

fimp Federazione Italiana Medici *Pediatr*
Sezione di Caserta

SIPPS & FIMPAGGIORNA 2016

**IL BAMBINO ED IL PEDIATRA:
"TRA COMPETENZE SPECIFICHE E MULTIDISCIPLINARIETÀ"**



Il Corso rientra nel programma di Educazione Continua in Medicina del Ministero della Salute

Sede del Corso
PLAZA HOTEL, Via Lamberti - Caserta

Coordinatore Scientifico
Giuseppe Di Mauro

17 Marzo 2016

Dieta e Fegato: tra Miti ed EBM

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U.O.S. di Epatologia Pediatrica
Università di Napoli Federico II



WARNING

**CHUBBY KIDS
MAY NOT
OUTLIVE THEIR
PARENTS**

stopchildhoodobesity.com



WARNING

**FAT KIDS
BECOME FAT
ADULTS.**

stopchildhoodobesity.com



WARNING

**BIG BONES
DIDN'T MAKE ME
THIS WAY.
BIG MEALS DID.**

stopchildhoodobesity.com



WARNING

**HE HAS HIS
FATHER'S EYES,
HIS LAUGH AND
MAYBE EVEN HIS
DIABETES.**

stopchildhoodobesity.com

SPECIAL ARTICLE

Myths, Presumptions, and Facts about Obesity

N ENGL J MED 368:5 NEJM.ORG JANUARY 31, 2013

Many beliefs about obesity persist in the absence of supporting scientific evidence (presumptions); some persist despite contradicting evidence (myths).



Ceci n'est pas une pipe.



Table 2. Presumptions about Obesity.*

Presumption

Regularly eating (vs. skipping) breakfast is protective against obesity

Early childhood is the period during which we learn exercise and eating habits that influence our weight throughout life

Eating more fruits and vegetables will result in weight loss or less weight gain, regardless of whether one intentionally makes any other behavioral or environmental changes

Weight cycling (i.e., yo-yo dieting) is associated with increased mortality

Snacking contributes to weight gain and obesity

The built environment, in terms of sidewalk and park availability, influences obesity

Basis for Conjecture

Skipping breakfast purportedly leads to overeating later in the day

Weight-for-height indexes, eating behaviors, and preferences that are present in early childhood are correlated with those later in life

By eating more fruits and vegetables, a person presumably spontaneously eats less of other foods, and the resulting reduction in calories is greater than the increase in calories from the fruit and vegetables

In observational studies, mortality rates have been lower among persons with stable weight than among those with unstable weight

Snack foods are presumed to be incompletely compensated for at subsequent meals, leading to weight gain

Neighborhood-environment features may promote or inhibit physical activity, thereby affecting obesity



Table 1. Seven Myths about Obesity.*

Myth	Basis of Conjecture
Small sustained changes in energy intake or expenditure will produce large, long-term weight changes	National health guidelines and reputable websites advertise that large changes in weight accumulate indefinitely after small sustained daily lifestyle modifications (e.g., walking for 20 minutes or eating two additional potato chips)
Setting realistic goals in obesity treatment is important because otherwise patients will become frustrated and lose less weight	According to goal-setting theory, unattainable goals impair performance and discourage goal-attaining behavior; in obesity treatment, incongruence between desired and actual weight loss is thought to undermine the patient's perceived ability to attain goals, which may lead to the discontinuation of behaviors necessary for weight loss
Large, rapid weight loss is associated with poorer long-term weight outcomes than is slow, gradual weight loss	This notion probably emerged in reaction to the adverse effects of nutritionally insufficient very-low-calorie diets (<800 kcal per day) in the 1960s; the belief has persisted, has been repeated in textbooks and recommendations from health authorities, and has been offered as a rule by dietitians
Assessing the stage of change or diet readiness is important in helping patients who seek weight-loss treatment	Many believe that patients who feel ready to lose weight are more likely to make the required lifestyle changes
Physical-education classes in their current format play an important role in preventing or reducing childhood obesity	The health benefits of physical activity of sufficient duration, frequency, and intensity are well established and include reductions in adiposity
Breast-feeding is protective against obesity	The belief that breast-fed children are less likely to become obese has persisted for more than a century and is passionately defended
A bout of sexual activity burns 100 to 300 kcal for each person involved	Many sources state that substantial energy is expended in typical sexual activity between two adults







