

TITOLO: La compliance alla dieta senza glutine

RELATORE: Prof.ssa Elena Lionetti

AFFILIAZIONE: Dipartimento di Pediatria

Università Politecnica delle Marche

Obiettivi

01

Educazione alla malattia e alla dieta

02

Monitoraggio periodico (sintomi, sierologia, complicate)

03

Verifica dell'aderenza alla dieta

04

Verifica della qualità della vita

Systematic review: adherence to a gluten-free diet in patients with coeliac disease

N. J. HALL*, G. RUBIN† & A. CHARNOCK*

Table 2 Adherence to a GFD in children with coeliac disease in different countries					
Country or reference	No. of patients with coeliac disease	Method to assess adherence to diet	Strict diet (%)	Partial diet (%)	Poor or no diet (%)
Canada ¹⁴²	168	Self-report, questionnaire	95	5	0
Italy ¹⁴³	95	Dietary interview, serology	76	24	0
Italy ⁴⁴	204	Dietary interview, blood test	74	26	0
Netherlands ¹⁴⁴	132*	Food questionnaire	75	23	2
Sweden ¹⁴⁵	316	Self-report, questionnaire	97	3	0
Finland ¹⁴⁶	94	Dietary interview, serology	81	19	0
Austria ¹⁴⁷	210*	Self-report, questionnaire	81	15	4
Israel ¹⁴⁸	41	Dietary interview, food record	46	54	0
Turkey ¹⁴⁹	30	Self-report, questionnaire	73	27	0
India ¹⁵⁰	70	Dietary interview, questionnaire	75	18	7
*Adolescents. Abbreviation: GFD, gluten-free diet.					

range dal 46% al 95%...

Practical insights into gluten-free diets

Jacalyn A. See, Katri Kaukinen, Govind K. Makharia, Peter R. Gibson and Joseph A. Murray

Differenze di genere (*F>M*)

Differenze in base all'età (*bambini> adolescenti< adulti*)

Nessuna differenza in base alla clinica (*screening=symptoms detected*)

