

Modelli dietetici

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- Modelli dietetici proposti nel trattamento dell'obesità
- Caratteristiche dell'obesità
- Linee Guida per il trattamento dell'obesità



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Weight reduction on low-fat and low-carbohydrate diets.

3881. BREWER WD, CEDERQUIST DC, WILLIAMS B, BEEGLE RM, DUNSING D, KELLEY AL, OHLSON MA.
J Am Diet Assoc. 1952 Mar;28(3):213-7. No abstract available.
PMID: 14907307 [PubMed - indexed for MEDLINE]
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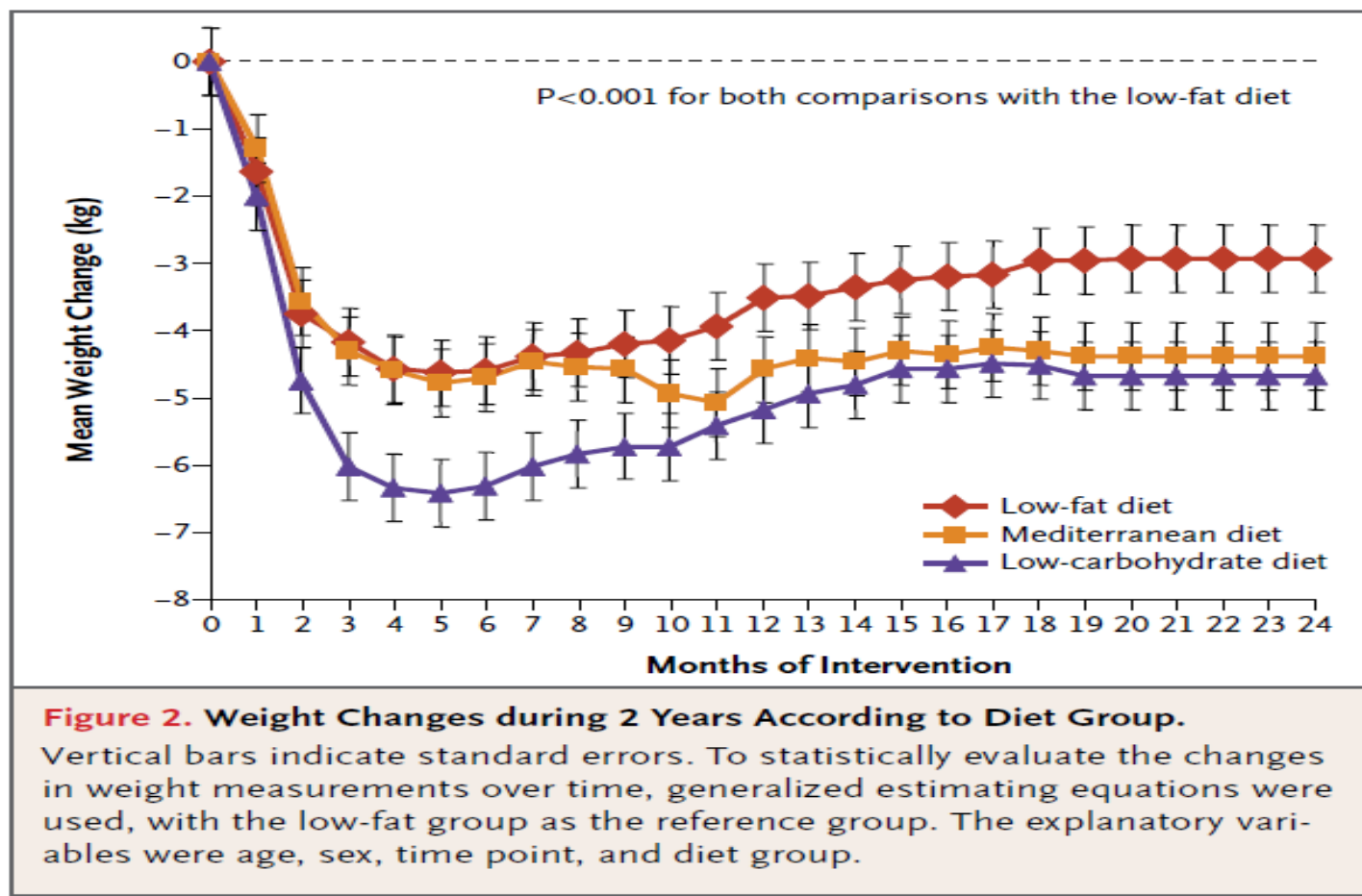


Weight Loss with a Low-Carbohydrate, Mediterranean, or Low-Fat Diet

Iris Shai, R.D., Ph.D., Dan Schwarzfuchs, M.D., Yaakov Henkin, M.D., Danit R. Shahar, R.D., Ph.D., Shula Witkow, R.D., M.P.H., Ilana Greenberg, R.D., M.P.H., Rachel Golan, R.D., M.P.H., Drora Fraser, Ph.D., Arkady Bolotin, Ph.D., Hilel Vardi, M.Sc., Osnat Tangi-Rezental, B.A., Rachel Zuk-Ramot, R.N., Benjamin Sarusi, M.Sc., Dov Brickner, M.D., Ziva Schwartz, M.D., Einat Sheiner, M.D., Rachel Marko, M.Sc., Esther Katorza, M.Sc., Joachim Thiery, M.D., Georg Martin Fiedler, M.D., Matthias Blüher, M.D., Michael Stumvoll, M.D., and Meir J. Stampfer, M.D., Dr.P.H.,
for the Dietary Intervention Randomized Controlled Trial (DIRECT) Group

METHODS

In this 2-year trial, we randomly assigned 322 moderately obese subjects (mean age, 52 years; mean body-mass index [the weight in kilograms divided by the square of the height in meters], 31; male sex, 86%) to one of three diets: low-fat, restricted-calorie; Mediterranean, restricted-calorie; or low-carbohydrate, non-restricted-calorie.