OSTERIA

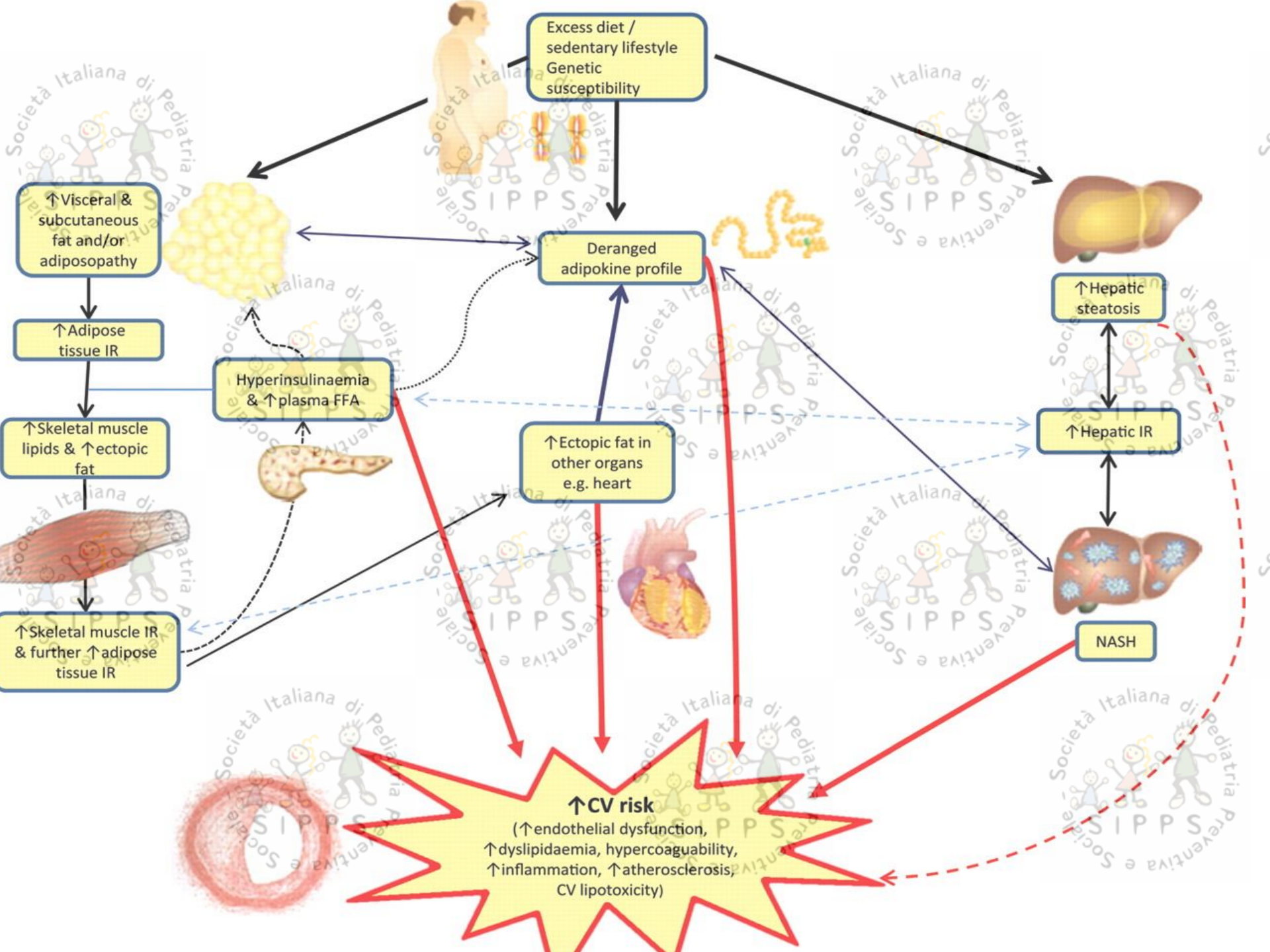
l'oca grassa

In questo ambiente non ci
sono molti dubbi che il Fegato
Grasso sia da "iperalimentazione" ...

ambulatorio pediatrico



Come curare il fegato grasso
dei bambini?





**Per ogni problema complesso esiste
una soluzione semplice. Ed è
sbagliata!**

Umberto Eco



INTERVENTI NON FARMACOLOGICI NELLA NAFLD IN ETA' PEDIATRICA

Autori	Tipo di studio	Terapia	N. di casi	Risultati
Vajro J.Pediatr., 1994	Case series (retrospettivo)	Dieta +esercizio	9	Riduzione LFT's e steatosi US
Franzese Dig.Dis.Sci., 1997	Case series (prospettico)	Dieta + esercizio	33	Riduzione LFT'se Steatosi US
Ueno J Hepatol 2007	Case series (prospettico)	Dieta+esercizio (3 mesi)	25	Riduzione LFT's e <u>miglioramento istologia</u>
Sathya Curr.Opin.Pediatr2002	Case series (retrospettivo)	Dieta + esercizio	27	Riduzione LFT's
Nobili Hepatology 2006	Case series (prospettico)	Dieta+esercizio (1 year)	84	Riduzione LFT's e steatosi US
Tock Eur J Gastroenterol 2006	Case series (prospettico)	Dieta+ esercizio (12 week)	73	Riduzione LFT's
Wang World J Gastroenterol	RCT	- No intervento - Dieta+esercizio - Vitamina E (1 month)	76	Riduzione LFT's
Nobili Hepatology 2008	RCT	-Dieta+esercizio -Dieta+esercizio+ vitaminaE (2 years)	53	Riduzione LFT's e <u>miglioramento istologia</u>
Reiher Arch Dis Child 2009	RCT	-No intervento -Dieta+esercizio	152	Riduzione LFT's e steatosi US
Pozzato JPGN 2010	Case series (prospettico)	Dieta+esercizio (1 year)	26	Riduzione LFT's e steatosi RMN
Koot Arch Dis Child 2011	Case series (prospettico)	Dieta+esercizio (6 months)	144	Riduzione LFT's e steatosi US
Groenback JPGN 2012	Case series (prospettico)	Dieta+esercizio (1 year)	117	Riduzione LFT's e steatosi US
Pacifico Nutr Metab Cardiovasc Dis 2012	Case series (prospettico)	Dieta+esercizio	120	Riduzione LFT's e steatosi RMN

NAFLD in Children: A Prospective Clinical-Pathological Study and Effect of Lifestyle Advice

Valerio Nobili,¹ Matilde Marcellini,¹ Rita Devito,² Paolo Ciampalini,³ Fiorella Piemonte,⁴ Donatella Comparcola,¹ Maria Rita Sartorelli,¹ and Paul Angulo⁵

From June 2001 to April 2003, 84 children (age 3-18.8 yr) who had elevated aminotransferases and the diagnosis of NAFLD confirmed via liver biopsy underwent a 2-hour oral glucose tolerance test and a 12-month program of lifestyle advice consisting of diet and physical exercise. Thirty-four (40.5%)

Most children (67/84, 80%) were insulin-resistant, including the 7 children with normal BMI (<85th percentile). Increased liver fibrosis was present in 49 (58.1%) patients and was independently associated with obesity (OR 2.7, 95% CI 1.2-6.2) and age (1-year increase; OR 1.2, 95% CI 1.04-1.5). A 12-month program with diet and physical exercise resulted in a signif-

Effect of Lifestyle Advice. Fifty-seven of the 84 patients had completed 1 year of lifestyle advice consisting of diet and increased physical exercise. The comparison

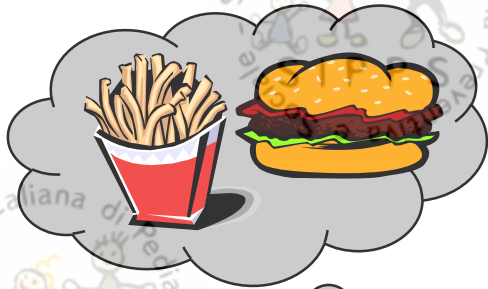
Table 5. Comparison of Baseline Values and Those Obtained at 1 Year of Lifestyle Advice

	Baseline (n = 57)	At 1 Year (n = 57)	P Value
BMI (kg/m ²)	25.9 ± 3.6	23.8 ± 2.7	<.0001
Weight (kg)	60.9 ± 17.1	56 ± 14.7	<.0001
AST (IU/L)	43 ± 16	31 ± 9	<.0001
ALT (IU/L)	62 ± 31	33 ± 10	<.0001
GGT (IU/L)	24 ± 20	21 ± 11	.02
Cholesterol (mg/dL)	152 ± 33	128 ± 17	<.0001
Triglyceride (mg/dL)	85 ± 46	66 ± 30	<.0001
Fasting glucose (mg/dL)	82 ± 12	71 ± 7	<.0001
Fasting insulin (μU/L)	12.3 ± 6.5	10.2 ± 5	<.0001
HOMA	2.54 ± 1.4	1.71 ± 0.9	<.0001

NOTE. All values other than P values are expressed as the mean ± SD.

Abbreviations: BMI, body mass index; AST, aspartate aminotransferase; ALT, alanine aminotransferase; GGT, gamma-glutamyltranspeptidase; HOMA, homeostatic model assessment method.

