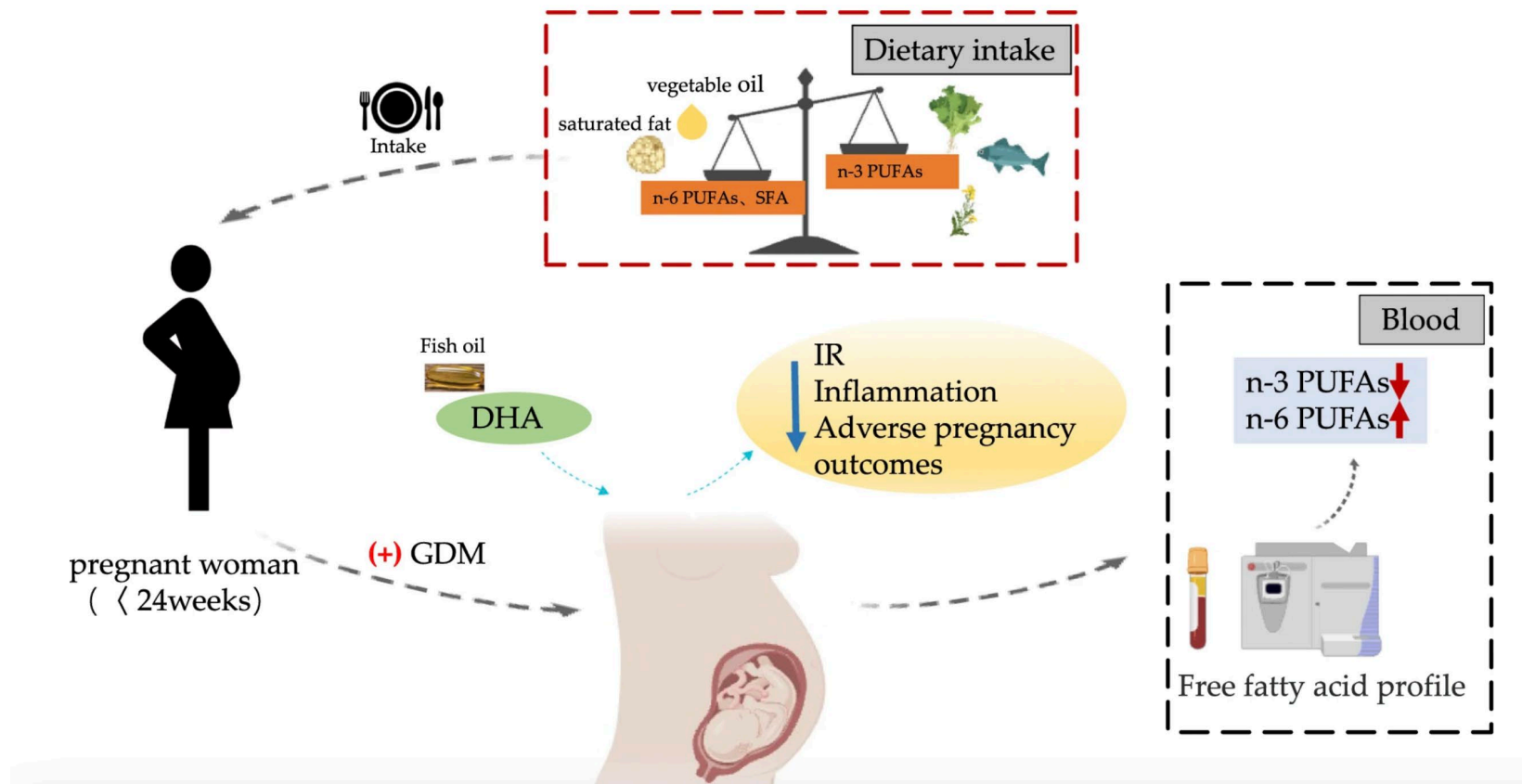


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A Classification of FFAs; **B** Common sources of dietary intake. **A** present the FFAs contained in SFA, PUFA (n-3/n-6), and MUFA, **B** reflects the common dietary categories of the above fatty acids. FFAs(free fatty acids); SFAs(saturated fatty acids); UFAs(unsaturated fatty acids); MUFAs (monounsaturated fatty acids); PUFAs (polyunsaturated fatty acids)