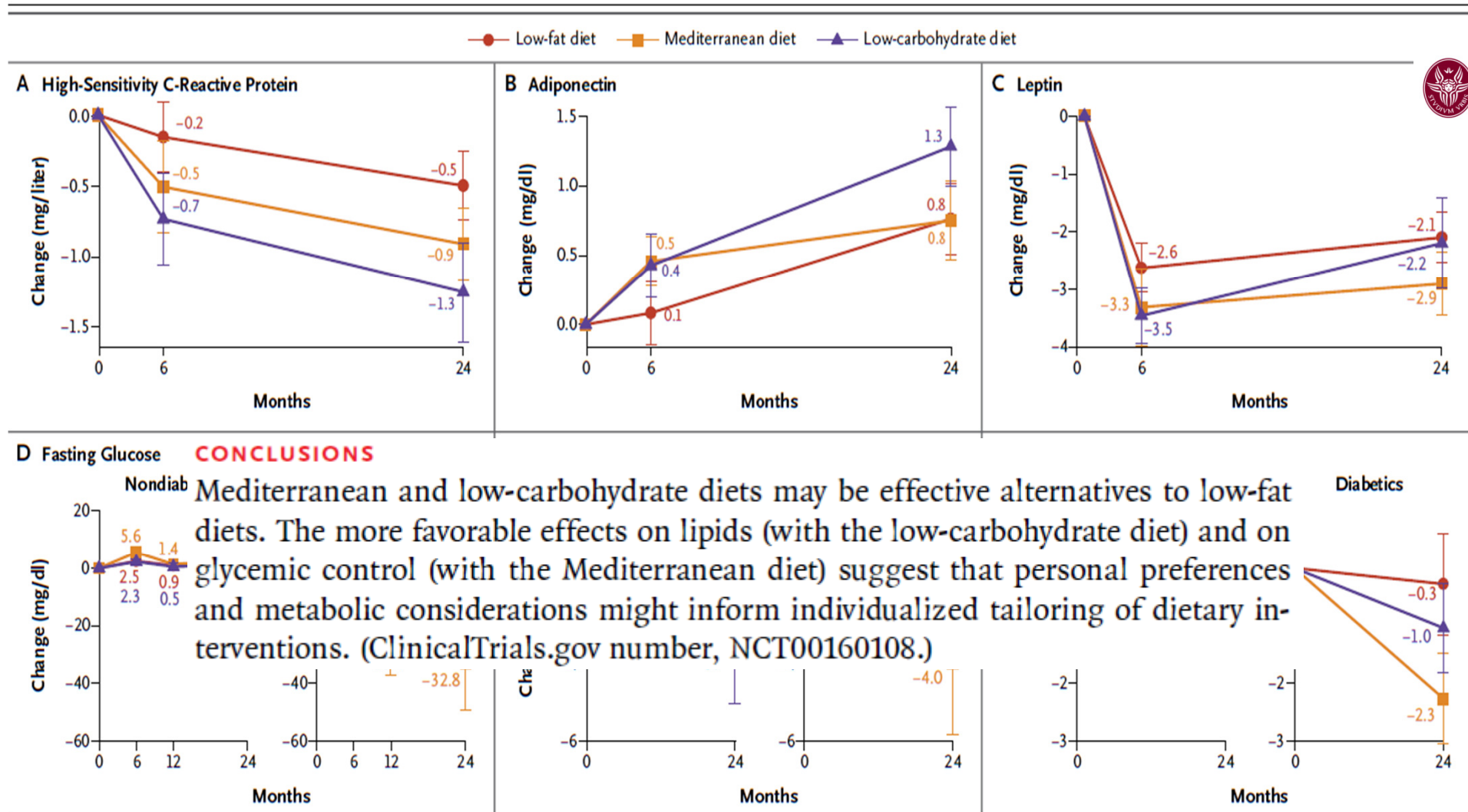


Figure 4. Changes in Biomarkers According to Diet Group and Presence or Absence of Type 2 Diabetes.

Panel A shows the results for plasma high-sensitivity C-reactive protein, Panel B for plasma adiponectin, Panel C for plasma leptin, Panel D for fasting plasma glucose, Panel E for fasting plasma insulin, and Panel F for the homeostasis model assessment of insulin resistance (HOMA-IR). Vertical bars indicate standard deviations. To statistically evaluate the response of weight measurements over time, generalized estimating equations were used, with the low-fat group as the reference group. The explanatory variables were age, sex, time point, and diet group. Data were available for 36 participants with type 2 diabetes: 11 in the low-fat group, 13 in the Mediterranean-diet group, and 12 in the low-carbohydrate group. The P values for the comparison between the low-fat group and the Mediterranean-diet group are 0.49 for high-sensitivity C-reactive protein, 0.50 for adiponectin, 0.54 for leptin, <0.001 for fasting glucose, 0.78 for fasting insulin, and 0.04 for HOMA-IR. The P values for the comparison between the low-fat group and the low-carbohydrate group are 0.12 for high-sensitivity C-reactive protein, 0.32 for adiponectin, 0.47 for leptin, 0.12 for fasting glucose, 0.20 for fasting insulin, and 0.27 for HOMA-IR. The P values for the interaction among diabetes and Mediterranean diet and time are <0.001 for fasting glucose and 0.04 for HOMA-IR. To convert values for glucose to millimoles per liter, multiply by 0.05551.

Effects of Dietary Composition on Energy Expenditure During Weight-Loss Maintenance

JAMA, June 27, 2012—Vol 307, No. 24

Cara B. Ebbeling, PhD

Janis F. Swain, MS, RD

Henry A. Feldman, PhD

William W. Wong, PhD

David L. Hachey, PhD

Erica Garcia-Lago, BA

David S. Ludwig, MD, PhD



Objective To examine the effects of 3 diets differing widely in macronutrient composition and glycemic load on energy expenditure following weight loss.

Design, Setting, and Participants A controlled 3-way crossover design involving 21 overweight and obese young adults conducted at Children's Hospital Boston and Brigham and Women's Hospital, Boston, Massachusetts, between June 16, 2006, and June 21, 2010, with recruitment by newspaper advertisements and postings.

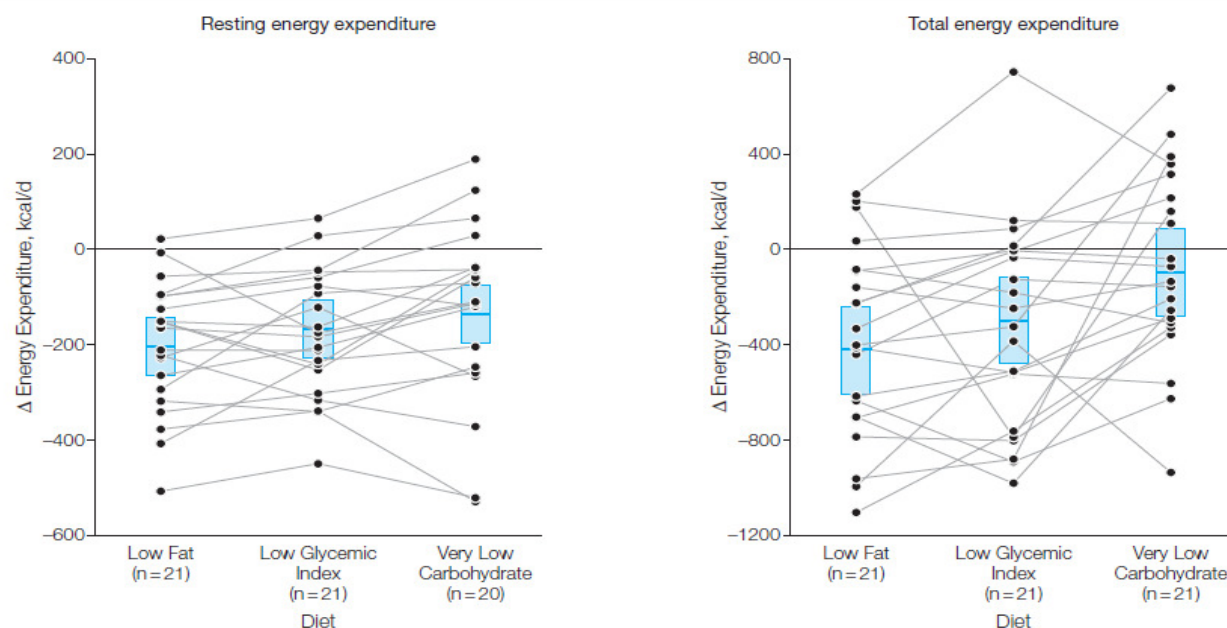
Intervention After achieving 10% to 15% weight loss while consuming a run-in diet, participants consumed an isocaloric low-fat diet (60% of energy from carbohydrate, 20% from fat, 20% from protein; high glycemic load), low-glycemic index diet (40% from carbohydrate, 40% from fat, and 20% from protein; moderate glycemic load), and very low-carbohydrate diet (10% from carbohydrate, 60% from fat, and 30% from protein; low glycemic load) in random order, each for 4 weeks.



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Each summary box (shown in cyan) with error bars indicates mean (95% CI) change from a common baseline period preceding weight loss obtained from analysis of crossover experiment and adjusted for sex, age, order of diets, baseline weight, and mean weight during the 4-week diet period. Connected lines indicate individual outcomes for each participant. Both resting and total energy expenditure showed a significant linear trend in mean change from low-fat to low-glycemic index to very low-carbohydrate diets ($P < .01$).

Conclusion Among overweight and obese young adults compared with pre-weight-loss energy expenditure, isocaloric feeding following 10% to 15% weight loss resulted in decreases in REE and TEE that were greatest with the low-fat diet, intermediate with the low-glycemic index diet, and least with the very low-carbohydrate diet.



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- commonly consumed diets can affect metabolism and components of the metabolic syndrome in markedly different ways during weight loss maintenance, independent of E content
- the physiological basis for the differences in REE and TEE remains subject to speculation (thyroid hormone concentration, thermic effect of food, autonomic tone affecting catabolic or anabolic pathways, skeletal muscle efficiency regulated by leptin, ??)
- **low-fat diet** produced changes in REE and TEE and serum leptin that would predict weight regain. In addition, this diet had unfavorable effects on most of the metabolic syndrome components studied
- **very low carbohydrate diet** had the most beneficial effects on E expenditure and several metabolic syndrome components, but this restrictive regimen may increase cortisol excretion and CRP (higher cortisol levels may promote adiposity, insulin resistance, and CV disease Adam TC et al: *J Clin Endocrinol Metab.* 2010; Holt HB et al: *Diabetologia.* 2007; Purnell JQ et al: *Am J Physiol Endocrinol Metab.* 2009)



Is a calorie a calorie?¹⁻⁴



Andrea C Buchholz and Dale A Schoeller

Am J Clin Nutr 2004;79(suppl):899S–906S.