Lifestyle Advice Intervention. All patients and guardians participated in a 1-hour nutritional counseling session by an experienced dietician. The patients were prescribed a balanced, low-calorie diet (25-30 cal/kg/d; carbohydrate, 50%-60%; fat, 23%-30%; protein, 15%-20%; fatty acid, two thirds saturated, one third unsaturated; $\omega 6/\omega 3$ ratio = 4:1) as recommended by the Italian Recommended Dietary Allowances. The diet was tailored to individual preferences. The goal of weight management was to attain a negative calorie balance. In addition to the prescribed diet, a moderate exercise program of aerobic exercise (30-45 min/d at least 3 times a week) was recommended and was tailored to individual preferences.



Hepatology 2006;2:456-60

DOES THIS MAKE ME LOOK FATTY?

COSA SUCCEDDE NEL TEMPO?

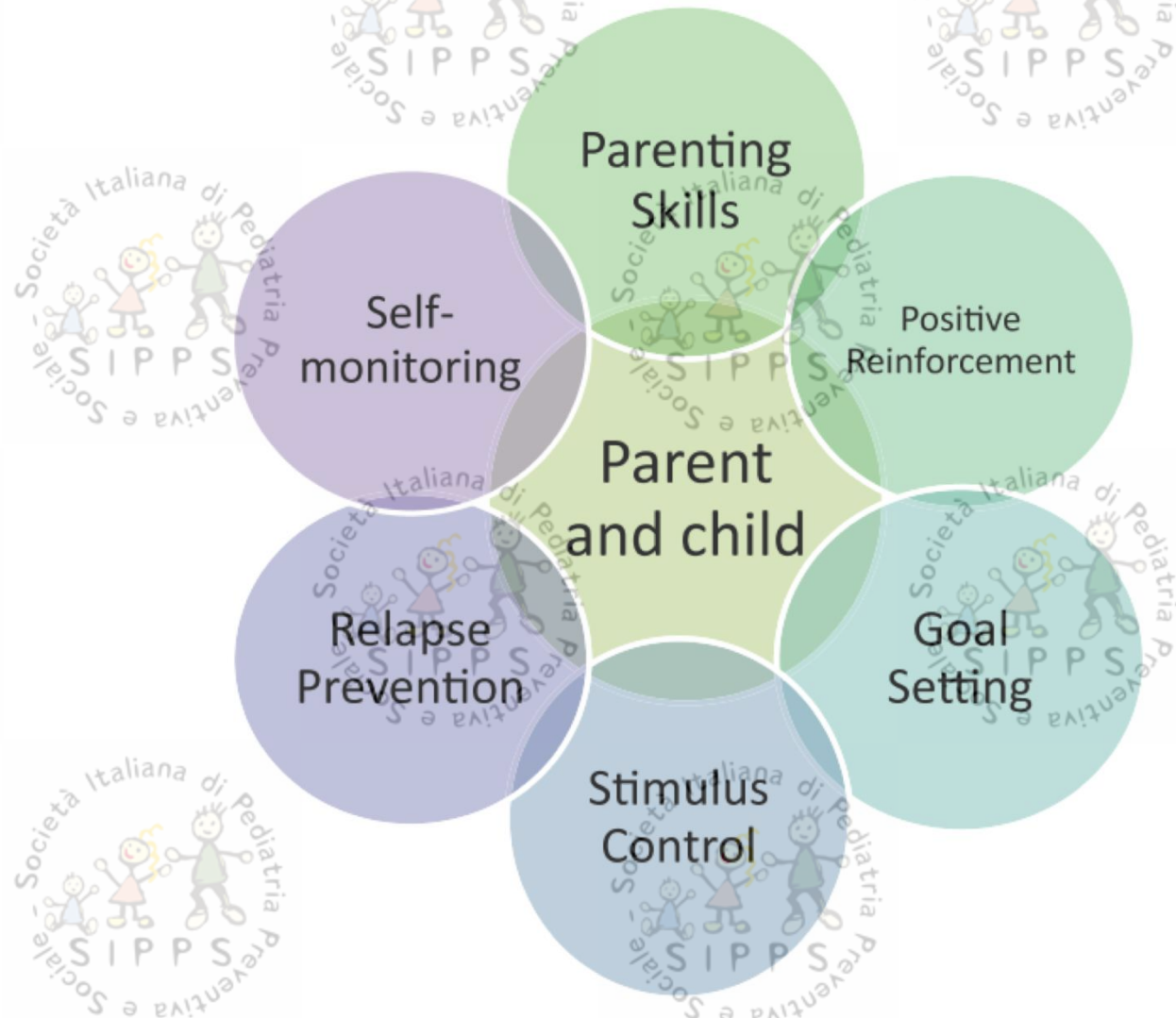


Fig. 1. Components of family-based behavioral therapy.

NON SOLO CALORIE !!!

Diet, Weight Loss, and Liver Health in Nonalcoholic Fatty Liver Disease: Pathophysiology, Evidence, and Practice

(HEPATOLOGY 2015; 00:000–000)

Giulio Marchesini,¹ Salvatore Petta,² and Riccardo Dalle Grave³

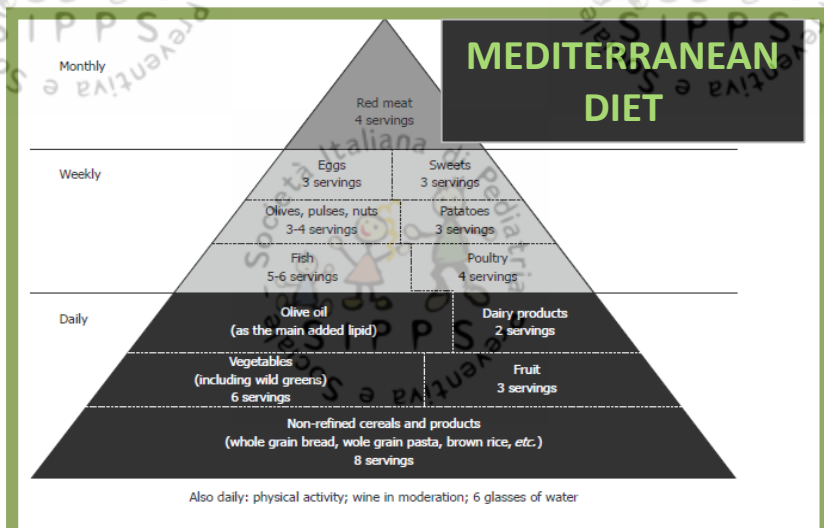
Among different nutrients, the relative proportion of fat and carbohydrates and the use of specific dietary sources have attracted a lot of attention.

Healthy versus Unhealthy diet!

Foods rich in fructose

high dietary fat intake, ?

FAT OR CALORIC INTAKE?



