



VI CONVEGNO NAZIONALE
CENTRO STUDI E RICERCHE - FONDAZIONE AMD
NAPOLI, 18-20 OTTOBRE 2012



CENTRO CONGRESSI
STAZIONE MARITTIMA



Il binomio CHO counting e autocontrollo glicemico domiciliare: è applicato?

Daniela Bruttomesso



ORIGINAL ARTICLE

Many patients with Type 1 diabetes estimate their prandial insulin need inappropriately

Aila J. AHOLA,^{1,2,3} Sari MÄKIMATTILA,¹ Markku SARAHEIMO,^{1,2} Vera MIKKILÄ,³ Carol FORSBLOM,^{1,2} Riitta FREESE³ and Per-Henrik GROOP^{1,2,4} on behalf of the FinnDIANE Study Group

¹Folkhälsan Institute of Genetics, Folkhälsan Research Center, Biomedicum Helsinki, ²Division of Nephrology, Department of Medicine, Helsinki University Central Hospital, ³Division of Nutrition, Department of Applied Chemistry and Microbiology, University of Helsinki, Helsinki, Finland; ⁴The Baker IDI Heart and Diabetes Institute, Melbourne, Victoria, Australia

- Hypoglycemia (<4.0 mmol/ L), normoglycemia (4.0–7.9 mmol/ L), and hyperglycemia (>8.0 mmol/L) were observed after 23%, 36%, and 41% of meals, respectively. The three postprandial glycemia groups did not differ with respect to the meal composition or the timing of the postprandial blood glucose measurement.

64%

Calcolo della dose di insulina preprandiale

Calcolo della dose di insulina preprandiale

$$\frac{\text{Gr di CHO}}{\text{I:CHO}} + \frac{\text{Glicemia attuale- glicemia target}}{\text{Fattore di correzione}}$$

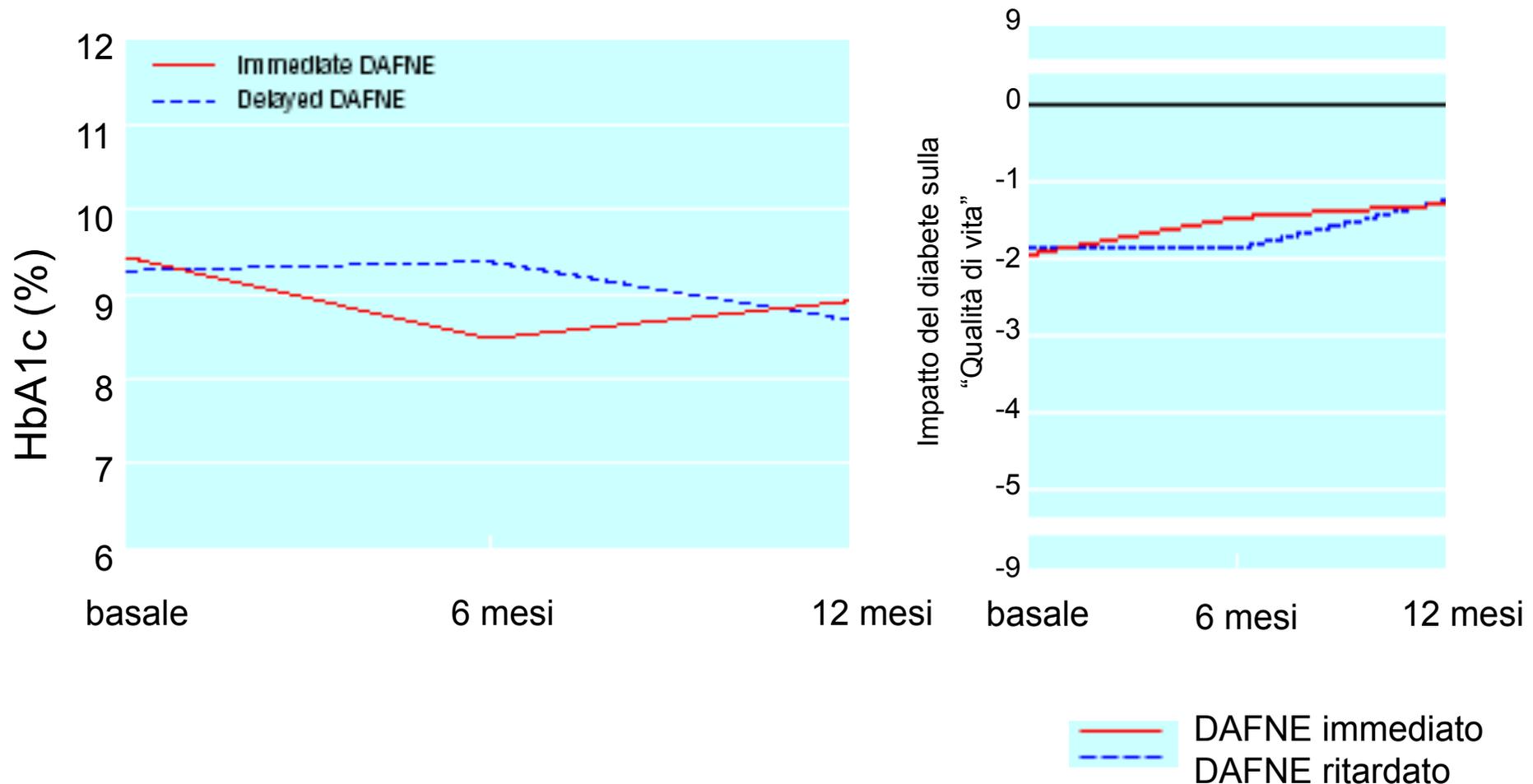
– Insulina residua



The role of diet behaviors in achieving improved glycemic control in intensively treated patients in the Diabetes Control and Complications trial