Assenza di sintomi all'ingestione di glutine

Scarsa conoscenza della malattia e delle complicanze

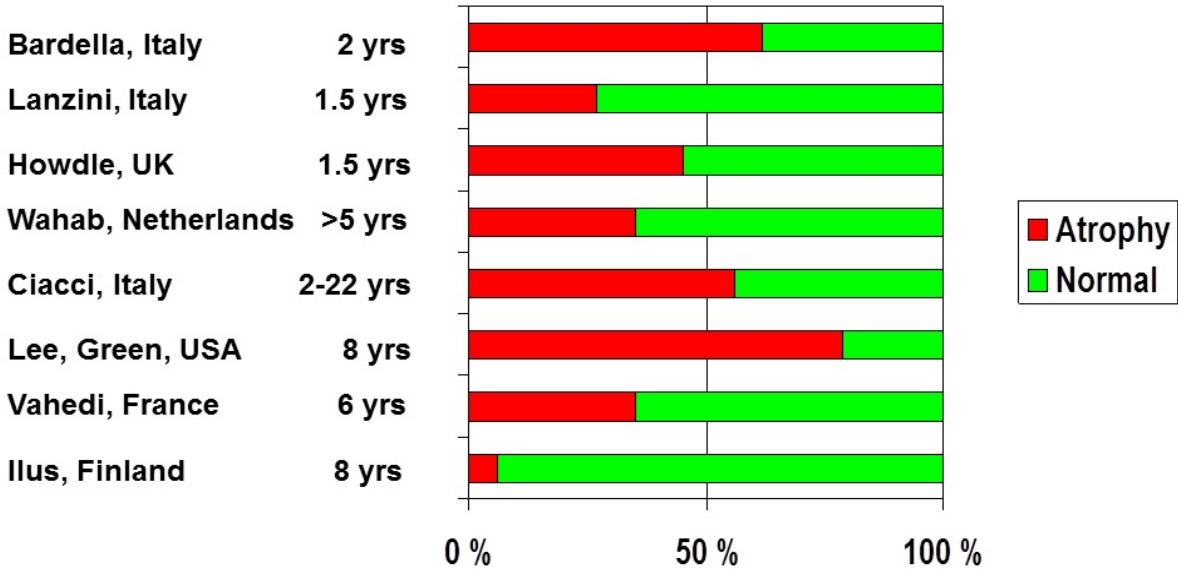
Scarso supporto familiare

Problematiche psicologiche

Costi, disponibilità dei prodotti, palatabilità, etichettatura

Practical insights into gluten-free diets

Jacalyn A. See, Katri Kaukinen, Govind K. Makharia, Peter R. Gibson and Joseph A. Murray



Atrofia persistente nonostante stretta aderenza alla GFD

Adherence to a zero gluten diet is almost impossible

- ❖ **Voluntary transgression** (adolescents)
- ❖ GF food by origin **contaminated** along the production chain (in the field, harvest, stockage transport, milling)
- ❖ **Commercial food** (salami, soy sauce, ice-creams, hamburger, sauces, french fries, beers, etc)
- ❖ **Dining out** (pizzeria, restaurant, etc)

Article

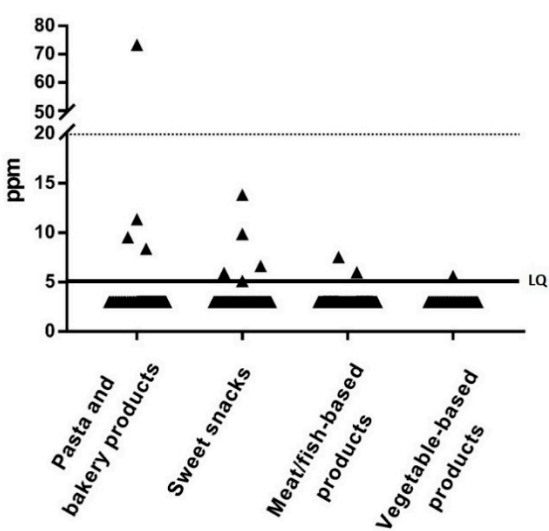
Gluten Contamination in Naturally or Labeled Gluten-Free Products Marketed in Italy

Anil K. Verma ^{1,*}, Simona Gatti ^{1,2}, Tiziana Galeazzi ¹, Chiara Monachesi ¹, Lucia Padella ¹, Giada Del Baldo ², Roberta Annibali ², Elena Lionetti ^{1,2} and Carlo Catassi ^{1,2}



Quantification of Accidental Gluten Contamination in the Diet of Children with Treated Celiac Disease

Chiara Monachesi ^{1,*}, Anil K. Verma ¹, Giulia N. Catassi ², Tiziana Galeazzi ¹, Elisa Franceschini ², Valentina Perticaroli ², Elena Lionetti ² and Carlo Catassi ^{2,3}



	<5 ppm <i>n</i> = 436 (97%)	Gluten Contamination 5–20 ppm <i>n</i> = 11 (2.8%)	>20 ppm <i>n</i> = 1 (0.2%)
Place of sampling			
■ Home	336 (97%)	9 (3%)	0 (0%)
■ Relatives	73 (96%)	2 (3%)	1 (1%)
■ School	15 (100%)	0 (0%)	0 (0%)
■ Restaurant	12 (100%)	0 (0%)	0 (0%)
Time of sampling			
■ Weekdays	308 (97%)	7 (2%)	1 (0.3%)
■ Weekend	128 (97%)	4 (3%)	0 (0%)

Figure 1. Gluten content in the 448 analyzed samples according to the food group. LQ, limit of quantification (solid line).