Sofi F *et al.* Mediterranean diet and NAFLD

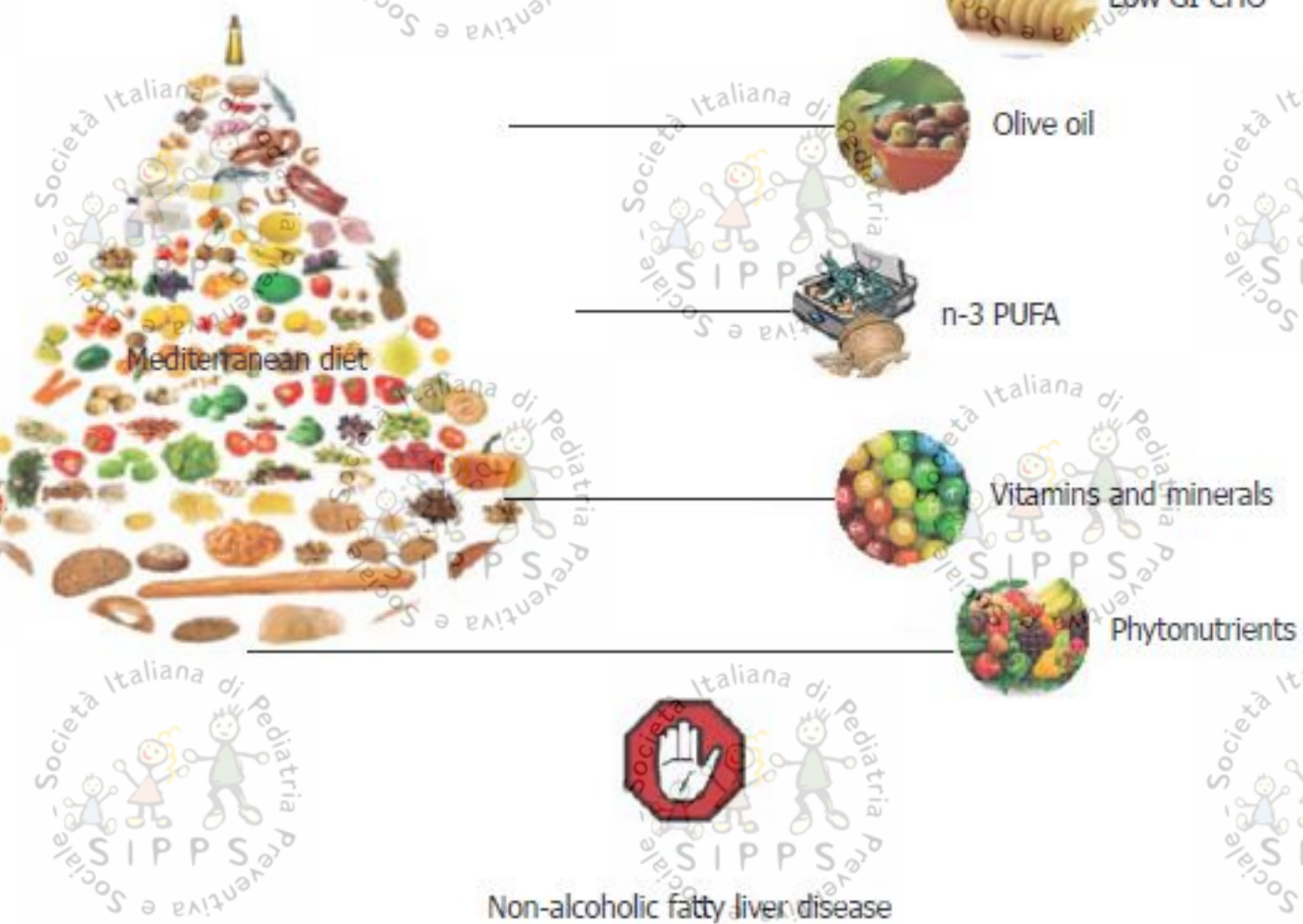


Figure 1 Beneficial properties of a Mediterranean diet on non-alcoholic fatty liver disease. PUFA: Polyunsaturated fatty acids.

Association between Adherence to the Mediterranean Diet and Presence of Nonalcoholic Fatty Liver Disease in Children

Prof. Dr. Murat Cakir,¹ Asst. Prof. Ulas Emre Akbulut,¹ and Prof. Dr. Aysenur Okten²

Methods: The study consisted of three groups of children. Group 1 included obese/overweight children with recent diagnosis of NAFLD ($n = 106$, 12.4 ± 2.6 years). Group 2 included obese children without NAFLD ($n = 21$, 11.3 ± 2.6 years). Group 3 included the healthy children (without known chronic disease) with normal BMI ($n = 54$, 11.8 ± 2.9 years). Compliance to the MD was assessed by the KIDMED index score.

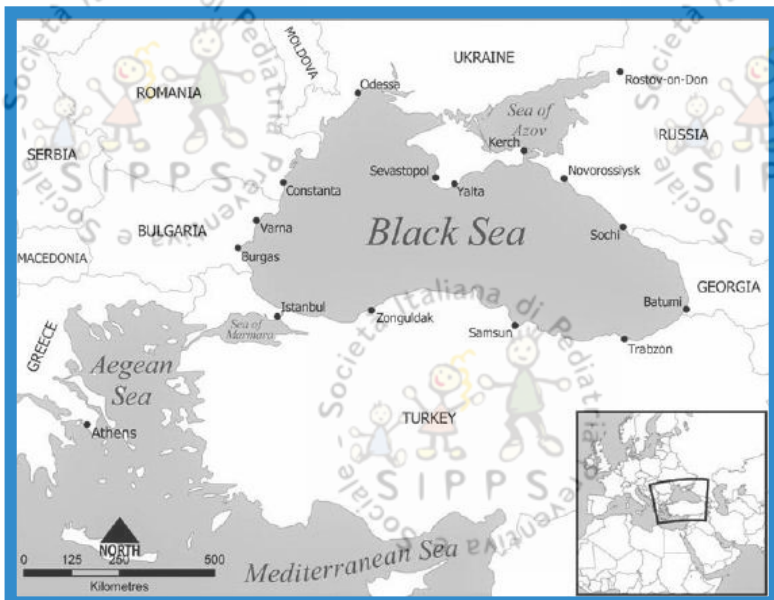


Table 2. KIDMED Index Score of the Groups

Parameters	Group 1 ($n = 106$)	Group 2 ($n = 21$)	Group 3 ($n = 54$)
KIDMED index score, mean \pm SD	$2.6 \pm 2.4^*$	$4.6 \pm 1.2^*$	$6.2 \pm 1.9^*$
Diet compliance, n (%; 95 CI%)			
Low (≤ 3)	71 (67, 58.0–75.9)	5 (23.8, 5.5–42.0)	5 (9.3, 1.5–17.0)
Moderate (4–7)	30 (28.3, 19.7–36.8)	16 (76.2, 57.9–97.4)	32 (59.2, 46.0–72.3)
Good (≥ 8)	5 (4.7, 0.6–8.7)	-	17 (31.5, 19.1–43.8)