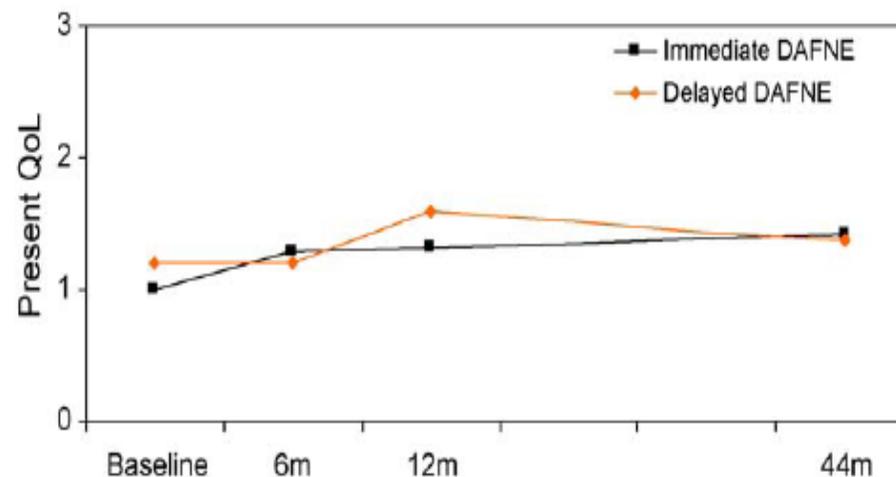
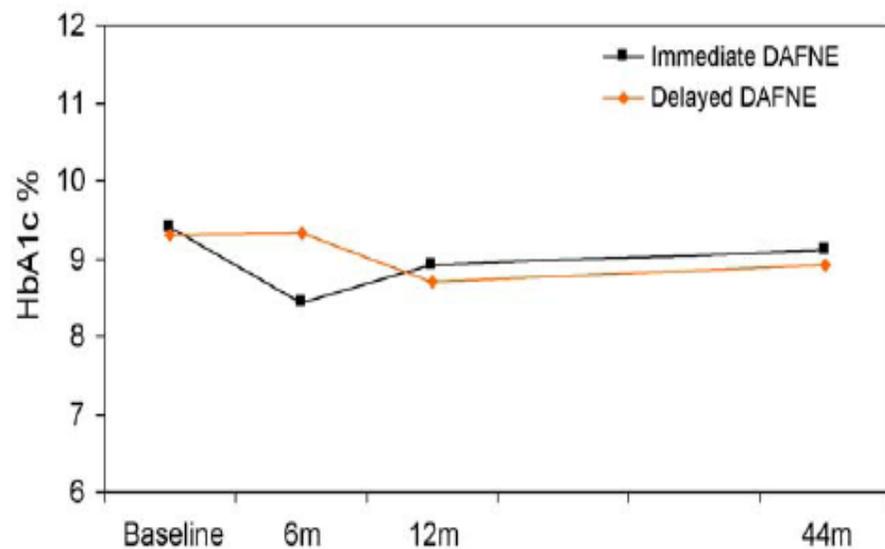
| | n | Mean \pm SD HbA _{1c} | First quartile | Median | Third quartile |
|-------------------|-----|------------------------------------|-------------------|--------|-------------------|
| Never | 33 | 7.53 \pm 1.57 | 6.41 | 6.91 | 8.36 |
| < 50% of the time | 117 | 7.11 \pm 1.11 | 6.47 | 6.87 | 7.46 |
| ~ 50% of the time | 90 | 7.40 \pm 0.94 | 6.76 | 7.37 | 7.81 |
| >50% of the time | 112 | 7.25 \pm 0.87 | 6.63 | 7.12 | 7.72 |
| Almost always | 261 | 6.97 \pm 0.83 | 6.38 | 6.85 | 7.47 |
| Did not respond | 8 | 7.79 \pm 1.84 | 6.61 | 7.08 | 9.07 |

Training in flexible, intensive insulin management to enable dietary freedom in people with type 1 diabetes: dose adjustment for normal eating (DAFNE) randomised controlled trial



DAFNE Study Group. BMJ 2002; 325:746

Long-term biomedical and psychosocial outcomes following DAFNE (Dose Adjustment For Normal Eating) structured education to promote intensive insulin therapy in adults with sub-optimally controlled Type 1 diabetes[☆]





L'autocontrollo nel DMT1

▶ L'autocontrollo quotidiano (almeno 3-4 controlli/die) è indispensabile per la persona con diabete tipo 1 in terapia insulinica intensiva. (**Livello della prova II, Forza della raccomandazione A**)

▶ I pazienti trattati con analoghi ad azione rapida dell'insulina o con microinfusori devono modificare i boli di insulina preprandiali sulla base dei carboidrati contenuti nei pasti. (**Livello della prova I, Forza della raccomandazione A**)