01

Timing dei controlli

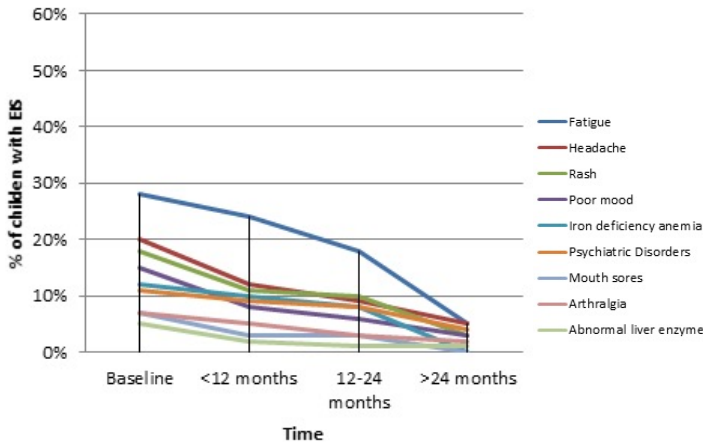
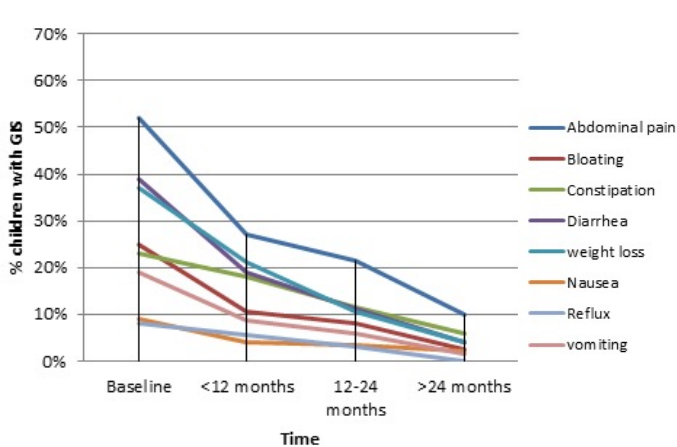
- ❑ 1° controllo: dopo 6 mesi
- ❑ 2° controllo: dopo 12 mesi
- ❑ Successivamente: ogni 1-2 anni



02

Come? Valutazione clinica

Celiac Disease Symptom Resolution: Effectiveness of the Gluten-free Diet



I sintomi generalmente regrediscono entro 6-12 mesi dalla diagnosi.

Sansotta N et al, J Pediatr Gastr Nutr 2018
Saps M et al, J Pediatrics 2017

02

Come? Valutazione clinica

VALUTAZIONE ANTROPOMETRICA

Peso
Altezza
BMI (>2 anni)

Il catch-up growth si osserva entro 6 mesi e prosegue per 2-3 anni.

Verificare aderenza alla dieta

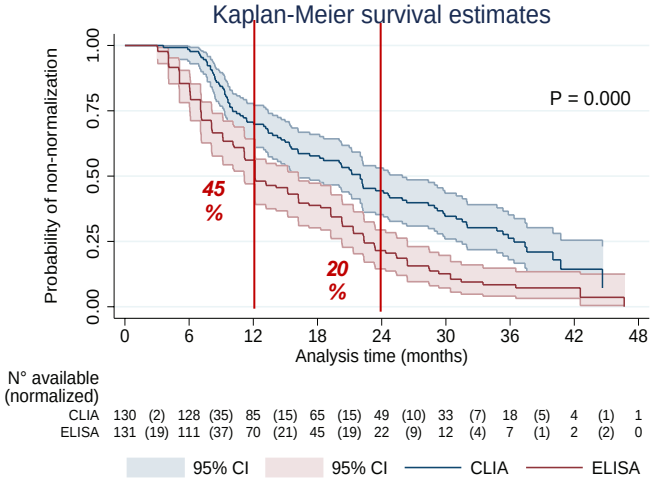
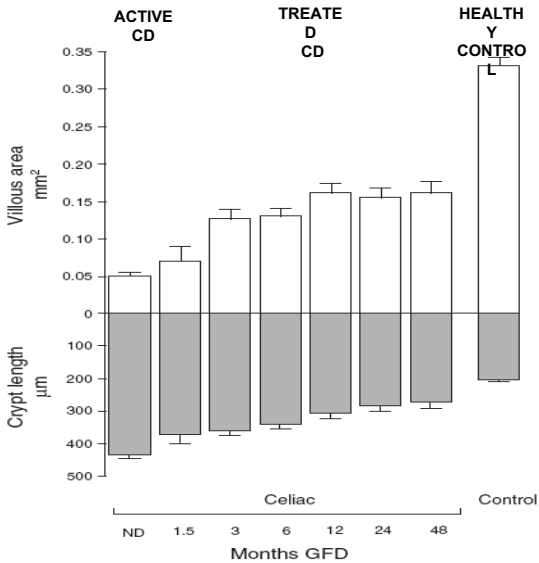
Valutare altre cause