Good Dietary Fat



Relationship between dietary intake of FFAs and GDM. Pregnant women with GDM tended to consume more SFA and n-6 PUFAs than n-3 PUFAs, and the results were similar in blood. DHA supplementation is beneficial for pregnant women with GDM. GDM (gestational diabetes mellitus); FFAs (free fatty acids); SFAs (saturated fatty acids); PUFAs (polyunsaturated fatty acids); DHA (docosahexaenoic acid); IR (insulin resistance)

Fibers

Effects of Additional Dietary Fiber Supplements on Pregnant Women with Gestational Diabetes: A Systematic Review and Meta-Analysis of Randomized Controlled Studies

Nutrients 2022, 14(21), 4626; <https://doi.org/10.3390/nu14214626>

8 trials. Additional dietary fiber supplements significantly reduced

fasting glucose

two-hour postprandial glucose

glycated hemoglobin

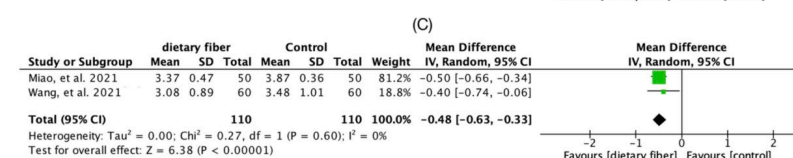
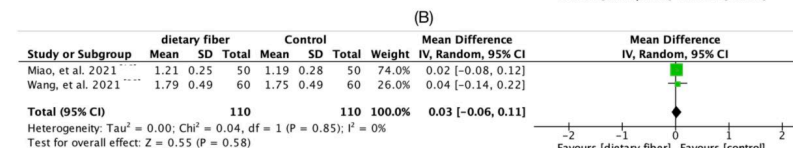
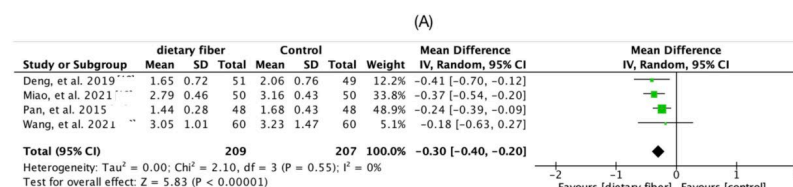
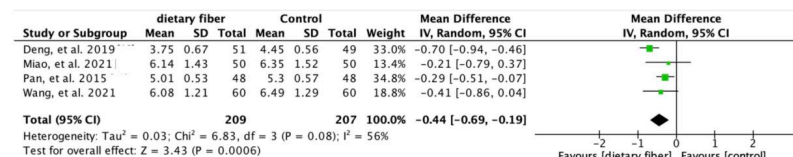
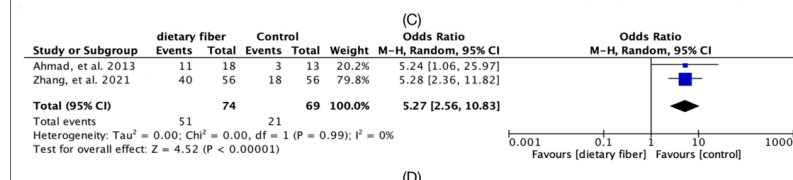
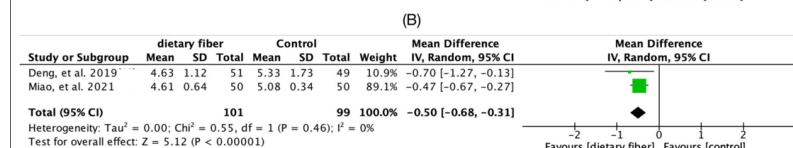
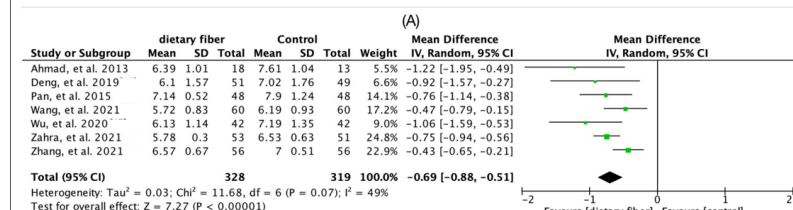
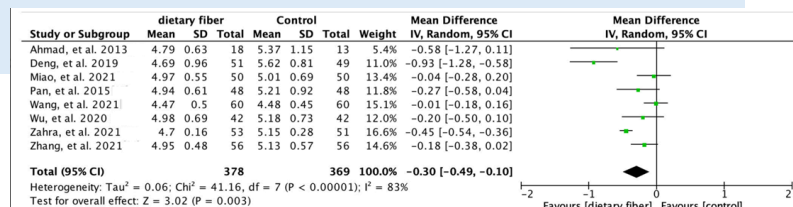
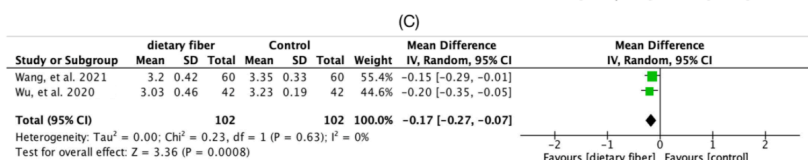
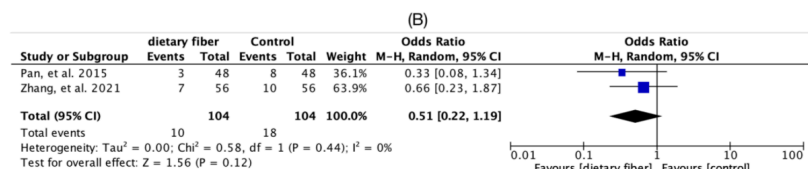
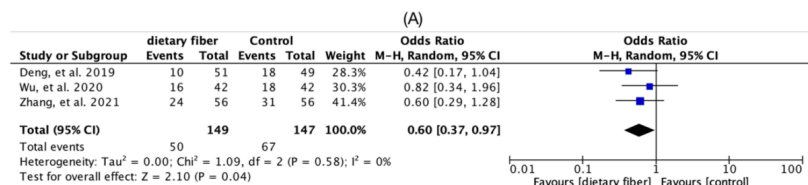
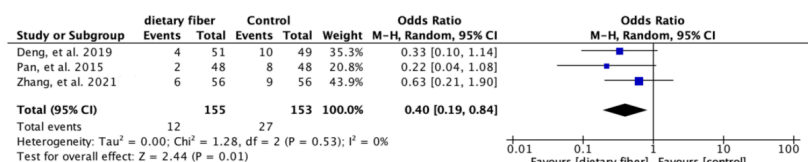
TC, TG, LDL-C