The aim of this review was to evaluate data regarding potential thermodynamic mechanisms for increased rates of weight loss in subjects consuming diets high in protein and/or low in carbohydrate. Studies that compared weight loss and energy expenditure in adults consuming diets high in protein and/or low in carbohydrate with those in adults consuming diets low in fat were reviewed. In addition, studies that measured the metabolizable energy of proteins, fats, and carbohydrates were reviewed. Diets high in protein and/or low in carbohydrate produced an ≈ 2.5 -kg greater weight loss after 12 wk of treatment. Neither macronutrient-specific differences in the availability of dietary energy nor changes in energy expenditure could explain these differences in weight loss. Thermodynamics dictate that a calorie is a calorie regardless of the macronutrient composition of the diet. Further research on differences in the composition of weight loss and on the influence of satiety on compliance with energy-restricted diets is needed to explain the observed increase in weight loss with diets high in protein and/or low in carbohydrate. *Am J Clin Nutr 2004;79(suppl):899S–906S.*



Is a calorie a calorie?¹⁻⁴



Andrea C Buchholz and Dale A Schoeller

Am J Clin Nutr 2004;79(suppl):899S–906S.

- Difference in energy expenditure: of the macronutrients, only **protein** has been found to have this effect, but the magnitude of this effect is small and perhaps accounts for a 0.8-kg difference in weight loss between diet treatments over 12 wk.
- **Participants with lower initial relative FM lose more FFM** per unit of weight loss than do those with higher initial relative fatness (Forbes GB. Ann N Y Acad Sci 2000), and men may lose more FFM per unit of weight loss than do women (Pietrobelli A et al: Int J Obes Relat Metab Disord 2002)
- Preliminary evidence (Yao M et al: Nutr Rev 2001; Eisenstein et al: Nutr Rev 2002), indicates that **both protein and a low energy density of the diet increase satiety**. Thus, subjects who consume a prescribed diet high in protein or fiber may be more compliant with the diet than are subjects who consume other diets, but this speculation has been confirmed by only one longterm study to date (Skov AR et al: Int J Obes Relat Metab Disord 1999).



Is a calorie a calorie?¹⁻⁴

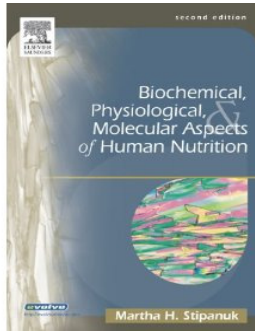
Andrea C Buchholz and Dale A Schoeller

Am J Clin Nutr 2004;79(suppl):899S–906S.



- **OTHER EXPLANATIONS FOR DIFFERENCES IN WEIGHT LOSS** : if a calorie is a calorie, then what other factors could account for the reported differences in weight loss between either high protein or low-carbohydrate diets and low-fat diets ?
- composition of the weight loss: greater loss of solids or water from FFM for one treatment than for a second treatment would result in greater weight loss with the former treatment. One particular factor for a low-carbohydrate diet is, of course, the loss of glycogen stores and associated water, which can be as great as 2 kg.





ENERGETIC EQUIVALENT OF BODY TISSUES

in “*Biochemical, physiological, molecular aspects of human nutrition*” MH Stipanuk ed – Saunders, 2006

Control of Energy Balance – chap 22 by JC Peters

- Body E lost when:
 - **1 kg of adipose tissue** (85% lipid) = 7905 kcal
(850g * 9.3 kcal/g)
 - all the E represented by stored fat can contribute to net fuel E
 - **1 kg of muscle is lost** (20% protein) = 1120 kcal
(200g * 5.6 kcal/g)
 - 800 kcal = net E available to supply body's fuel needs
 - 320 kcal = necessary to metabolise N derived from the breakdown of the AA ($\Rightarrow$ urea)





Research Report

Low-carbohydrate diets cause obesity, low-carbohydrate diets reverse obesity: A metabolic mechanism resolving the paradox

Charles V. Mobbs*, Jason Mastaitis, Kelvin Yen, Joseph Schwartz, Vinuta Mohan, Michal Poplawski, Fumiko Isoda

“A systematic review of low-carbohydrate diets found that the weight loss achieved is associated with the duration of the diet and restriction of energy intake, but not with restriction of carbohydrates.” (Astrup, Meinert Larsen, & Harper, 2004)

“This review covers evidence from carefully controlled laboratory studies, clinical trials, studies in populations at high risk of developing obesity, and epidemiologic studies on the role of sugars, particularly sucrose, in the development of obesity. Although many environmental factors promote a positive energy balance, it is clear that the consumption of a low-carbohydrate, high-fat diet increases the likelihood of weight gain.” (Saris, 2003)

Despite the enormous popularity of low-CHO diets (Atkins, South Beach, Zone), the professional consensus is that these diets are more likely to produce obesity than reverse obesity.

Similarly, studies on low-CHO or “low-glycemic” diets have failed to support that these diets are effective for long-term maintenance of weight loss.



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84. [Effects of a ketogenic diet on the glyco-lipidic metabolism in obese subjects of pre-puberal age](#)
Del Guercio MJ, Carnelutti M, Cantone A.
Pediatrics (Napoli). 1967 Mar-Apr;75(2):221-7. Italian. No abstract available.
PMID: 5615135 [PubMed - indexed for MEDLINE]
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85. [Weight reduction: fasting versus a ketogenic diet](#)
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Nutr Rev. 1966 May;24(5):133-4. Review. No abstract available.
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86. [Changes in body composition during weight reduction in obesity. Balance studies comparing effects of fasting and a ketogenic diet](#)
Benoit FL, Martin RL, Watten RH.
Ann Intern Med. 1965 Oct;63(4):604-12. No abstract available.
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87. [IMPORTANCE OF BODY CHARACTERISTICS IN THE EXCRETION OF 17-KETOSTEROIDS AND 17-KETOGENIC STEROIDS IN OBESITY](#)
JACOBSON G, SELTZER CC, BONDY PK, MAYER J.
N Engl J Med. 1964 Sep 24;271:651-6. No abstract available.
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Effects of a high-protein ketogenic diet on hunger, appetite, and weight loss in obese men feeding ad libitum *Am J Clin Nutr* 2008;87:44–55.

Alexandra M Johnstone, Graham W Horgan, Sandra D Murison, David M Bremner, and Gerald E Lobley



- **The use of ketogenic diets as a weight-loss therapy is not a novel idea** (Yang MU et al: J Clin Invest 1976; Bistrian BR: Diabetes Care 1978)
- In the short term, high-protein, low-CHO ketogenic diets **reduce hunger** and lower food intake significantly more than do high-protein, medium-carbohydrate non-ketogenic diets.

ultimate “holy grail” for dieters—to eat less to lose weight, and yet not to feel hungry

- **Limited data are available on daily hunger scores** (Eat Inv Quest, Likert scale) during ketogenic and nonketogenic diets.
- In some studies (Johnston CS et al: AmJ Clin Nutr 2006), subjects following a high-protein, low-fat diet reported feeling more satiated in the first 4 wk than did subjects following a high-carbohydrate, low fat diet, but, in other studies (Johnston CS et al: J Nutr 2004), there was no difference between the diets.



Research Report

Low-carbohydrate diets cause obesity, low-carbohydrate diets reverse obesity: A metabolic mechanism resolving the paradox

Charles V. Mobbs*, Jason Mastaitis, Kelvin Yen, Joseph Schwartz, Vinuta Mohan, Michal Poplawski, Fumiko Isoda

- **metabolic efficiency** plays a key role in diet-induced obesity and its reversal by ketogenic diets
- ketogenic diets produce a less metabolically efficient state than high-fat non-ketogenic diets (enhanced conversion of lipids to ketones increases metabolic rate per calorie) (Davis, Wirtshafter, Asin, & Brief, 1981)

Ketone-Body Production and Oxidation in Fasting Obese Humans

G. A. REICHARD, JR., O. E. OWEN, A. C. HAFF, P. PAUL, and W. M. BORTZ

From the Division of Research, Lankenau Hospital, Philadelphia, Pennsylvania 19151, and the Department of Medicine and the General Clinical Research Center, Temple University Health Sciences Center, Philadelphia, Pennsylvania 19140

... assuming an average caloric value of 4.5 kcal/g for ketone-body oxidation



The Journal of Clinical Investigation Volume 53 February 1974 • 508–515



Research

Open Access

Effects of consuming a high carbohydrate diet after eight weeks of exposure to a ketogenic diet

Mary Ann Honors, Brandon M Davenport and Kimberly P Kinzig*

Background: Ketogenic diets have been utilized for weight loss and improvement in metabolic parameters. The present experiments examined the effects of returning to a chow diet after prolonged ingestion of a ketogenic diet.