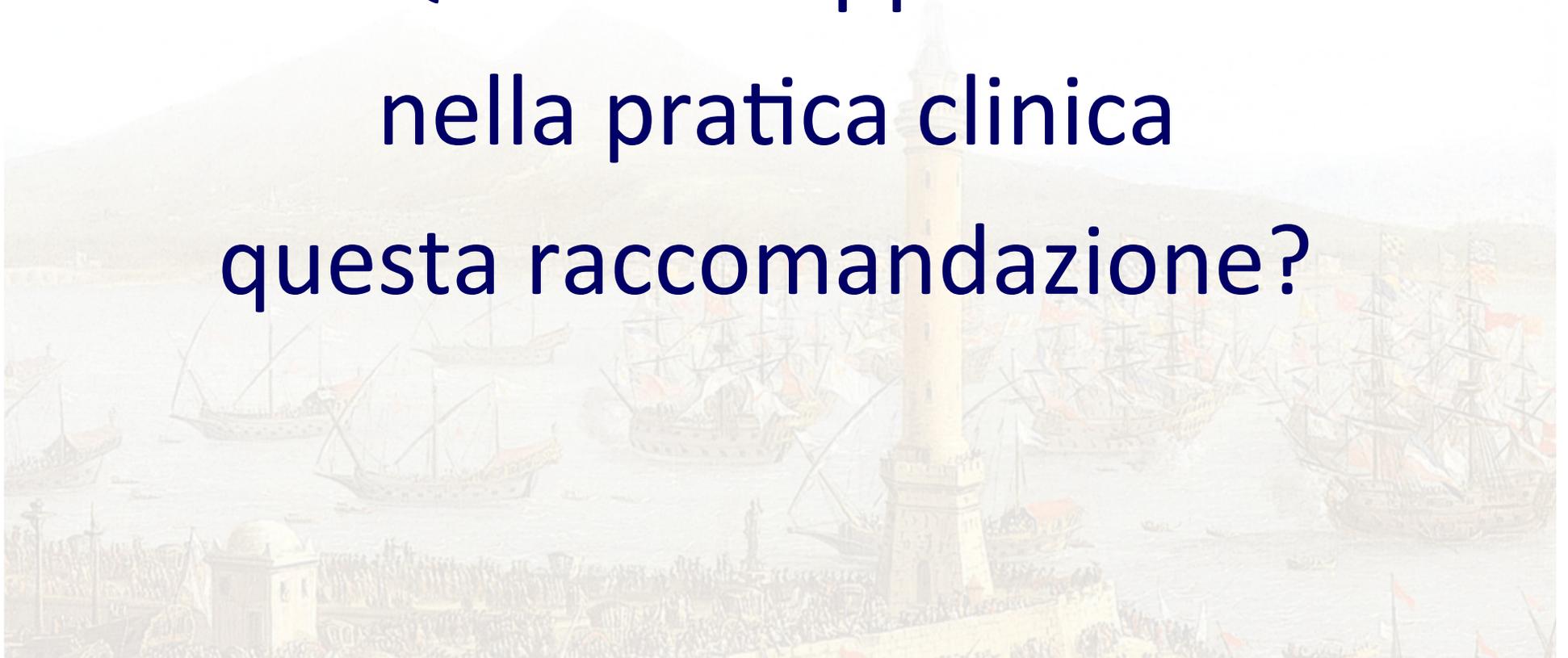
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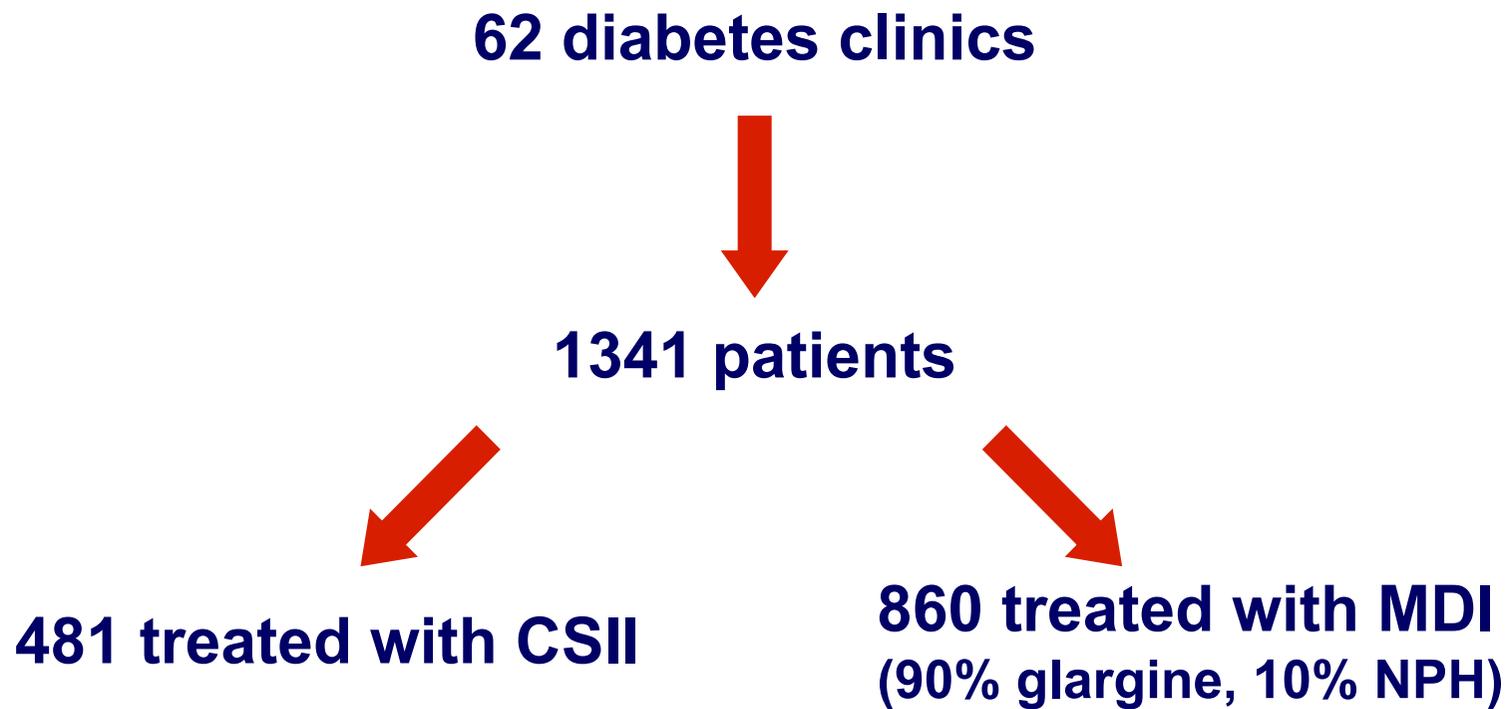
CENTRO CONGRESSI
STAZIONE MARITTIMA



Quanto è applicata
nella pratica clinica
questa raccomandazione?