preterm delivery

cesarean delivery

fetal distress

neonatal weight



Sugar substitutes

The intake of sugar substitutes by pregnant woman with GDM is allowed

The key word is moderation

TABLE 6: Sugar substitutes, acceptable daily intake: adapted after [48].

Sweetener	Examples of brand names containing sweetener	Acceptable daily intake (mg/kg body weight/day)
Acesulfame potassium (Ace-K)	SweetOne® Sunett®	15
Advantame		32.8
Aspartame	Nutrasweet® Equal® Sugar Twin®	50
Neotame	Newtame®	0.3
Saccharin	Sweet and Low® Sweet Twin® Sweet'N Low® Necta Sweet®	15
Sucralose	Splenda®	5
Certain high-purity steviol glycosides purified from the leaves of <i>Stevia rebaudiana</i> (Bertoni) Berton	Truvia® PureVia® Enliten®	4

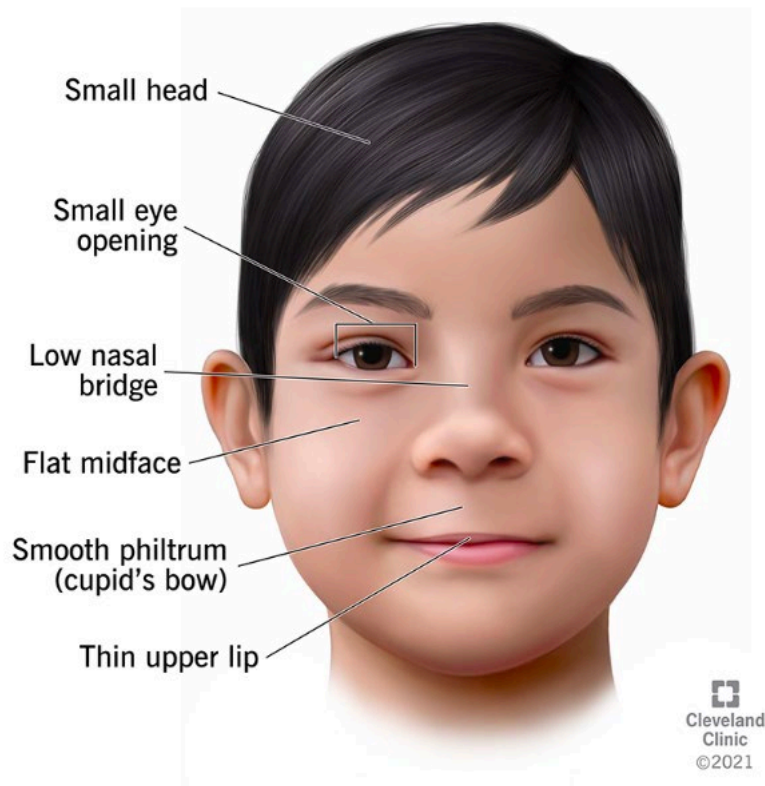
Alcohol

Caffeine during pregnancy

Keep your caffeine intake below 200mg

Strictly prohibited

Fetal alcohol syndrome



The caffeine content of drinks and chocolate is:

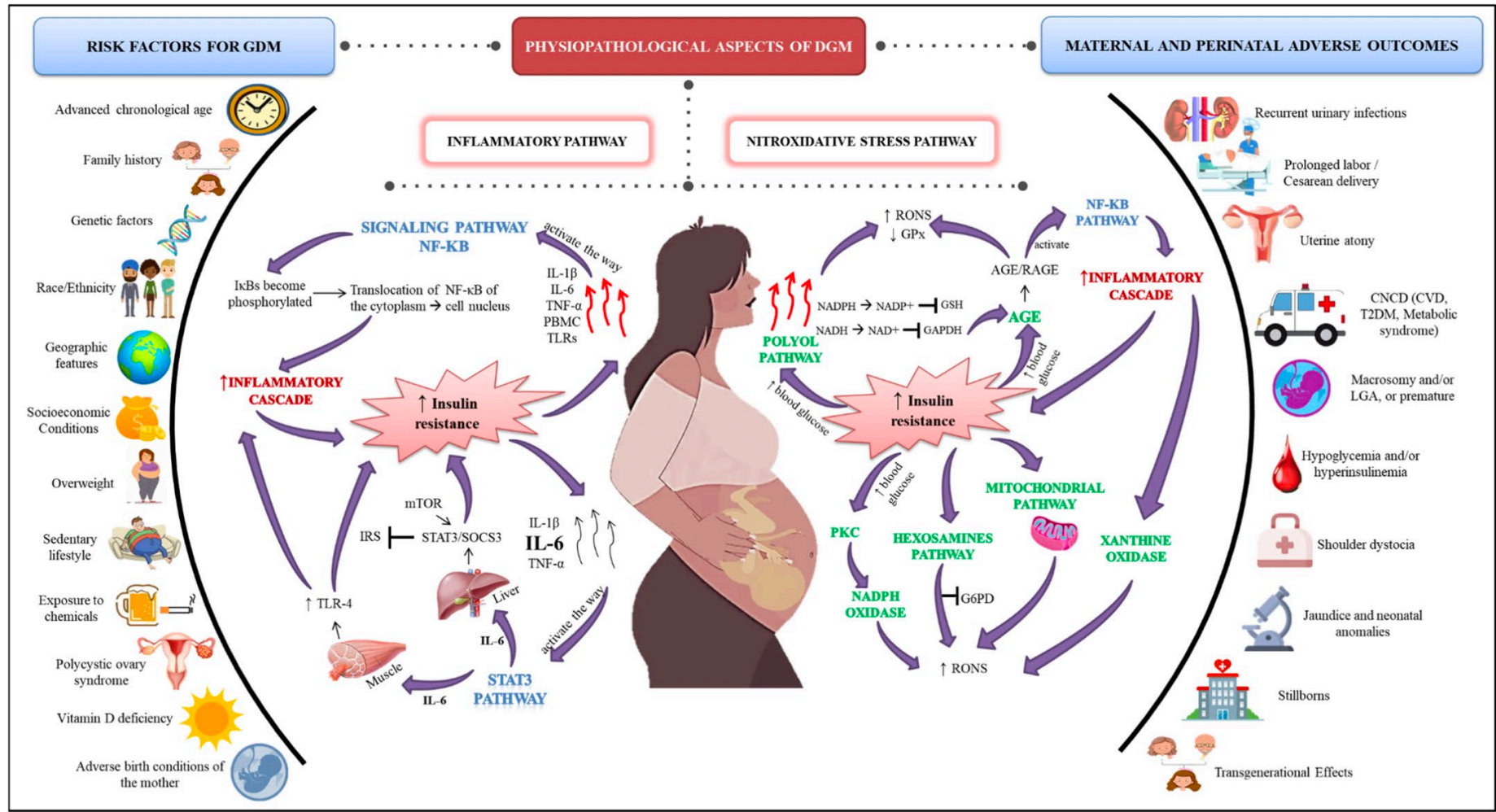
1 shot of espresso coffee		140mg
1 mug of filter coffee		140mg
1 mug of instant coffee		100mg
1 cup of brewed coffee		100mg
1 mug of tea		75mg
1 cup of tea		50mg
1 cup/mug decaffeinated tea or coffee		about 10mg
1 can of cola		up to 40mg
1 can of energy drink		up to 80mg
50g bar of plain chocolate		up to 25mg
50g bar of milk chocolate		up to 10mg