Conclusion: Collectively, these data demonstrate that returning to a carbohydrate-based diet after a period of consuming a ketogenic diet has post-diet effects on caloric intake, body weight gain, and insulin levels.

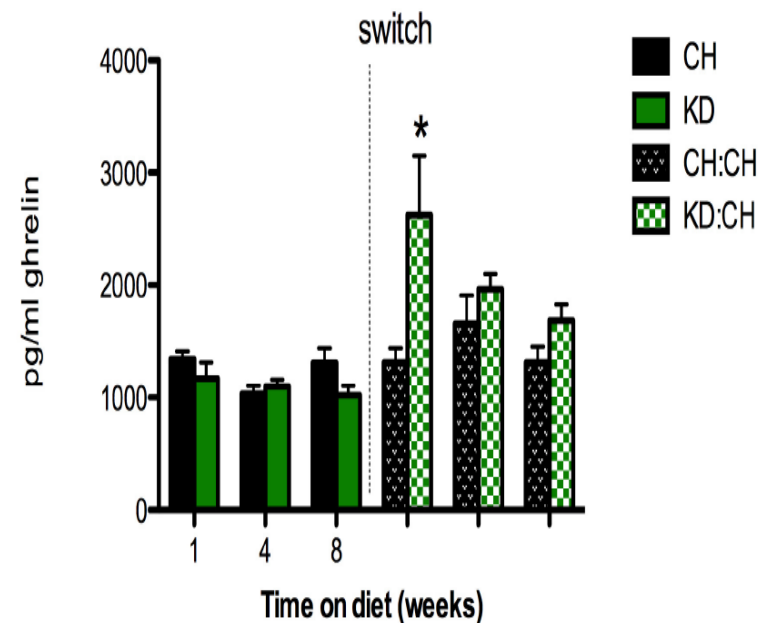


Figure 5

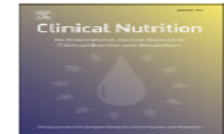
Plasma ghrelin. There were no differences between dietary groups with regard to plasma ghrelin levels prior to the dietary switch. Plasma ghrelin levels were significantly increased in KD:CH ($p < 0.05$) rats one week after switching from the ketogenic diet to chow, as compared to CH rats at this time point. This effect was only present at this time point and in this dietary group. Data are represented as mean $\pm$ SEM. * denotes a statistically significant difference from CH values.

[illegible]

- Results have indicated **greater weight loss with high-protein diets than with the high-CHO, low-fat alternatives for periods up to 6m** (Nickols-Richardson SM et al: J Am Diet Assoc 2005; Yancy WS et al: Ann Intern Med 2004; Brehm BJ et al: J Clin Endocrinol Metab 2003; Foster GD et al: NEJM 2003; Samaha FF et al: NEJM 2003), **but some studies have found no evident difference at 12m** (Foster GD et al: NEJM 2003; Skov AR et al: Int J Obes Relat Metab Disord 1999)

- Some concern has been expressed in the literature with respect to the **safety** and efficacy of high-protein ketogenic diets (Astrup A et al: Lancet 2004; Volek JS et al: Obes Res 2004; Bravata DM et al: JAMA 2003)
- The current data would suggest that these diets are safe within this relatively **short period of time (2 mo), under medically supervised conditions.**





Original article

Effects of the ketogenic diet on nutritional status, resting energy expenditure, and substrate oxidation in patients with medically refractory epilepsy: A 6-month prospective observational study

Anna Tagliabue ^{a,*}, Simona Bertoli ^b, Claudia Trentani ^a, Paola Borrelli ^c, Pierangelo Veggiotti ^d

Background & aims: This 6-month prospective, single-arm observational study was designed to assess the effects of the KD on the nutritional status, resting energy expenditure (REE), and substrate oxidation in patients with drug-resistant epilepsy.

Methods: Eighteen patients with medically refractory epilepsy underwent assessment of body composition, REE, and substrate oxidation rates before and after 6 months of KD.

Results: Compared with baseline, there were no statistically significant differences at 6 months in terms of height, weight, BMI z-scores, and REE. However, the respiratory quotient decreased significantly (from 0.80 ± 0.06 to 0.72 ± 0.05 , $p < 0.001$), whereas fat oxidation was significantly increased from 50.9 ± 25.2 mg/min to 97.5 ± 25.7 mg/min, $p < 0.001$). Interestingly, we found that the increase in fat oxidation was the main independent predictor of the reduction in seizure frequency ($\beta = -0.97$, $t = -6.3$, $p < 0.05$).

Conclusions: Administering a KD for 6 months in patients with medically refractory epilepsy increases fat oxidation and decreases the respiratory quotient, without appreciable changes in REE.

- Compared with baseline values, there were no differences at 6 m in terms of height, weight, and BMI zscores.
- KD may lead to **progressive loss of bone mineral content**, albeit the exact mechanisms underlying this adverse effect remain unclear (Bergqvist AG et al: Am J Clin Nutr 2008)





Kinetics, safety and tolerability of (*R*)-3-hydroxybutyl (*R*)-3-hydroxybutyrate in healthy adult subjects

Kieran Clarke^{a,*}, Kirill Tchabanenko^{b,1}, Robert Pawlosky^c, Emma Carter^a, M. Todd King^c, Kathy Musa-Veloso^d, Manki Ho^d, Ashley Roberts^d, Jeremy Robertson^b, Theodore B. VanItallie^e, Richard L. Veech^c

- Classic ketogenic diets containing high fat, low carbohydrate and low protein content are difficult to prepare, unpalatable and may present an **atherogenic risk** as serum levels of cholesterol and triglycerides are often elevated (McPherson and McEneny, 2011).
- An excess of circulating ketones, may result in metabolic acidosis and cerebral edema (Edge et al., 2001; Isales et al., 1999; Wootton-Gorges et al., 2005)
- Such effects are observed only when ketones reach supra-physiological levels (**10–20 mM or higher**) during pathological states (Cahill and Veech, 2003; Laffel, 1999)
- Plasma levels of ketones following an overnight fast or prolonged exercise are **normally in the ranges of 0.2–0.5 mM** (Laffel, 1999).
- Circulating ketone levels can **increase up to 50-fold** during periods of caloric deprivation, with b-hydroxybutyrate levels reported to be 4–5 mM in the blood following a 5- to 8-day fast (Cahill, 2006; Mensink et al., 1992; Owen et al., 1967; VanItallie, 2003)





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POSITION STATEMENT DELLA Fe.S.I.N. SULLA COSIDDETTA NUTRIZIONE ENTERALE CHETOGENA (NEC) COME TERAPIA DELL'OBESITA'

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Gruppo di Lavoro

Lorenzo M. Donini^{1*}, Giancarlo Sandri², Maria Antonia Fusco³, Maurizio Muscaritoli^{4*}

«Se alcuni AA hanno osservato che i corpi chetonici hanno un'azione protettiva sulla proteolisi (con meccanismo peraltro ignoto) (Finn PF et al: Nutrition 2006), è stato però anche ampiamente dimostrato come l'acidosi metabolica provochi un ulteriore depauperamento proteico **inibendo la sintesi proteica** (a causa della riduzione del pH anche a livello muscolare e dell'azione degli ormoni glucorticoidi) e **favorendo la proteolisi** (attraverso l'attivazione dell'UPS) (Caso G et al: Curr Opin Clin Nutr Metab Care 2006).»