Vitamina E

VITAMINA D, E



POLIFENOLI

RESVERATROLO



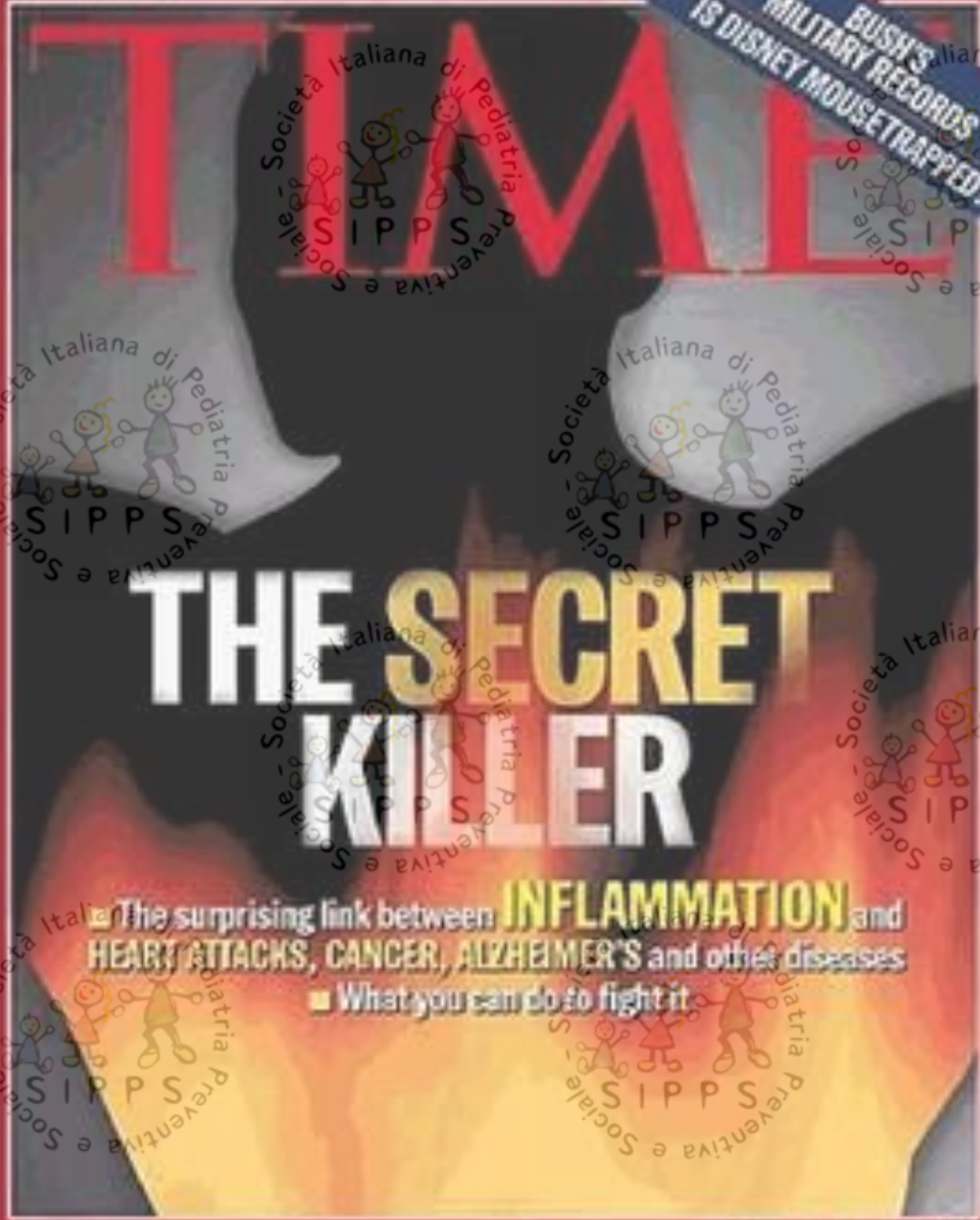
OMEGA 3



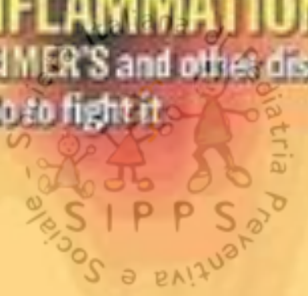
ANTOCIANINE



BUSH'S MILITARY RECORDS IS DISNEY MOUSETRAPPED?



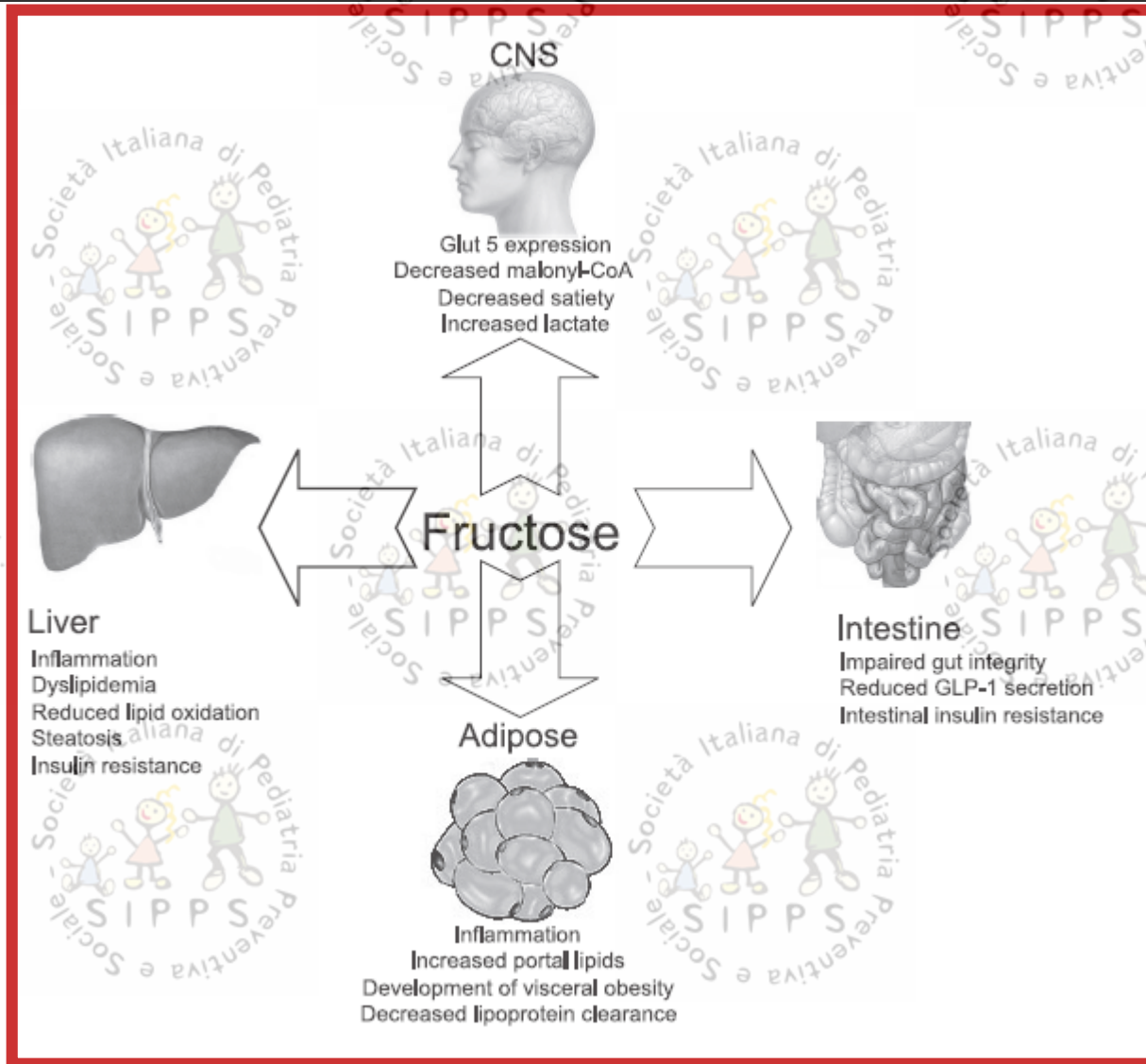
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Fructose: a highly lipogenic nutrient implicated in insulin resistance, hepatic steatosis, and the metabolic syndrome