Quality of life and treatment satisfaction in adults with Type 1 diabetes: a comparison between continuous subcutaneous insulin infusion and multiple daily injections





Evaluation of the personality characteristics of type 1 patients in CSII therapy

| | CHO Counting n (%) |
|-------------------------------|------------------------------|
| CSII (185 pazienti) | 128 (69%) |
| MDI (176 pazienti) | 61 (35%) |

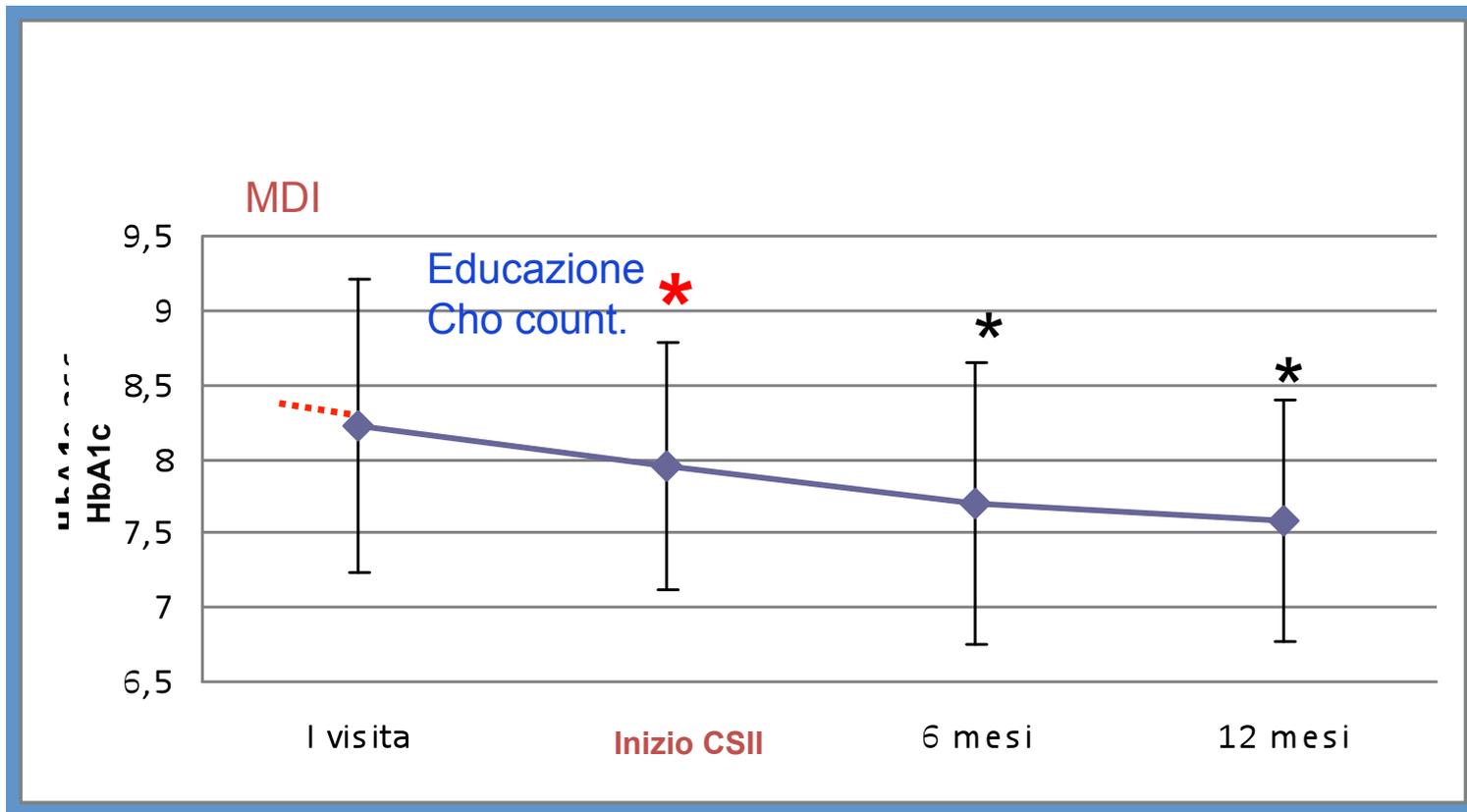


Pazienti candidati alla CSII nella Regione Veneto (aprile 2008-luglio 2012)

| | No CHO Counting (%) | Si CHO counting (%) |
|---------------------------|--------------------------------|--------------------------------|
| 280 DMT1 (MDI) | 79% | 21% |

Dati personali

Controllo glicemico nei pazienti passati da MDI-Glargine a CSII



Bruttomesso, dati personali

**Perché il binomio
“CHO counting e
autocontrollo glicemico domiciliare”
non viene applicato?**

**È un problema legato
all' autocontrollo?**

Self-Monitoring of Blood Glucose

Valutati 44181 soggetti con diabete:

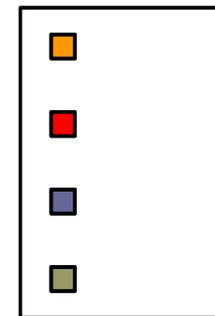
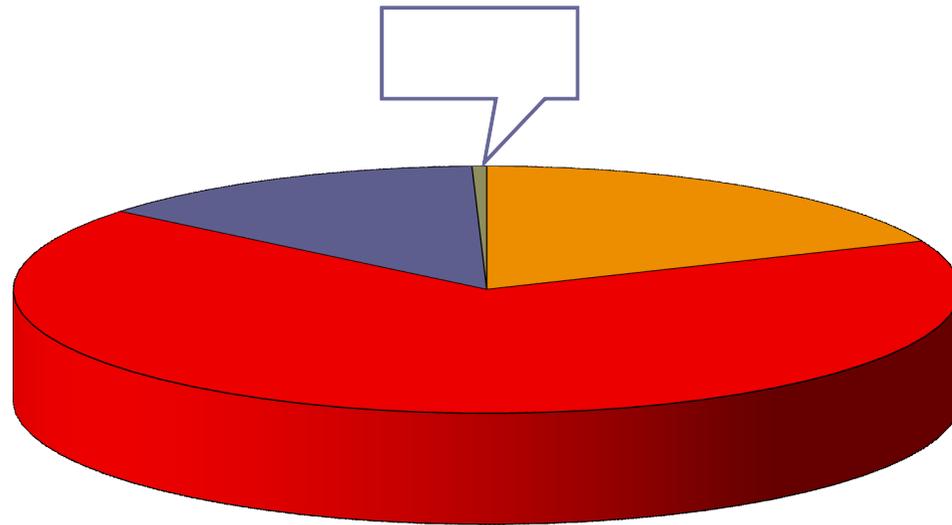
–60% dei tipo 1

–87% tipo 2

testano la glicemia meno di quanto è
raccomandato

We have to ask our patients to intensify SMBG, but....

SMBG Freque

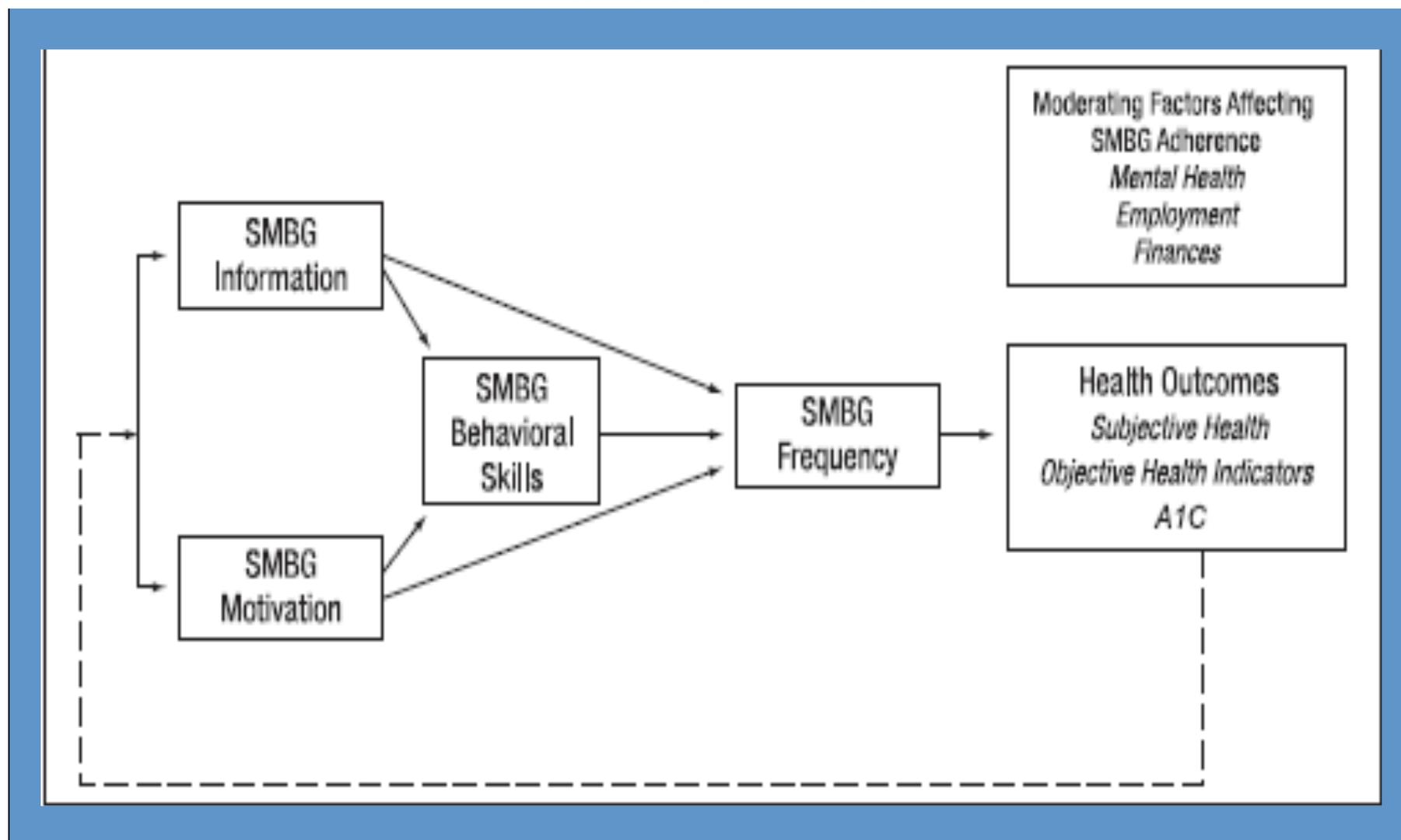


**Understanding Self-Monitoring of Blood Glucose Among Individuals With Type 1 and Type 2 Diabetes :
An Information –Motivation–Behavioral Skills Analysis**