ADI - Associazione Italiana di Dietetica e Nutrizione Clinica
SINPE - Società Italiana di Nutrizione Artificiale e Metabolismo
SINU - Società Italiana di Nutrizione Umana
SINUPE - Società Italiana di Nutrizione Pediatrica
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Gruppo di Lavoro

Lorenzo M. Donini^{1*}, Giancarlo Sandri², Maria Antonia Fusco³, Maurizio Muscaritoli^{4*}

«Altrettanto pericolose sono le gestioni troppo peso-centrate con atteggiamenti ingenui verso la psicopatologia delle persone con bulimia e obesità»



Obesity, Disordered Eating, and Eating Disorders in a Longitudinal Study of Adolescents: How Do Dieters Fare 5 Years Later? *J Am Diet Assoc. 2006;106:559-568.*

DIANNE NEUMARK-SZTAINER, PhD, MPH, RD; MELANIE WALL, PhD; JIA GUO, MS; MARY STORY, PhD, RD;
JESS HAINES, PhD, MHSc, RD; MARLA EISENBERG, ScD, MPH

Unhealthful Dieting	Change in BMI (Kg/m ²)	Overweight status
F	1.87	2.67
M	2.63	1.86
	Binge eating	Extreme weight control
F	6.42	2.5
M	5.94	4.8

Dati espressi come odds ratio

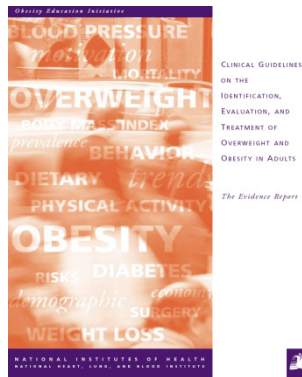


Health Care Guideline:

Prevention and Management of Obesity (Mature Adolescents and Adults)

- Weight-loss recommendations that exclude food groups and/or restrict macronutrients substantially below the dietary reference intakes and RDAs can cause nutrient deficiencies and increase health risks (*Bonow, 2003 [NA]; Freedman, 2001 [R]*). A dietitian can assess food and beverage records using a variety of tools. A quick method is to evaluate portion sizes and number of servings recommended for food groups in the food guide pyramid. There are also food guide pyramid assessment tools available on the USDA Web site that calculate calories and total nutrients from entered food records. See the "Resources Available" section for more information.
- VLCDs (very low calorie diets) should be used only for weight-loss therapy by experienced practitioners with specialized monitoring and use of supplements. (*National Heart, Lung and Blood Institute, 2000 [R]*). If VLCDs are used, weight loss can be expected in the first six months (~20 kg); however, there is rapid regain between 6 to 12 months if a maintenance program is not included. Weight loss is typically not maintained without ongoing dietary and behavioral support (*Paisey 2002 [C]; Torgerson, 1999 [A]*).





Evidence Statement: *VLCDs produce greater initial weight loss than LCDs. However, the long-term (> 1 year) weight loss is not different from that of the LCD. Evidence Category A.*



NEW THOUGHTS ON MANAGING OBESITY

P G Kopelman, C Grace

RECENT ADVANCES IN CLINICAL PRACTICE



Gut 2004;53:1044-1053. doi: 10.1136/gut.2003.021816

Table 1 Summary of evidence for various dietary approaches in the management of overweight and obesity

Dietary approach	Evidence of effectiveness	Inconclusive/inadequate evidence
Low fat	Spontaneous weight loss ¹⁹⁻²¹ Risk reduction ²¹ Maintenance of modest weight loss with low fat diet as part of comprehensive treatment programme ²³	Unclear if energy restriction + fat restriction more effective than fat restriction alone ²²
Fixed energy deficit	Modest weight loss ²⁵	Some evidence of improved compliance relative to more severe energy restrictions ²⁵
Meal replacements	Weight loss and maintenance ²⁷	Unclear of outcome if product not free Unclear of effectiveness in morbidly obese
VLCDs	Short term weight loss greater than LCD ²²	Relative effectiveness of VLCD versus LCD over the long term (>1 year) ²²
Low glycaemic index High protein low carbohydrate	Risk reduction for CHD and type 2 diabetes ³⁰	No RCT of low GI diet on weight loss over time ²⁹ Short term and long term safety profile unclear ³¹ Effectiveness on long term weight loss and maintenance not available

VLCD, very low calorie diet; LCD, low calorie diet; CHD, coronary heart disease, RCT, randomised controlled trial, GI, glycaemic index.



- Modelli dietetici proposti nel trattamento dell'obesità
- **Caratteristiche dell'obesità**
- Linee Guida per il trattamento dell'obesità

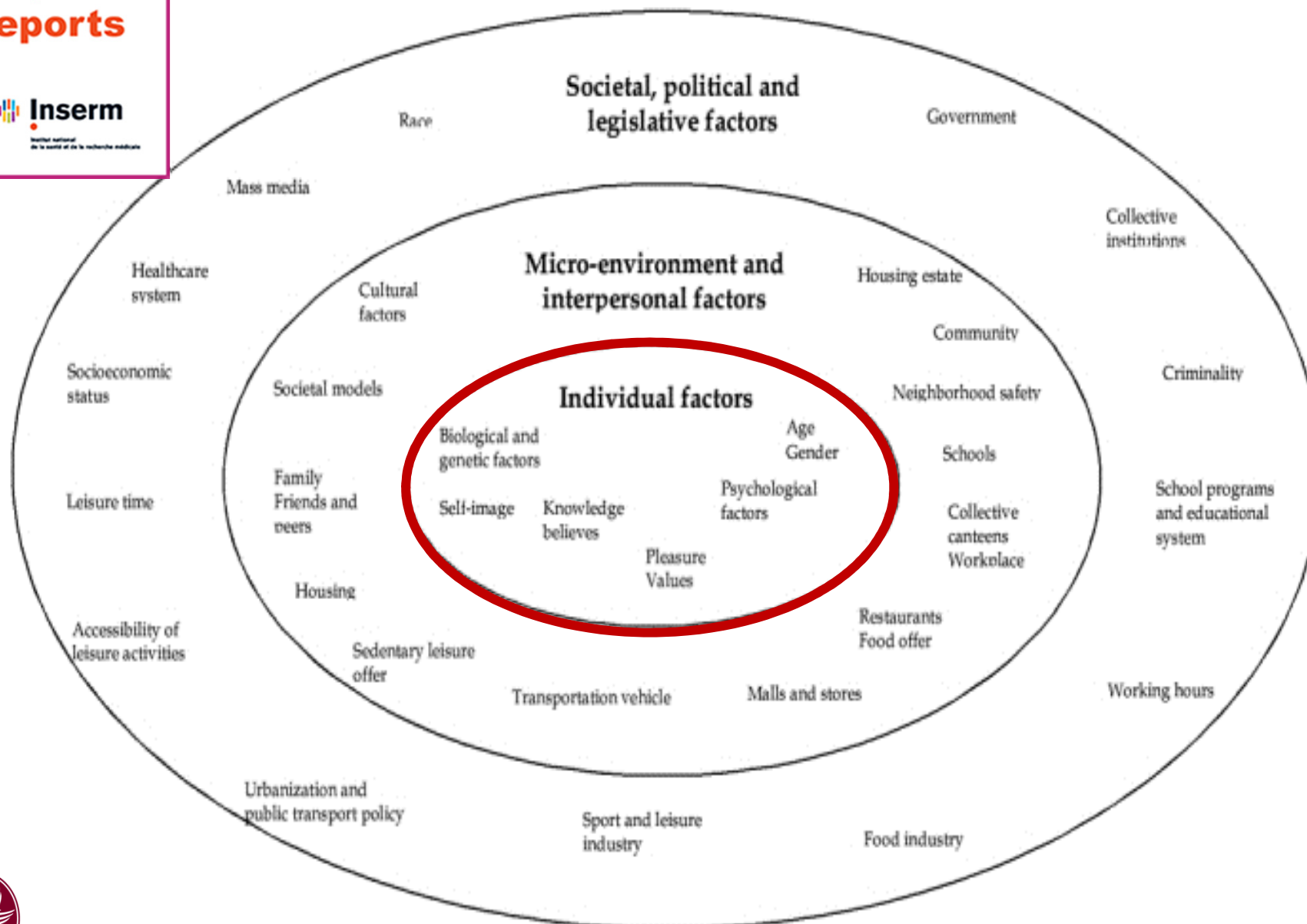


Caratteristiche della malattia

- **etiopatogenesi complessa**
- cronicità
- comorbosità
- disabilità
- grave impatto complessivo sulla qualità della vita



Collective Expert Reports



**Educazione
Terapeutica**

**Strategia di cambiamento
dello stile di vita**

- auto-monitoraggio,
gestione dello stress
- ristrutturazione
cognitiva, gestione
delle ricadute

Supporto sociale



Health Care Guideline:

Prevention and Management of Obesity (Mature Adolescents and Adults)

Is Patient Ready to Lose Weight?

Key Points:

- Knowing the patient's readiness to change can help the provider understand a patient's level of motivation and how to tailor communication about weight loss.
- Patients need to set realistic, achievable goals and to be held accountable to practice new behaviors that produce and maintain weight loss.