03

Come? La sierologia

- ✓ *TTG IgA a tutti i controlli*
- ✓ *Utilizzare la stessa metodica*
- ✓ *Considerare i tempi di normalizzazione*



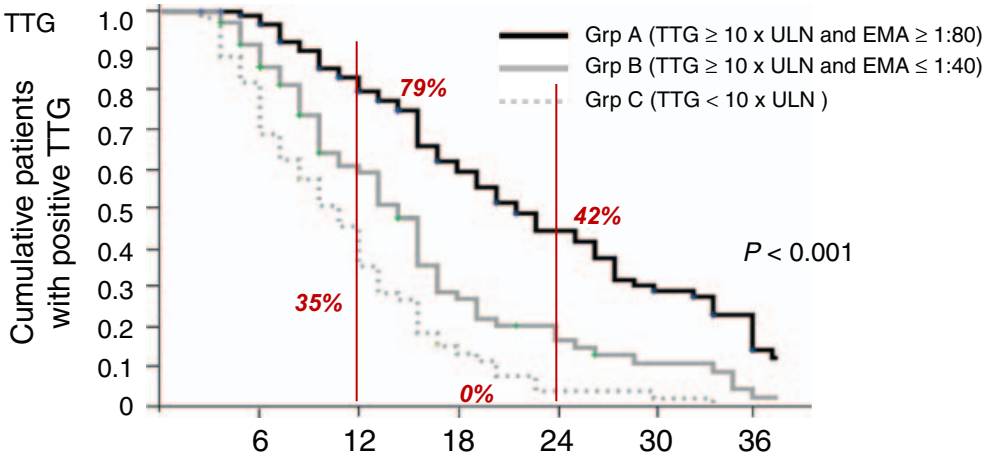
Cummins et al, AJG 2010

Sansotta N et al, J Ped Gastr and Nutr 2020
Monachesi C, et al. J Ped Gastr and Nutr 2020

03

La sierologia

Normalization Time of Celiac Serology in Children on a Gluten-free Diet

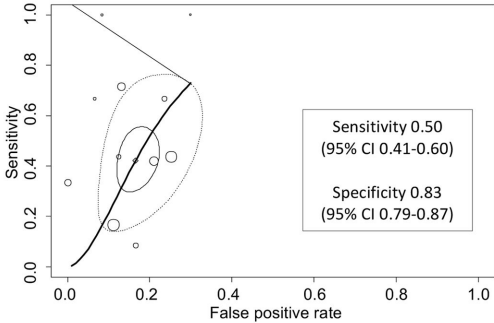
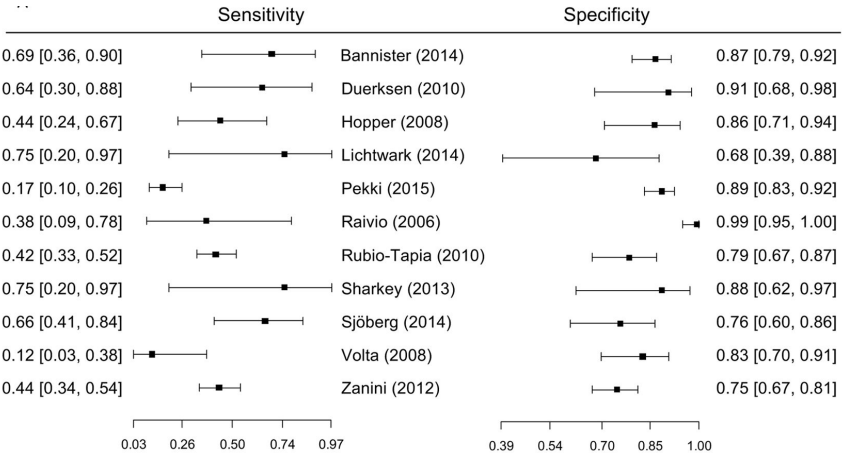