William A. Fisher, Taylor Kohut, Holly Schachner and Patricia Stenger

The Diabetes Educator 2011 37: 85

DOI: 10.1177/0145721710391479



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- **Indagine Online**
- **208 DM1A , 218 DM2**



Molti sono risultati:

- ▣ **non informati,**
- ▣ **non motivati**
- ▣ **non capaci**

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% di DM1 non informati

| | Percentage Uninformed, Unmotivated, or Unskilled | |
|--|--|--------|
| | Type 1 | Type 2 |
| SMBG information | | |
| 1. My body tells me without testing if my blood sugar is low or high. ✓ | 76.0 | 73.9 |
| 2. I should test my blood sugar after meals. ✓ | 45.7 | 52.8 |
| 3. Meal planning is more important than blood sugar testing. ✓ | 44.7 | 68.3 |
| 4. When my blood sugar is low I need to eat protein. | 44.7 | 63.3 |
| 5. It is my body—not testing, diet, or exercise—that really affects my blood sugar levels. | 38.5 | 47.2 |
| 6. If my blood sugar is high, I could increase my exercise. | 38.5 | 30.7 |
| 7. I do not believe that keeping a record of blood sugar levels is that important. | 29.3 | 33.0 |
| 8. My doctor does not need to know my daily blood sugars because he or she has my A1C value. ✓ | 26.4 | 31.7 |
| 9. Activity is more important than blood sugar testing. | 24.0 | 53.2 |
| 10. If I often have low blood sugar, I should test more frequently. | 22.6 | 42.2 |
| 11. I know how to look for patterns in my blood sugar readings. | 20.7 | 39.9 |
| 12. If I often have high blood sugars, I should test more frequently. | 19.7 | 28.4 |
| 13. I know when to contact my health care provider if my blood sugar is out of target. | 16.3 | 21.6 |

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% di DM1 non motivati, non capaci

SMBG MOTIVATION

L'autocontrollo frequente:

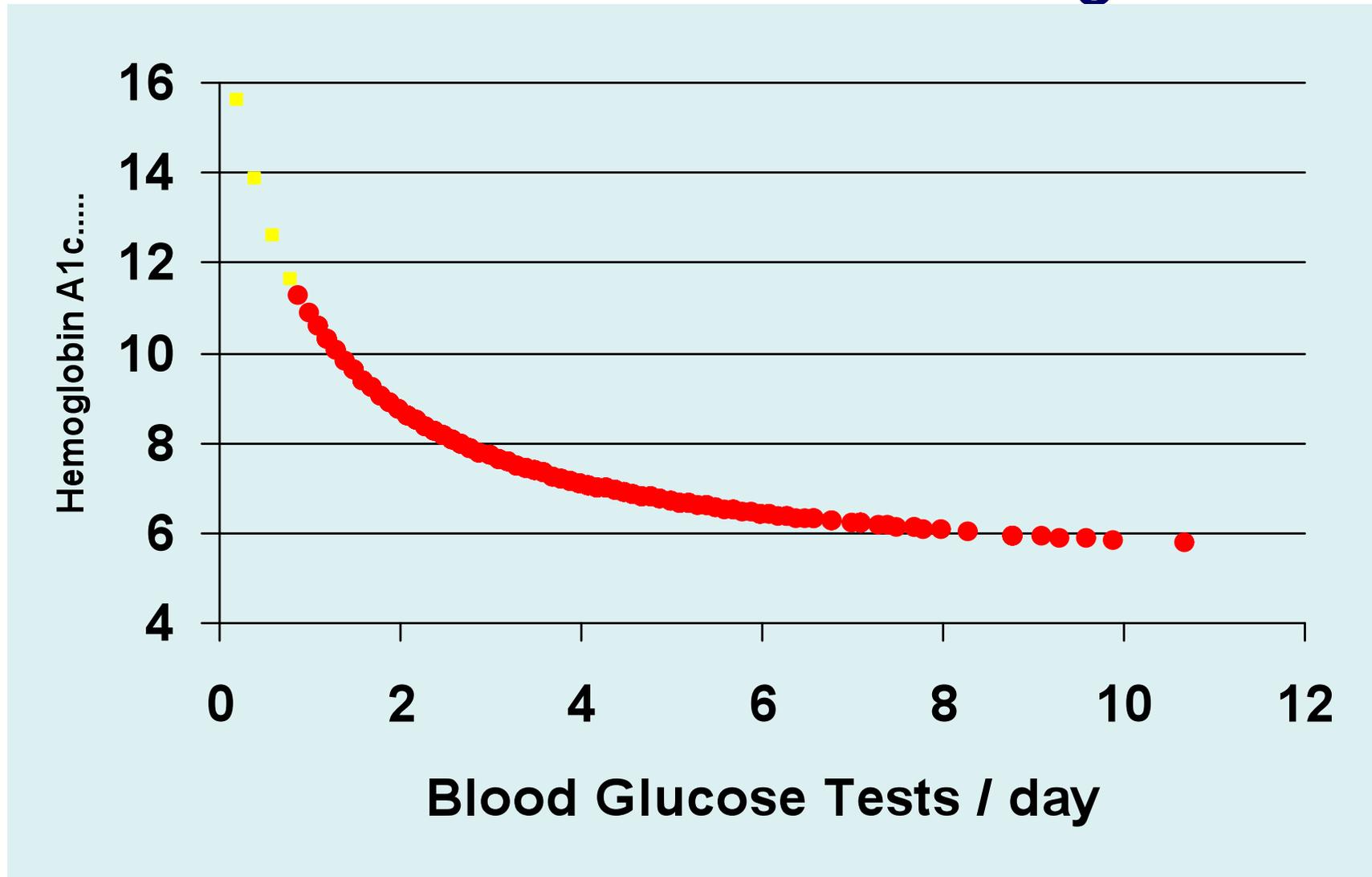
- Ricorda la malattia (45%)
- E' doloroso (34%)
- E' spiacevole (28%), crea ansietà (27%) e frustrazione (25%), richiede molto impegno(24%)
-

SMBG Behavioral skills

Risulta molto difficile:

- Fare il test senza che altri vedano (28%)
- Testare senza provocare dolore (21%)
- Ricordare di fare il test (17%)
- Avere il glucometro quando serve (19%)....