Rethink Organization to iMprove Education and Outcomes (ROMEo)

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FOR THE ROMEo INVESTIGATORS

DIABETES CARE, VOLUME 33, NUMBER 4, APRIL 2010



- Il trattamento dell'Obesità richiede, oltre che una gestione efficace di comorbidità, disabilità ed alterazioni della sfera psicologica, anche un cambiamento dello stile di vita duraturo nel tempo.
- **L'Educazione Terapeutica (ET)** è finalizzata a sviluppare al contempo l'autoefficacia e le strategie di *coping* oltre alla capacità di gestire le diverse problematiche relative alla malattia.
 - a partire da un'analisi dello stato clinico-funzionale e psicologico
 - tenendo conto delle condizioni socio-culturali ed ambientali
 - considerando alimentazione, attività fisica, gestione delle complicanze
- Misure di esito della ET: qualità di vita, conoscenze sulla malattia, strategie di *coping*

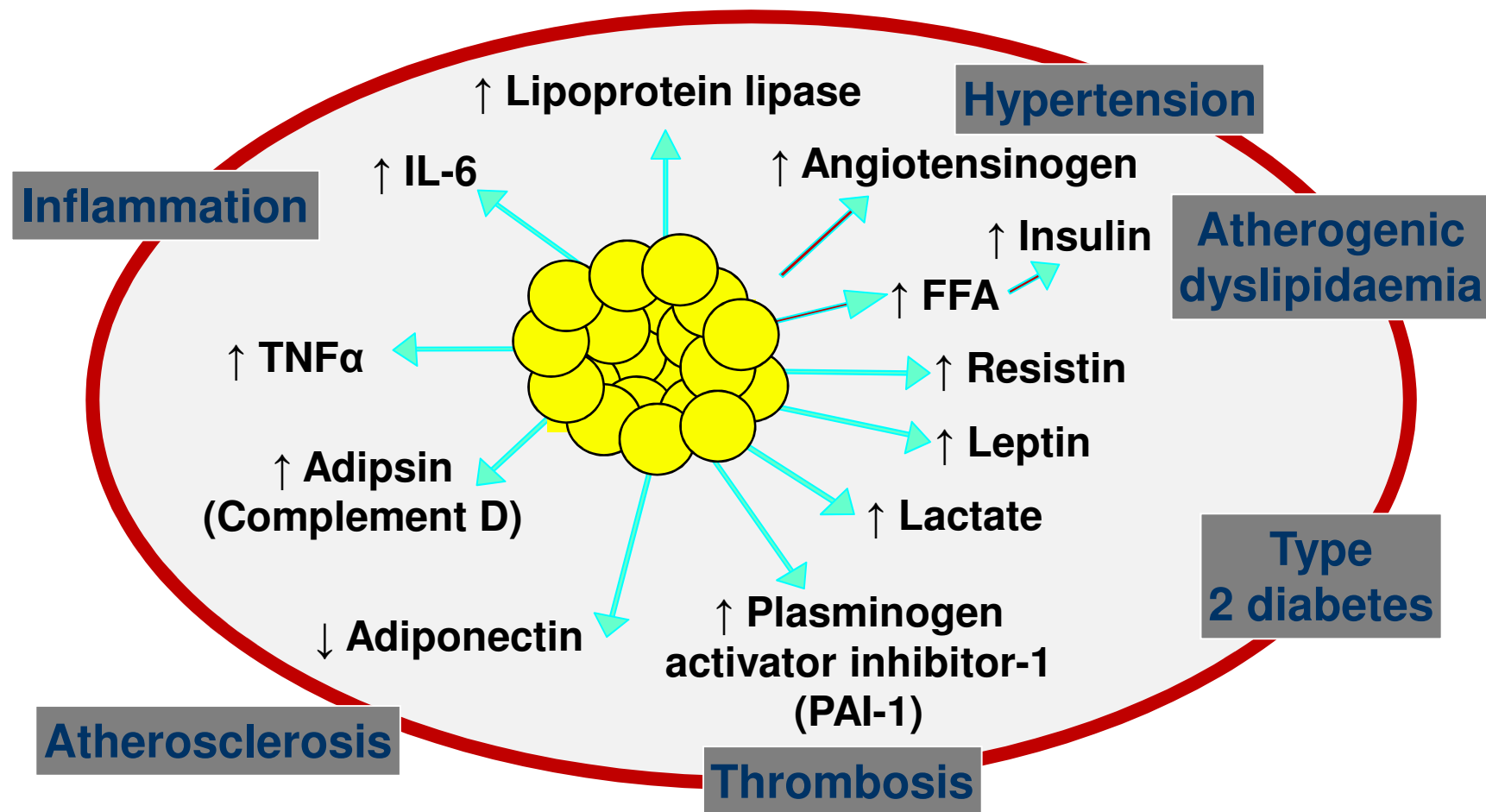


Caratteristiche della malattia

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- **cronicità**
- **comorbosità**
- **disabilità**
- **grave impatto complessivo sulla qualità della vita**



Fattori di rischio cardiometabolici e obesità intra-addominale



Lyon CJ et al. Endocrinology 2003; Trayhurn P et al. Br J Nutr 2004; Eckel RH et al. Lancet 2005.

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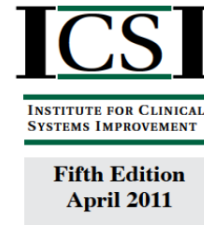
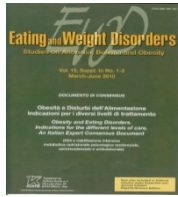
Supporto sociale

Dietoterapia

Farmacoterapia

Chirurgia bariatrica





Health Care Guideline:

Prevention and Management of Obesity (Mature Adolescents and Adults)

- intervento nutrizionale finalizzato a:
 - ottenere un calo ponderale pari almeno al 10% del peso corporeo iniziale con una significativa riduzione della massa grassa e preservazione di quella magra;
 - ricostruire durevolmente corrette abitudini alimentari (qualità, quantità, ritmo) basate sui canoni della Dieta Mediterranea (www.piramideitaliana.it) anche in una logica educativa;
 - ottenere una *compliance* del paziente funzionale al raggiungimento degli obiettivi.

Nutrition (balanced healthy eating plan or lower calorie balanced eating plan)

- Encourage at least five servings of fruits and vegetables per day, whole grains with a fiber intake of 20-35 grams of fiber daily, less than or equal to 30% of calories from fat (7%-10% of calories from saturated fat, less than or equal to 1% from trans fat).
- For weight loss, encourage calorie reduction by evaluating portion sizes and journaling food intake.
- Provide tips for managing eating in social situations, dining out, take-out foods and food label reading.
- Provide referral to a dietitian, nutritionist or structured medically supervised weight loss program if available.
- Consider the use of meal replacements or very low calorie diet (VLCD) under medical supervision to help achieve weight loss in patients who are interested in such programs.



Farmacoterapia e chirurgia

In casi selezionati risultano utili, sempre nell'ambito di un percorso riabilitativo, interventi farmacologici, psicofarmacologici e psicoterapeutici strutturati (psicoterapie a orientamento psicoanalitico, cognitivo-comportamentale, relazionale-sistemico, interpersonali, motivazionali, brevi focalizzate etc.) (8, 77-79). Ricordiamo che in soggetti con Obesità associata a gravi disturbi dell'alimentazione e/o psicopatologici, durante un programma riabilitativo (residenziale o semiresidenziale) e nelle comunità terapeutiche (intensive o di lungo periodo) la psicoterapia – in particolare di gruppo – è uno strumento di cura prezioso.

In accordo con le linee-guida internazionali la chirurgia bariatrica è indicata – previo consenso informato valido – in pazienti con Obesità e complicanze mediche clinicamente rilevanti per i quali siano risultati inefficaci ripetuti tentativi di cura e di riabilitazione condotti secondo standard ottimali. Una consulenza psicologico-psichiatrica pre- e post-operatoria è sempre opportuna e in molti casi indispensabile. Dopo un intervento di chirurgia bariatrica è spesso indicato un periodo di riabilitazione metabolico-psico-nutrizionale diretto a migliorare i risultati a lungo termine e a rafforzare la *compliance* del paziente.