Gidrewicz et al, J Ped Gastr and Nutr 2017
Sansotta N et al, J Ped Gastr and Nutr 2020
Monachesi C, et al. J Ped Gastr and Nutr 2020

03

La sierologia

Tests for Serum Transglutaminase and Endomysial Antibodies Do Not Detect Most Patients With Celiac Disease and Persistent Villous Atrophy on Gluten-free Diets: a Meta-analysis



04

Come? Valutazione laboratoristica

Quali esami?

Emocromo

Glicemia

AST, ALT

Assetto ferrico (ferro, ferritina, transferrina)

Micronutrienti (calcio, vitamina D, vitamina

B12, vitamina C, acido folico)

Stato di immunizzazione HBV

TSH



05

Come?

INTERVISTA DIETETICA

Tipo di alimentazione
Dettaglio di alimenti assunti
Conoscenza sull'etichettatura
Alimenti con "tracce di glutine"
Contaminazione
Pasti fuori a casa
Barriere alla compliance
Adeguatezza nutrizionale
Avversione per alcuni alimenti.

Limiti: tempo, esperto dietista



07

I questionari

Annex A

Dietary interview, written version.

Between brackets number of points per answer, leading to scores:

0-2 strict gluten free diet

3-20 gluten free diet with important errors

21-84 gluten free diet not followed

1. Is your child on a gluten free diet (GFD)? Yes(84)No(0)

If no, why isn't your child on a GFD? (tick appropriate answers)

- Because my child doesn't have celiac related complaints
- Because it is too complicated
- Because it is too expensive
- Some other reason, being

Questionnaire ends here if answer was no.

2. Does your child eat gluten accidentally? Yes/No

If yes: (tick appropriate answer)

- Every day (2)
- Once a week (1)
- Once a month (0)
- Once a year (0)

3. Does your child eat gluten intentionally? Yes/No

If yes, this consists of: (tick appropriate answer)

- Bread/cereals: daily (5), weekly (4), monthly (2), once a year (0)
- Pastry: daily (5), weekly (4), monthly (2), once a year (0)
- Pizza: daily (5), weekly (4), monthly (2), once a year (0)
- ~~Oliebollen~~/traditional Dutch deep-fried solid doughnuts eaten during New Year's Eve and fun fairs: daily (5), weekly (4), monthly (2), once a year (0)
- Deep-fried snacks: daily (3), weekly (2), monthly (1), once a year (0)
- Candy bars, candy, crisps, nuts: daily (2), weekly (1), monthly (0), once a year (0)
- Other food such as ~~brood~~: daily (3), weekly (2), monthly (1), once a year

If yes, my child eats gluten intentionally: (tick appropriate answers)

- At home

- When he/she is with other family (like grand parents)
- When he/she is with friends
- At special occasions (birthday, party ~~etc~~)
- When eating out
- At school/work
- During sport activities
- During camp
- During holidays

4. If there is a treat at school or at work, my child will eat the treat even if it might contain gluten. Yes(2)No(0).

5. We'll discuss the GFD with the person taking care of the meal provided for my child, if my child will eat somewhere ~~else~~. Yes/No.

If no, we do not do so: (tick appropriate answers)

- On holiday (3)
- On a school trip (3)
- On camp (3)
- When staying overnight (2)
- At a party (1)

6. At home, my child is the only one on a GFD. Yes/No.

If no, who else is on a GFD?

- Father
- Mother
- Sibling

7. Besides gluten free products, there are also gluten containing products available at our home. Yes/No.

If yes:

- The gluten containing products are stored separately from the gluten free products. Yes(0)No(2).
- Other people, who are not on ~~a~~ GFD, can use the gluten free butter and spreadable sandwich toppings. Yes/No.
 - o If yes, is this done with clean utensils? Yes(0)No(2).
- If gluten free and gluten containing flour is used, the gluten free flour is always used first. Yes(0)No(2).