Certain cold and flu remedies also contain caffeine.

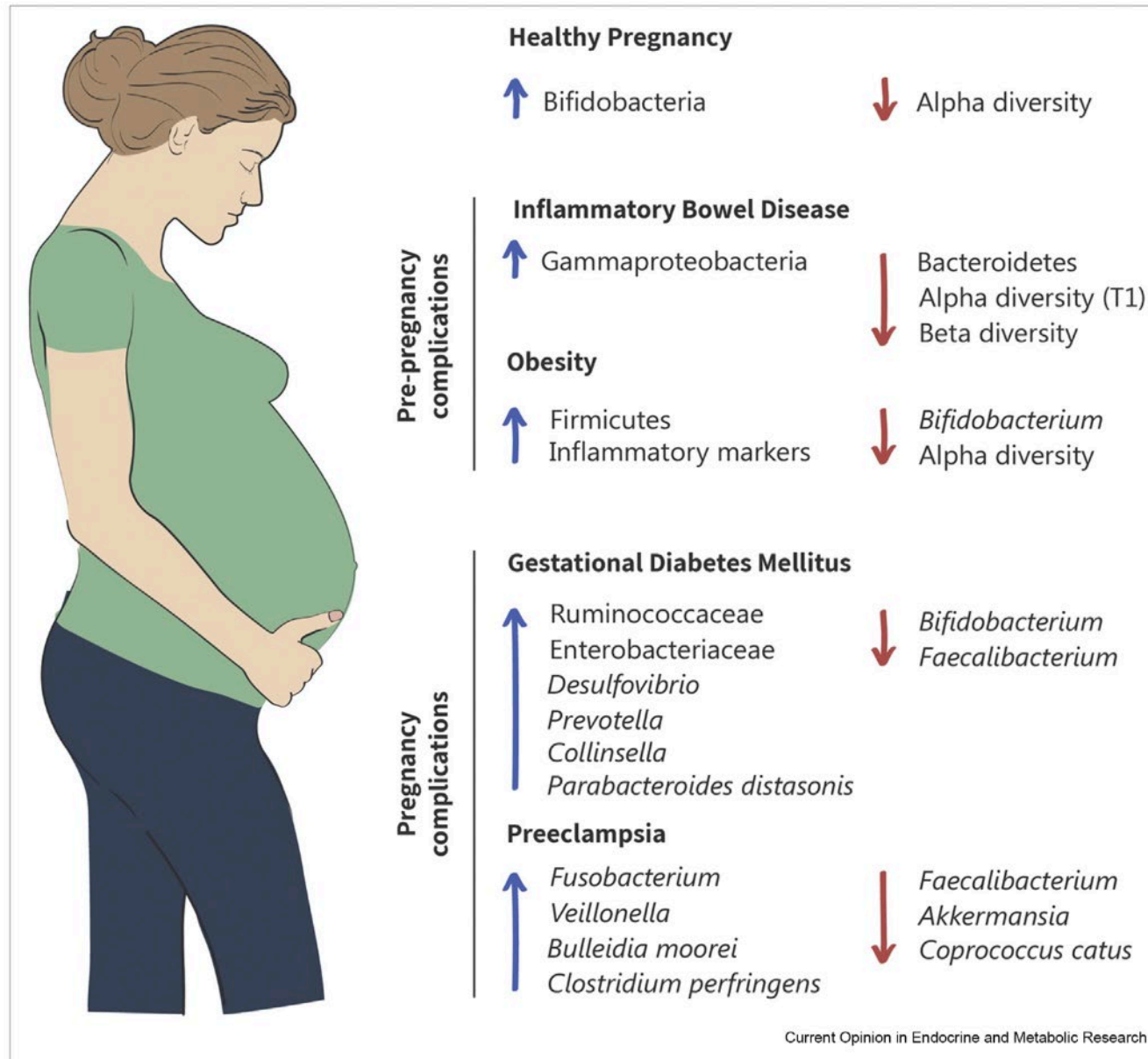
Summary of the recommendations

Nutrients	Recommendations
Energy	(1) A minimum of 1800 kcal per day is of great necessity, and should have an appropriate increase in energy intake during the second and third trimester of pregnancy. (2) Excessive and low daily energy intake are both undesirable.
Carbohydrates	(1) At least 35% to 45% of total daily energy intake is recommended, and it may be individualized in different countries. (2) A low GI diet is proved to be fairly safe in GDM and is not associated with adverse pregnancy outcomes.
Protein	(1) At least 71 g of protein daily during pregnancy should be ensured. (2) Replacing energy from carbohydrates by increasing total protein may be associated with a higher risk of GDM. (3) Eating more plant protein rather than animal protein may reduce the risk of GDM.
Fat	(1) Total fat intake should account for 30~40% of the total energy intake. (2) Compared to animal fat, the risk of developing GDM was lower when plant fat was substituted for carbohydrate as a percentage of energy. (3) Supplementation of LCPUFAs such as DHA and EPA in GDM is of great significance.
Folate and vitamin B ₁₂	(1) 600 µg/d DFE of folate and 2.9 µg/d of vitamin B₁₂ is recommended. (2) Supplementation of VB₁₂ should also be noted while supplementing folate.
Vitamin D	(1) 10 µg/d is recommended. (2) VD deficiency may be closely related to the occurrence of GDM and various adverse pregnancy outcomes.
Iodine	(1) 230 µg/d to ensure normal maternal thyroid function and adequate thyroid hormone transfer to the fetus. (2) Insufficient and excessive intake both have an impact on pregnancy.