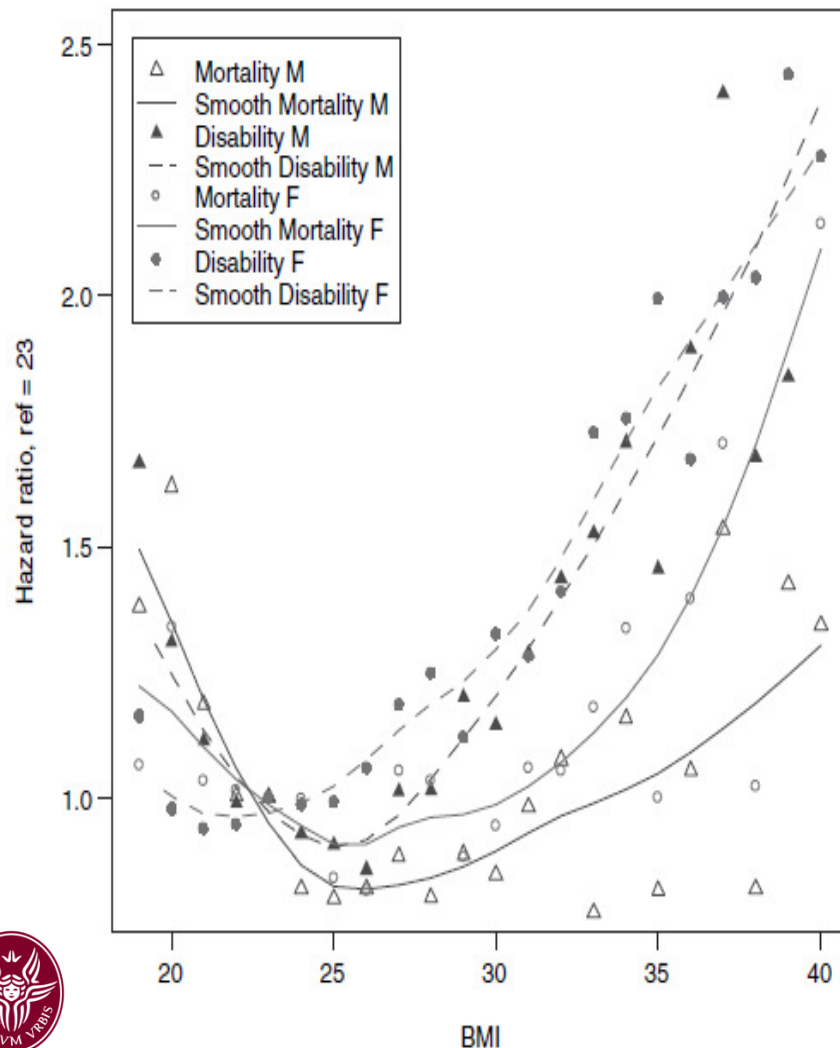
Caratteristiche della malattia

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Smoking Kills, Obesity Disables: A Multistate Approach of the US Health and Retirement Survey

Mieke Reuser^{1,2}, Luc G Bonneux¹ and Frans J. Willekens^{1,2} *Obesity* (2009) **17**, 783–789.



- The recent past of technological innovation decreased cardiovascular mortality and **extended the lives of many overweight and obese people**
- The **failure of success** is that this extended survival is increasing care dependence. ADL disability is relatively easy to measure and to interpret
- The mortality consequences of the obesity epidemic have been exaggerated, but the **consequences for long-term care needs are severely underestimated.**



Educazione
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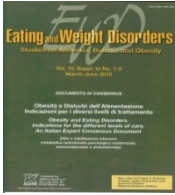
Dietoterapia

Ricondizionamento fisico

Farmacoterapia

Chirurgia bariatrica





Ricondizionamento fisico

- programma riabilitativo motorio/funzionale (rieducazione funzionale, ricondizionamento fisico, riabilitazione motoria) finalizzato a:
 - riattivare strutture muscolari ipotoniche ed ipotrofiche per l'inattività;
 - recuperare mobilità articolare;
 - migliorare la performance cardio-circolatoria e respiratoria;
 - aumentare il dispendio energetico;
 - aumentare il rapporto massa magra/massa grassa.



Health Care Guideline:

Prevention and Management of Obesity (Mature Adolescents and Adults)

Physical activity

- Minimally, all patients should be encouraged to do at least 10 minutes of physical activity above what they are already doing each day and gradually increase the amount of time, followed by an increase in intensity.
- Ideally, all patients should meet the current recommendations of 60 minutes of moderate-intensity activity on most days per week. This can be done in 10-minute increments.
- Patients with chronic activity limitations (e.g., arthritis, respiratory dysfunction, neuropathy, morbid obesity) should be evaluated and managed to establish or enhance patient mobility.
- Small bouts of physical activity, not generally considered exercise, such as taking the stairs, parking farther away, exercising while watching TV, standing rather than sitting and activity breaks from screens (TV, computer, other media) are also important for healthy body weight.



Health Care Guideline:

Prevention and Management of Obesity (Mature Adolescents and Adults)

Physical activity refers to all types and intensities of body movement, including activities of daily living. Exercise, physical fitness and training are terms that suggest elevated intensity, a sense of obligation or sports participation. These terms may have negative connotations for some obese patients. Physical activity is a more inclusive, attainable and acceptable term.



Educazione Terapeutica

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Logica
Riabilitativa



Logica riabilitativa

- L'intervento riabilitativo deve essere finalizzato a recuperare *“una competenza funzionale”*, a *“porre una barriera alla regressione funzionale cercando di modificare la storia naturale delle malattie croniche”* e a migliorare la qualità di vita dei pazienti
- Linee Guida Min Sanità per le attività di Riabilitazione – GU 30 maggio 1998, n° 124
- Min Salute – Riabilitazione - Piano di indirizzo 6.10.2010
- Towards a common language for function, disability and health. Geneva: WHO, 2002
- International classification of functioning, disability and health (ICF). WHO, 2007



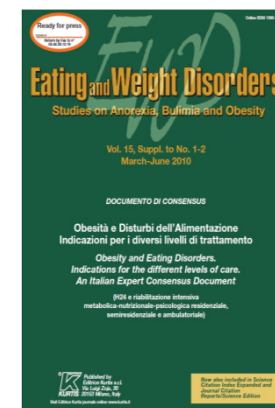


TEAM APPROACH

- approccio multidimensionale, interdisciplinare, multiprofessionale integrato (medici, psicologi, dietisti, fisioterapisti, terapisti occupazionali, educatori, infermieri)

SETTING MULTIPLI

1. *medicina generale e SIAN*
2. *ambulatorio multi specialistico o in rete interdisciplinare (aree internistico-metabolico-nutrizionale e psicologico-psichiatrica)*
3. *DH (diagnostico/terapeutico-riabilitativo), day service, centro diurno (terapeutico-riabilitativo o solo diagnostico)*
4. *riabilitazione intensiva residenziale o riabilitazione psichiatrica (incluse le comunità terapeutico-riabilitative)*
5. *ricoveri H24*



- Modelli dietetici proposti nel trattamento dell'obesità
- Caratteristiche dell'obesità
- Linee Guida per il trattamento dell'obesità





INSTITUTE FOR CLINICAL
SYSTEMS IMPROVEMENT

Fifth Edition
April 2011

- Effective weight management strategies are available and include nutrition, physical activity, lifestyle changes, medication and surgery. (*Annotation #6; Aim #2*)
- A 5%-10% weight loss can reduce a patient's risk of heart disease and diabetes that is clinically significant, and should be encouraged for all patients who are overweight and obese. This amount of weight loss and maintenance should be considered a clinical success and commended. This can be achieved and maintained with a high-intensity medical weight loss program even for the morbidly obese. (*Annotation #8; Aim #2*)



A 10 percent reduction in body weight reduces disease risk factors. Weight should be lost at a rate of 1 to 2 pounds per week based on a calorie deficit of 500–1,000 kcal/day.



RECOMMENDATION: *The initial goal of weight loss therapy should be to reduce body weight by approximately 10 percent*

from baseline. With success, further weight loss can be attempted, if indicated through further assessment. Evidence Category A.