Mark J. Dekker, Qiaozhu Su, Chris Baker, Angela C. Rutledge and Khosrow Adeli

Am J Physiol Endocrinol Metab 299:E685-E694, 2010. First published 7 September 2010;
doi: 10.1152/ajpendo.00283.2010





Proposta ai Pediatri del ...

semestre bianco!



Problemi correnti

Il fruttosio prima del divezzamento: quali i motivi per evitarne l'assunzione?

RAFFAELE IORIO, MARIA GIOVANNA PUOTI, FABRIZIA CHIATTO, GIANCARLO PARENTI,
MARIA IMMACOLATA SPAGNUOLO

Dipartimento di Scienze Mediche Traslazionali, Sezione di Pediatria, Università "Federico II", Napoli

I motivi in realtà sono diversi e convincenti, e sinora ci abbiamo pensato poco. In particolare riguardano la prevenzione dell'obesità e delle gravi reazioni che possono svilupparsi a seguito di una esposizione precoce nei lattanti affetti da intolleranza ereditaria al fruttosio.

Ecco tre buoni motivi:

1. È documentata una correlazione positiva tra aumentato consumo di fruttosio e aumento dell'obesità infantile.
2. È dimostrato che le esperienze alimentari delle primissime settimane di vita possono influenzare le scelte alimentari delle epoche successive.
3. Una precoce introduzione di fruttosio nella dieta espone a gravi rischi i lattanti con intolleranza ereditaria al fruttosio (è documentata una correlazione tra precocità dell'esposizione e gravità della sintomatologia).

RECOMMENDATIONS ON BREASTFEEDING FOR HEALTHY TERM INFANTS

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- L'introduzione dei cibi complementari prima dei 6 mesi non aumenta l'introito calorico totale o il tasso di crescita, ma porta solo alla perdita delle componenti protettive del latte materno

- Durante i primi 6 mesi di età, anche nei paesi caldi, né l'acqua né i succhi sono necessari per i neonati allattati al seno e possono determinare l'assunzione di contaminanti o allergeni

Introduction of complementary feedings before 6 months of age generally does not increase total caloric intake or rate of growth and only substitutes foods that lack the protective components of human milk.¹⁹⁴

During the first 6 months of age, even in hot climates, water and juice are unnecessary for breastfed infants and may introduce contaminants or allergens.¹⁹⁵

Nella pratica...



Ingredienti

Destrosio, saccarosio, estratto di camomilla 1,6%, maltodestrine.



Ingredienti

Destrosio, saccarosio, maltodestrine, estratto di finocchio 0,6%.



Ai bilanci di salute: Occhio alla dieta!





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Coca-Cola Happiness Machine



Where will happiness strike next?



C'E' SPAZIO PER I FARMACI?



INTERVENTI FARMACOLOGICI NELLA NAFLD IN ETA' PEDIATRICA

Autori	Tipo di studio	Terapia	N. di casi	Risultati
Vajro J Pediatr 2000	Case series (prospettico)	-Dieta -UDCA -Dieta+UDCA -Nessun intervento	31	LFTs Steatosi US
Vajro JPGN 2004	RCT	Dieta+esercizio -Vitamina E -Placebo (5 months)	28	LFTs Steatosi US
Schwimmer Alimentar Pharmacol Ther 2005	Single-arm open trial	Metformina (24 weeks)	10	Steatosi RMN LFTs
Nobili Clin Ther 2008	RCT	Dieta+esercizio Dieta+Esercizio+Metformina (2 years)	57	Istologia LFTs
Nobili Hepatology 2008 (Alimentar Pharm 2006)	RCT	Dieta+esercizio Dieta+esercizio+ Vitamina E (2 years)	53	Istologia LFTs
Wang World J Gastroenterol 2008	RCT	-No intervento -Dieta+esercizio -Vitamina E (1 month)	76	LFTs
Nadeau Pediatr Diabetes 2009	RCT	Dieta+esercizio -Placebo -Metformina (6 months)	50	LFTs Steatosi US
Vajro JPGN 2011	RCT	-LGG -Placebo (8 weeks)	20	LFTs
Lavine JAMA 2011 (J Ped 2000)	RCT	Dieta+esercizio -Vitamina E -Metformina -Placebo (2 years)	173	Istologia LFTs
Nobili Arch Dis Child 2011	RCT	-DHA -Placebo	60	LFTs Steatosi US
D'Adamo Free Radic Res 2012	RCT	Dieta+esercizio Dieta+Esercizio+ Vitamina E (6 months)	45	LFTs Marker ROS

Effect of Vitamin E or Metformin for Treatment of Nonalcoholic Fatty Liver Disease in Children and Adolescents

The TONIC Randomized Controlled Trial

Conclusion Neither vitamin E nor metformin was superior to placebo in attaining the primary outcome of sustained reduction in ALT level in patients with pediatric NAFLD.