Improvement in HbA1c with Increased BG Testing



**Manca forse la
“abilità di capire e usare
i numeri nella vita
quotidiana”?**

“Numeracy”

Il paziente con diabete di tipo 1 in terapia intensiva **deve sapere:**

- 1) contare
- 2) fare calcoli matematici di base
- 3) usare frazioni, decimali, percentuali
- 4) capire tabelle, grafici e misure
- 5) decidere quando usare queste abilità

Poor numeracy skills are associated with glycaemic control in Type 1 diabetes

S. Marden¹, P. W. Thomas², Z. A. Sheppard², J. Knott¹, J. Lueddeke³ and D. Kerr¹

**112 DMT1,
43,8 ± anni, 47% maschi,
Durata di diabete 22±13.2 anni**

Valutata abilità di :

“Numeracy” (40 questions) and **“literacy”** (25 questions)”

“Literacy” = abilità di leggere e scrivere

“Numeracy” = abilità di capire e usare i numeri nella vita quotidiana

Poor numeracy skills are associated with glycaemic control in Type 1 diabetes

S. Marden¹, P. W. Thomas², Z. A. Sheppard², J. Knott¹, J. Lueddeke³ and D. Kerr¹

Abstract

Aims To assess the numeracy and literacy skills of individuals with Type 1 diabetes and determine if there is a relationship with achieved glycaemic control independent of their duration of diabetes, diabetes education, demographic and socio-economic

Su 112 pazienti:

75% aveva abilità di “literacy” sotto livello 2*

47% aveva abilità di “numeracy” sotto livello 2*

La valutazione della “numeracy” identificava difficoltà nel

- *usare decimali,*
- *riconoscere e comprendere le frazioni*
- *usare le percentuali*
- *selezionare importanti informazioni da tabelle*
- *convertire unità di misura e confrontare dati*

*Livello 2= conoscenze reative ai primi 3 anni di scuola media superiore

Conclusions Low numeracy skills were adversely associated with diabetes control. Assessment of numeracy skills may be relevant to the structure of diabetes education programmes.



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La tecnologia può aiutare?





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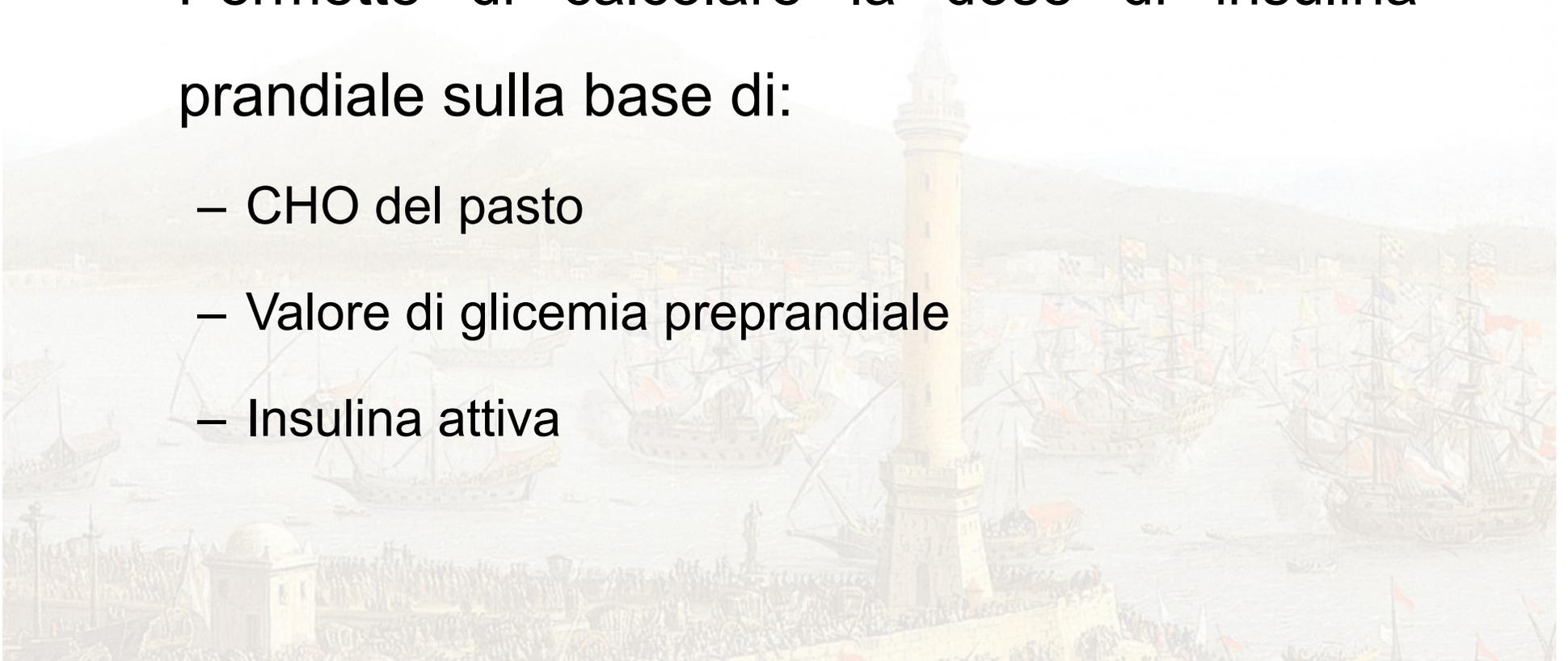