8. Gluten free food is always prepared with clean hands, worktop and materials. Yes(0)No(2).

Detection of gluten immunogenic peptides in the urine of patients with coeliac disease reveals transgressions in the gluten-free diet and incomplete mucosal healing

María de Lourdes Moreno,¹ Ángel Cebolla,² Alba Muñoz-Suano,²
Carolina Carrillo-Carrion,² Isabel Comino,¹ Ángeles Pizarro,³ Francisco León,⁴
Alfonso Rodríguez-Herrera,⁵ Carolina Sousa¹



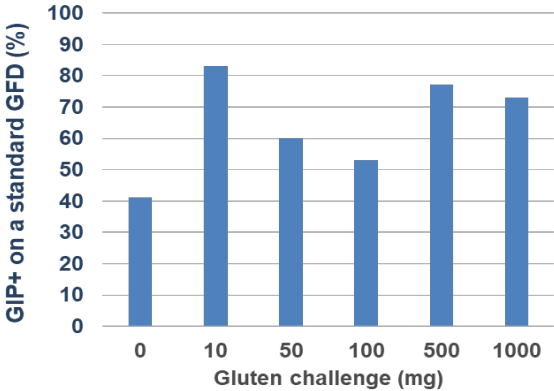
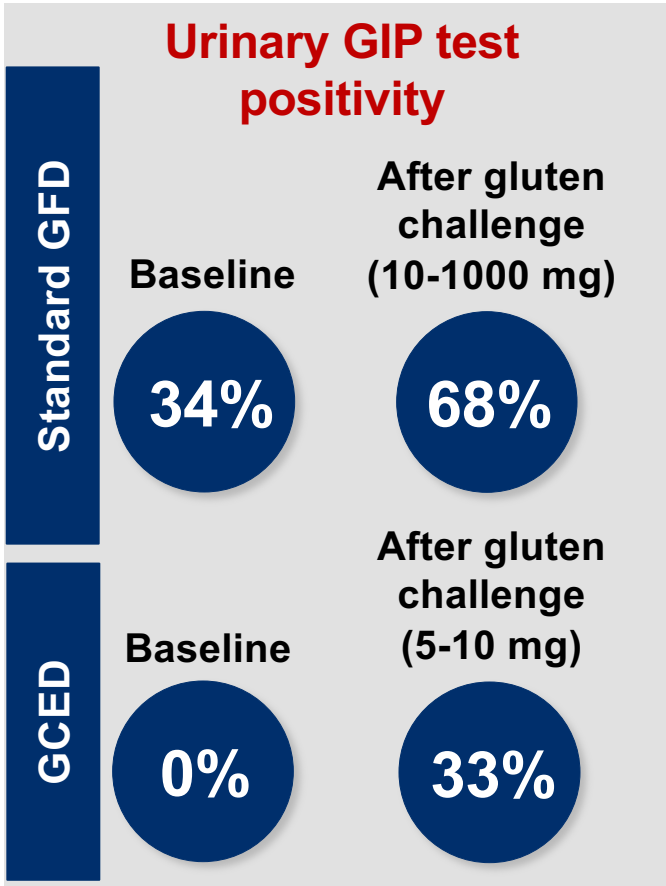
Peptidi immunogenici



Immunoassay G12 anticorpi monoclonali

Determination of urinary gluten immunogenic peptides to assess adherence to the gluten-free diet: a randomized, double-blind, controlled study

-  25 healthy volunteers on a standard gluten-free diet (GFD: gluten < 10 mg/day)
-  12 healthy volunteers on a gluten contamination elimination diet (GCED: zero gluten)
-  Random sequence of single-dose gluten challenges
-  24-h urine collection
-  Quantification of GIP before and after gluten challenges



- ✓ On a standard GFD the frequent GIP positivity at baseline may be due to the presence of gluten traces in gluten-free products
- ✓ The ingestion of fixed amounts of gluten was frequently associated with GIP negativity.