Table 3. Change From Baseline to End of Treatment in Liver

	Vitamin E (n=56)	Metformin (n=56)	Placebo (n=56)	P Value ^a	
				Vitamin E vs Placebo	Metformin vs Placebo
Fibrosis score					
No. (%) improved [95% CI]	18 (32) [16 to 56]	16 (29) [15 to 56]	16 (29) [15 to 56]	.71	.72
Mean change (95% CI)	-0.3 (-0.5 to -0.1)	-0.3 (-0.5 to -0.1)	-0.3 (-0.5 to -0.1)	.48	.60
Lobular inflammation score					
No. (%) improved [95% CI]	27 (48) [36 to 56]	27 (48) [36 to 56]	27 (48) [36 to 56]	.18	.25
Mean change (95% CI)	-0.8 (-1.0 to -0.6)	-0.8 (-1.0 to -0.6)	-0.8 (-1.0 to -0.6)	.24	.50
Lobular inflammation score					
No. (%) improved [95% CI]	22 (39) [28 to 59]	22 (39) [28 to 59]	22 (39) [28 to 59]	.89	.73
Mean change (95% CI)	-0.4 (-0.6 to -0.2)	-0.4 (-0.6 to -0.2)	-0.4 (-0.6 to -0.2)	.14	.97
Ballooning degeneration score					
No. (%) improved [95% CI]	22 (39) [28 to 59]	22 (39) [28 to 59]	22 (39) [28 to 59]	.02	.02
Mean change (95% CI)	-0.5 (-0.8 to -0.3)	-0.3 (-0.6 to -0.0)	0.1 (-0.2 to 0.3)	.006	.04
Change in NAFLD activity score, mean (95% CI)	-1.6 (-2.4 to -1.2)	-1.7 (-1.7 to -0.5)	-0.7 (-1.3 to -0.2)	.02	.25
Resolution of NASH, No. (%) [95% CI] ^b	25 (58) [42 to 73]	16 (41) [26 to 58]	11 (28) [15 to 45]	.006	.23



Disease Mongering Is Now Part of the Global Health Debate

Ray Moynihan*, Evan Doran, David Henry

PUBLIC LIBRARY of SCIENCE | plosmedicine.org | Volume 3 | Issue 4 | APRIL 2006



PLOS MEDICINE



Disease mongering
Water supply and birth rate
Influenza in the subtropics
Genetics of osteoporosis

Published by the Public Library of Science ISSN 1549-1277



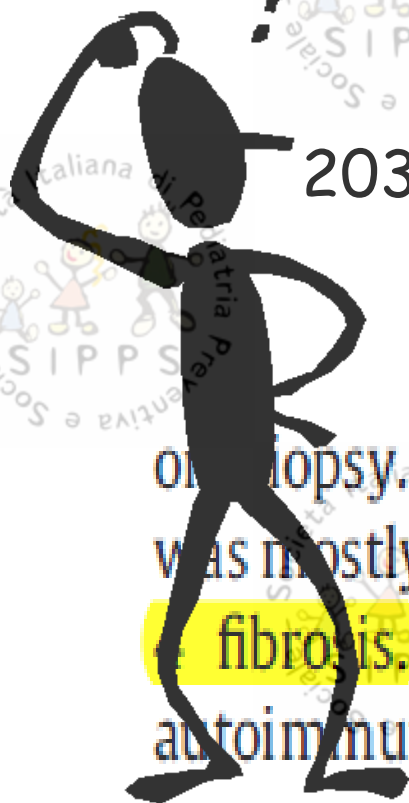
Development and validation of a new histological score for pediatric non-alcoholic fatty liver disease

Naim Alkhour^{1,2,*}, Rita De Vito⁴, Anna Alisi⁴, Lisa Yerian², Rocio Lopez³, Ariel E. Feldstein⁵, Valerio Nobili⁴

Journal of Hepatology 2012 vol. 57 | 1312–1318

203 children with biopsy-proven NAFLD.

on biopsy. Fibrosis was prevalent in NASH patients (84%) but it was mostly stage 1 and none of our patients had cirrhosis or stage 2 fibrosis. Interface hepatitis or other features suggestive of autoimmune hepatitis were not present in any of our biopsies.



la Repubblica



Bufala Bill

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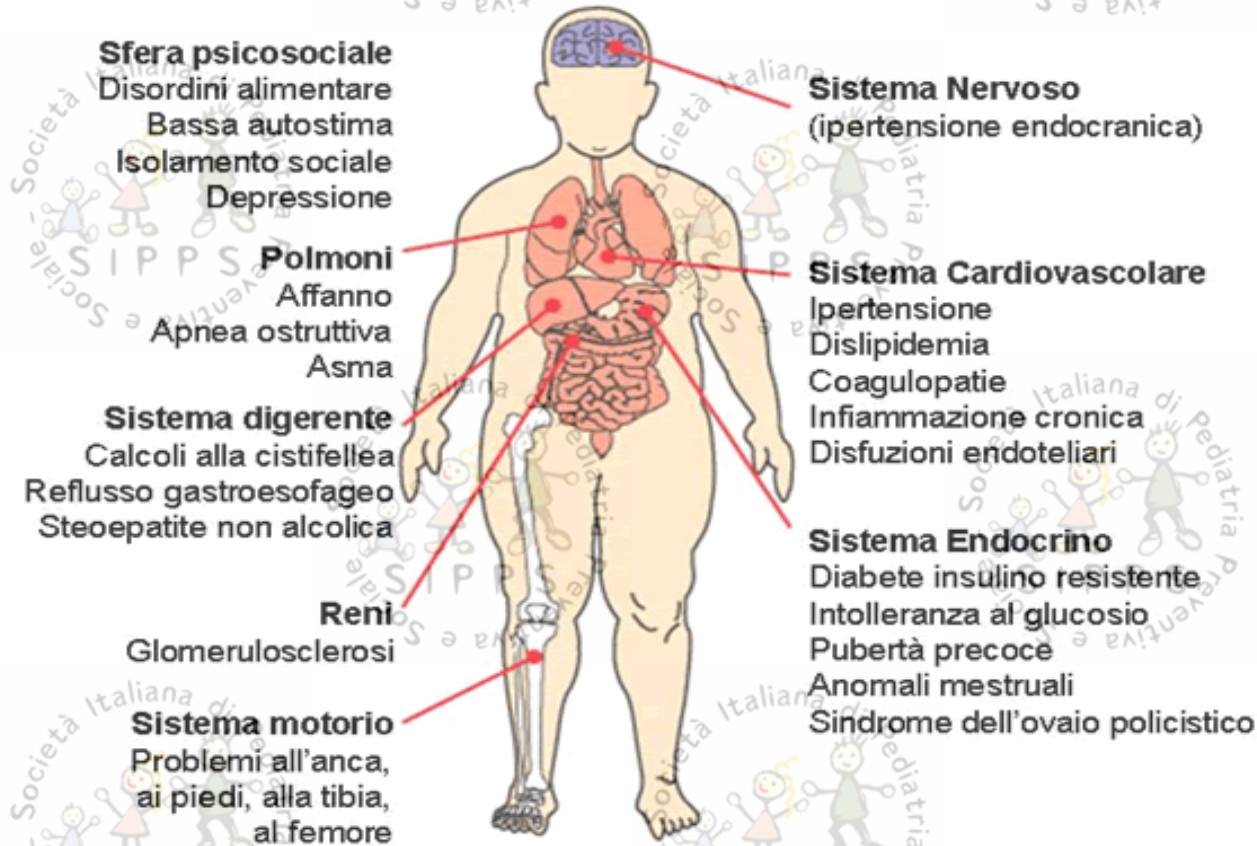
Sei in: Archivio > la Repubblica.it > 2013 > 12 > 06 > Sette anni, si ammala di ...