Inflammatory and oxidative stress aspects in GDM



Dysbiosis



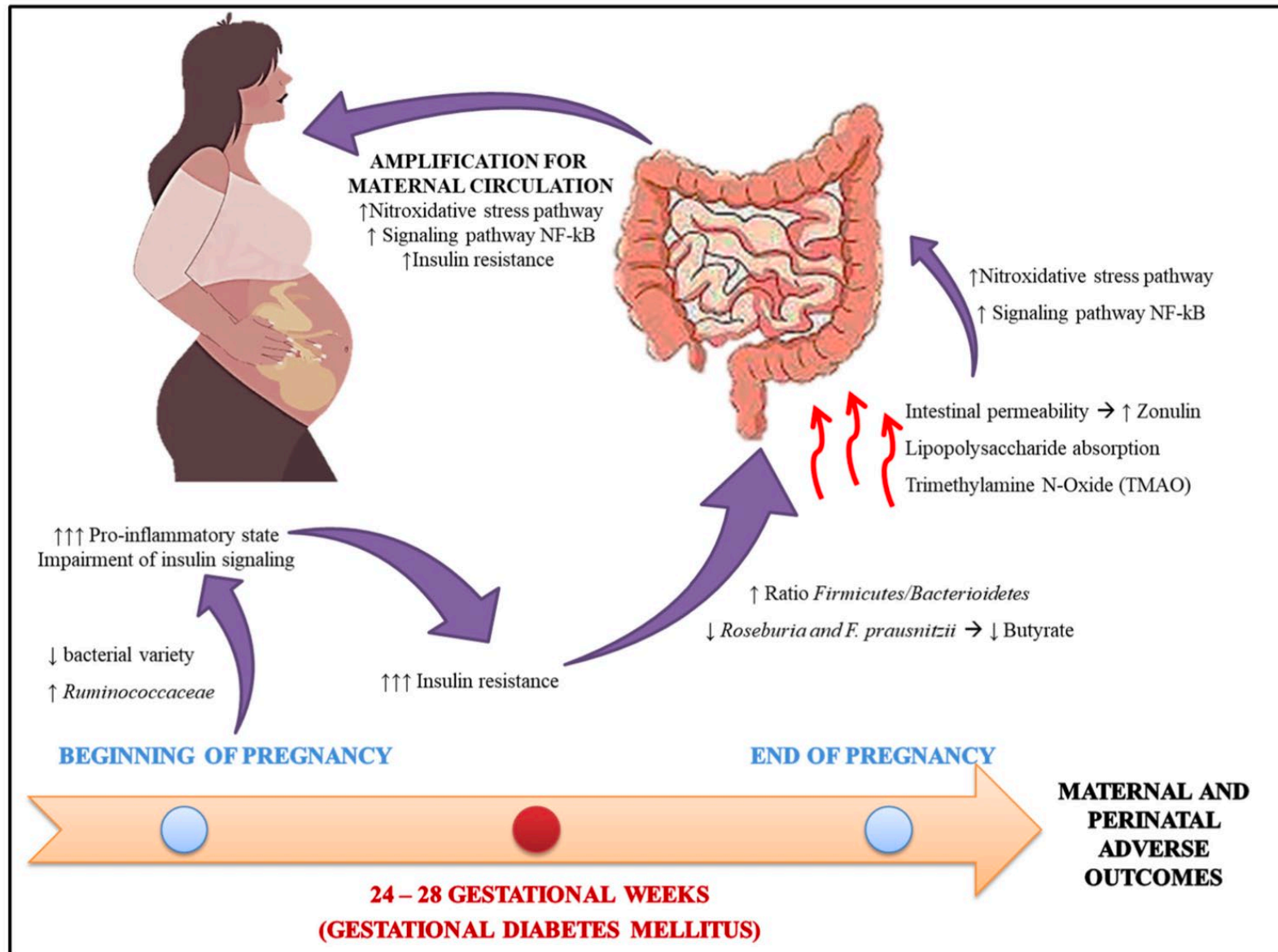
There is a growing body of evidence regarding the association between gut microbiota and metabolic disorders, including obesity, T2DM, and GDM.

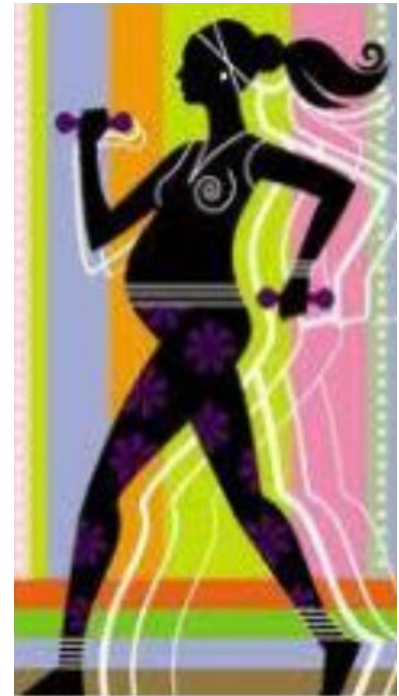
Dysregulation of the gut microbiota, known as dysbiosis, **reduces the release of SCFA and other antimicrobial molecules.**

These changes can lead to **dysregulation in insulin secretion, insulin sensitivity, and appetite regulation.**

Most critical is **the increase in gut wall permeability**, allowing endotoxins' systemic entrance, resulting in **low-grade inflammation.**

interaction between GDM and intestinal microbiota, inflammatory, and oxidative stress processes





DIABETES PREGNANCY and **TECHNOLOGY** in Lombardy - 2024

**Grazie per
l'attenzione**

8 GIUGNO 2024 - BERGAMO -