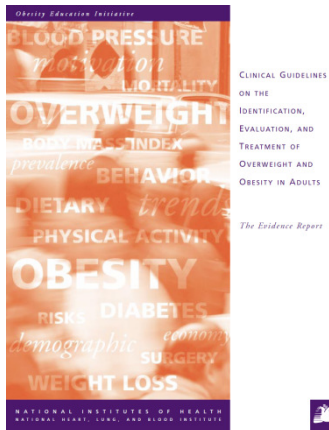




Goals for Weight Loss and Management

The following are general goals for weight loss and management:

- Reduce body weight
- Maintain a lower body weight over the long term
- Prevent further weight gain (a minimum goal)



RECOMMENDATION: *The literature suggests that weight loss and weight maintenance therapies that provide a greater frequency of contacts between the patient and the practitioner and are provided over the long term should be put in place. This can lead to more successful weight loss and weight maintenance. Evidence Category C.*

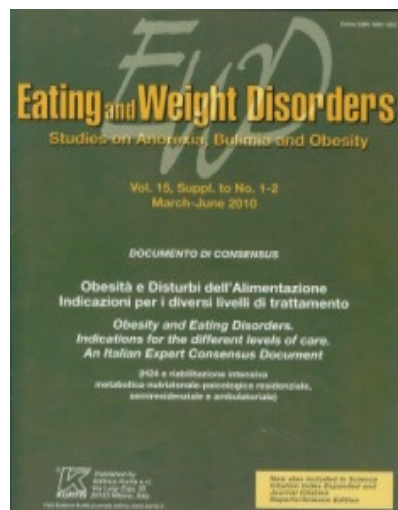




- **After a patient has achieved the targeted weight loss, the combined modalities of therapy (dietary therapy, physical activity, and behavior therapy) must be continued indefinitely; otherwise, excess weight will likely be regained.**
- **The longer the weight maintenance phase can be sustained, the better the prospects for long-term success in weight reduction.**

Long-term monitoring and encouragement to maintain weight loss requires regular clinic visits, group meetings, or encouragement via telephone or e-mail.





Obesità e Disturbi dell'Alimentazione Indicazioni per i diversi livelli di trattamento a,b,c,d,e

Obesity and Eating Disorders. Indications for the different levels of care. An Italian Expert Consensus Document

(H24 e riabilitazione intensiva
metabolica-nutrizionale-psicologica residenziale,
semiresidenziale e ambulatoriale)

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^aUn particolare ringraziamento ed un affettuoso ricordo vanno a Roberto Ostuzzi per il suo impegno e per i suoi preziosi consigli nella stesura di questo documento.

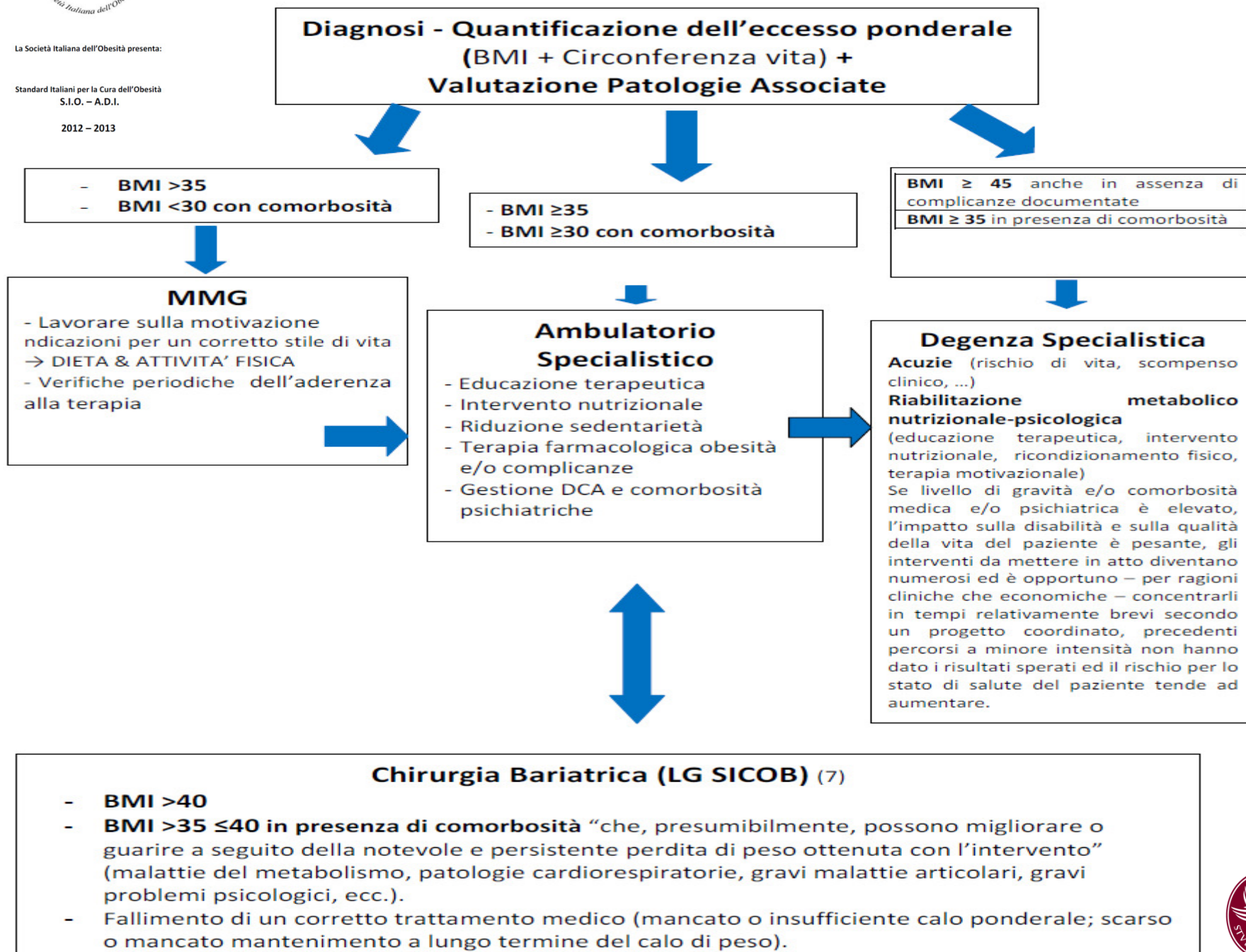
^bIl presente documento è stato promosso dal Dipartimento di Fisiopatologia Medica dell'Università "Sapienza" di Roma (Direttore A. Lenzi) in collaborazione con SIO (Società Italiana dell'Obesità, Presidente R. Vettor, Past President S. Cinti) e SISDCA (Società Italiana Studio Disturbi del Comportamento Alimentare, Presidente N. Melchionda, Past President R. Ostuzzi).

^cIl documento è stato portato all'attenzione di ADI-Lazio (Ass. Dietetica Italiana, sez. Laziale), AIDAP (Ass. Italiana Disturbi Alimentazione e Peso), AIPO (Ass. It. Pneumologi Ospedalieri), ANSISA (Ass. Naz. Specialisti in Scienza dell'Alimentazione); FIMMG (Federazione Italiana Medici di Medicina Generale); SIANET (Rete Nazionale SIAN - Servizio Igiene Alimenti e Nutrizione); SICOB (Soc. It. di Chirurgia dell'Obesità), SICPRE (Soc. It. Chirurgia Plastica, Ricostruttiva ed Estetica), SIMFER (Soc. It. di Medicina Fisica e Riabilitativa), SINU (Soc. It. Nutrizione Umana), SIPMED (Soc. It. Psicologia e Pedagogia Medica), SISA (Soc. It. Scienza dell'Alimentazione). Anche queste Società Scientifiche, che operano nel campo dell'Obesità e dei disturbi alimentari, hanno dato il loro contributo ed hanno sottoscritto il documento.

^dIl documento è stato condiviso dal Comitato Italiano per i Diritti delle persone affette da Obesità e Disturbi Alimentari (CIDO) e dall'Associazione Italiana Pazienti Obesi (AIPO).



FLOW CHART



Conclusioni

- Si fa ancora fatica a prendere seriamente l'obesità
- L'obesità è una malattia che mal si presta ad un approccio miracolistico
- La scoperta dell'acqua calda è costante e reiterata
- L'intervento dietetico, attraverso le nuove (vecchie) proposte che ogni anno sono presentate, è quasi sempre caratterizzato da comportamenti fisiologicamente scorretti che mirano ad ottenere una perdita di peso (mai di grasso !!!) attraverso una disfunzione metabolica
- I risultati, soprattutto a lungo termine sono decisamente mediocri e non privi di rischi
- Il *dieting* è un fattore di rischio importante per la comparsa di DCA o comunque di una WCS
- Al contrario, l'intervento dietetico dovrebbe, tra l'altro, mettere le basi per quello che dovrà essere, auspicabilmente, il comportamento del paziente negli anni successivi
- L'intervento dietetico deve essere parte integrante di un percorso di presa in carico multidimensionale, interdisciplinare, in setting diversi organizzati in rete, di lunga durata