Sette anni, si ammala di cancro perché obeso

ROMA - Ha sette anni ed è obeso. Come due milioni di bambini in Italia. Matteo, però, a causa di quel sovrappeso severo - oltre 50 chili, un indice di massa corporea pari a 29,57 - ha maturato un tumore al fegato. Un cancro largo, tredici centimetri per sette e mezzo, cresciuto indisturbato per un anno intero. Matteo è un bambino campano senza altri disturbi: va a scuola, gioca, ha molti amici e guarda il calcio. Essendone al reparto di malattie epatiche del Bambino Gesù di Roma, il direttore Valerio Nobili ha diagnosticato il primo caso al mondo di cancro al fegato contratto da un bambino a causa dell'obesità. Quella diagnosi ora sostiene l'ipotesi della prima relazione diretta tra il sovrappeso e il tumore. Negli adulti questa correlazione è stata provata 115 volte dal 2004 a oggi, in tutto il mondo. Ora è stata ipotizzata, per la prima volta, in un bambino. In Italia, per un bimbo campano. Lo studio del dottor Valerio Nobili da ieri mattina è stampato sulla rivista americana "International Journal Pediatric obesity", solo per abbonati: un riferimento medico e culturale in quel paese frequentato dagli adolescenti

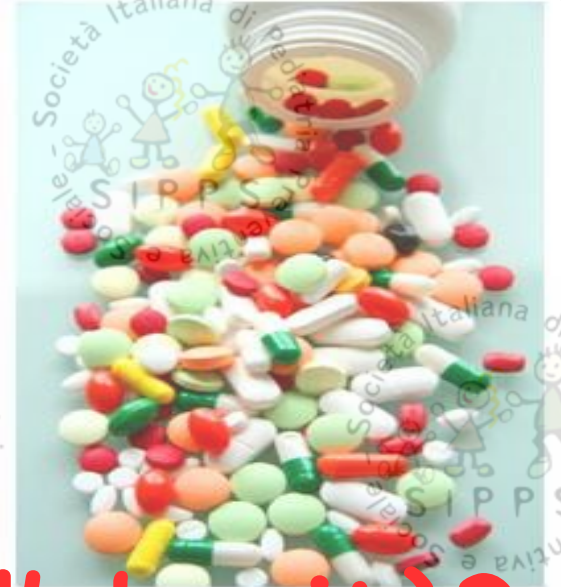
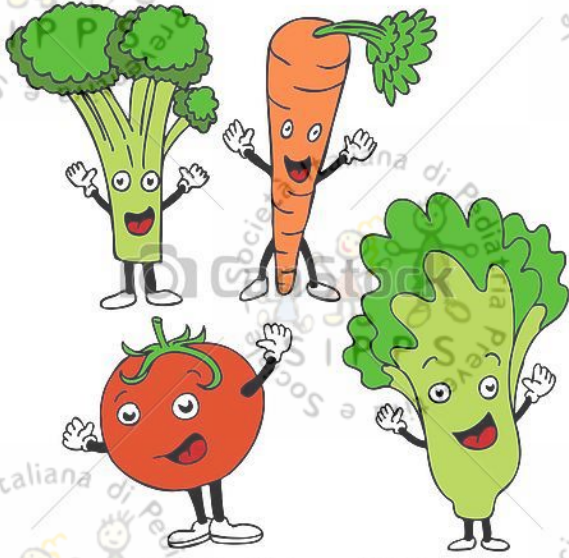
...ma con questo non si vuole dire che l'obesità non è un problema grave!

Complicanze dell'obesità



Tradotto e adattato da Ebeling CB, Pawlak DB, Ludwig DS. Childhood obesity: public health crisis, common sense cure. Lancet 2002; 360: 473-482

Quale terapia per il fegato grasso?



Quale terapia per l'obesità?

Review article: the management of paediatric nonalcoholic fatty liver disease

E. B. Mitchel & J. E. Lavine

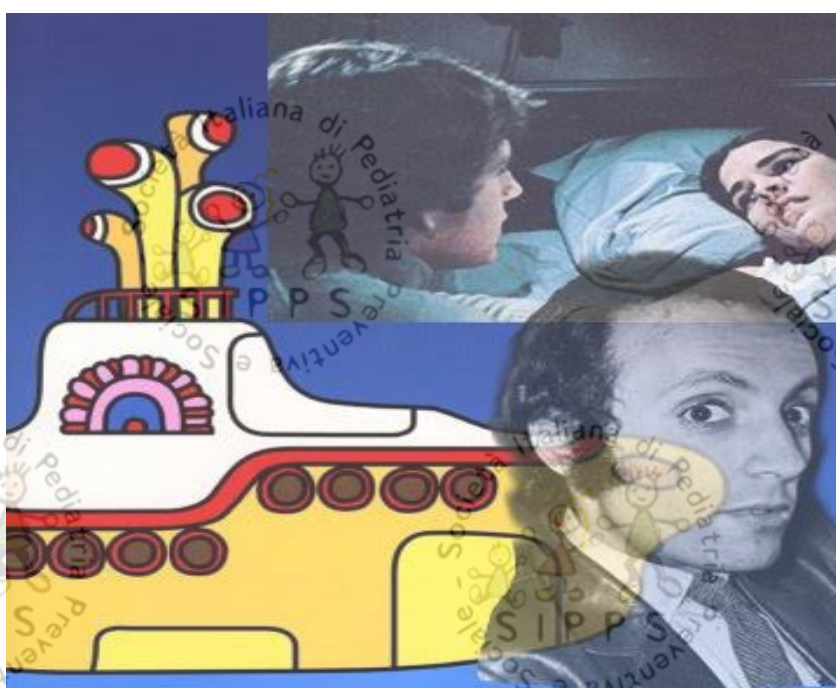
Conclusions

Lifestyle intervention should be first-line treatment for paediatric NAFLD. Vitamin E should be considered for those with biopsy-proven NASH or borderline NASH failing first-line therapy. Other therapeutics show promising results but require larger RCTs with convincing endpoints. Improved screening techniques, objective validated inclusion criteria and outcome measures as well as rigour in study design are necessary for propelling therapeutic discovery.

Aliment Pharmacol Ther 2014; 40: 1155-1170

...la pillola va giù...





Un uomo con un orologio sa che ore sono...

Un uomo con due orologi non è mai sicuro.

Erich Segal, 1937-2010