CENTRO CONGRESSI
STAZIONE MARITTIMA



Il “calcolatore di bolo” nasce come parte integrante del microinfusore

- Permette di calcolare la dose di insulina prandiale sulla base di:
 - CHO del pasto
 - Valore di glicemia preprandiale
 - Insulina attiva



Assistenza al calcolo del Bolo

Target glic= 100 m/dl, I/CHO= 1:15, FC= 30

MiniMed
ENTER FOOD
45 grams

MiniMed
Meter BG
160 mg/dL

ESTIMATE DETAILS

| | | |
|--------------|------|---|
| Est total: | 4.0U | ✓ |
| Food Intake: | 45gr | |
| (Meter) BG: | 160 | |
| Food: | 3.0U | ✓ |
| Correction: | 2.0U | ✓ |
| Active Ins: | 1.0U | ✓ |

ACT to Proceed
ESC to back up



Original Article: Treatment

Benefits of a bolus calculator in pre- and postprandial glycaemic control and meal flexibility of paediatric patients using continuous subcutaneous insulin infusion (CSII)

B. Shashaj, E. Busetto* and N. Sulli

- ✓ Utilizzo del calcolatore automatico del bolo
 - **più efficace nel controllare la glicemia pre and postprandiale con un numero minore di boli correttivi**
 - Fabbisogno insulinico ai pasti invariato
 - Senza restrizione del contenuto di CHO

- ✓ L'utilizzo del calcolatore del bolo è stato giudicato **facile e soddisfacente**

Bolus calculator improves long-term metabolic control and reduces glucose variability in pump-treated patients with Type 1 diabetes

- 30 DMT1 , CSII
- Uso del calcolatore di bolo per 1 anno
- HbA1c -0,2% (p<0.007)
- Ridotta la variabilità glicemica diurna

....e per la Terapia Insulinica Multiiniettiva?

Segni particolari.....



.....bilancia.....
e...calcolatrice...!

Mese di:

2062102010

13 torte

Diario
Accu-Check

| Boli | | | | Glicemie | | | | | Note | | | | | |
|-----------|--------|------|------------|----------|----------------------|-----------------|-------------------|-----------------|---------------|-----------------|---------------------|-------------|-------------|---|
| Colazione | Pranzo | Cena | Conciliato | Digiuno | 2 ore dopo colazione | Prima di pranzo | 2 ore dopo pranzo | Metà pomeriggio | Prima di cena | 2 ore dopo cena | Prima di conciliato | Notta ore 3 | Notta ore 4 | (attività fisica, dieta, malattie, etc) |
| 4 | 9 | 12 | 18+12 | 1 | 98 | 169 | | | 245 | 57 | 160 | | | |
| 4 | 10 | 9 | 18+6 | 2 | 46 | 64 | 118 | 67 | | 47 | 89 | | | |
| 4 | 12 | 12 | 16+7 | 3 | 50 | | 189 | 38 | | 82 | | | | |
| 3 | 10 | 10 | 17+11 | 4 | 50 | | 150 | | 189 | 45 | 180 | | | |
| 6 | 8 | 9 | 18+12 | 5 | ipo | 200 | 69 | | 111 | 39 | 200 | | | concorso torte |
| 4 | 8 | 10 | 18 | 6 | 72 | | 193 | | 85 | 57 | | | | concorso torte |
| 4 | 10 | 10 | 20+16 | 7 | 63 | | 149 | | 200 | 180 | 101 | | | |
| 4 | 10 | 10 | 23+6 | 8 | 51 | | 100 | | 211 | 108 | 139 | | | |
| 4 | 10 | 10 | 21+16 | 9 | 109 | | 197 | | 58 | 59 | 50 | | | |
| 5 | 9 | 10 | 26 | 10 | 40 | | 70 | | 190 | 155 | | | | |
| 5 | 9 | 10 | 24 | 11 | 169 | | 59 | | 139 | 142 | 69 | | | |
| 3 | 7 | 12 | 26 | 12 | 56 | | 81 | | 230 | 135 | 159 | | | |
| 4 | 9 | 12 | 26 | 13 | 58 | | 49 | | 98 | 44 | | | | |
| 4 | 8 | 11 | 26 | 14 | 149 | | 89 | | 180 | 115 | 64 | | | |
| 4 | 9 | 11 | 23 | 15 | 42 | | 101 | 56 | 190 | 138 | 89 | | | |

Mese di:

89

Boli

Glicemie

| Colazione | Pranzo | Cena | Correzione | Oligo | 2 ore dopo colazione | Prima di pranzo | 2 ore dopo pranzo | Matt. pomeriggi |
|-----------|--------|--------|------------|-------|----------------------|-----------------|-------------------|-----------------|
| 8 | 9,5 | 9 | 16 | 16 | 154 | 138 | | 120 |
| 7 | 10 | 7 | 16+14 | 17 | 135 | 80 | | 70 |
| 5 | 7 | 10 | 15 | 18 | 115 | 98 | | 189 |
| 2 1/2 | 10 | 24 | 16 | 19 | 100 | 216 | | 126 |
| 2 | 10 | 12 1/2 | 15 | 20 | 70 | 256 | | 176 |
| 2 1/2 | 7 1/2 | 10 1/2 | 17 | 21 | 110 | 186 | | 258 |
| 4 | 9 | 10 | 17 | 22 | 183 | 139 | | 206 |
| 4 | 9 | 7 | 10+3 | 23 | 185 | 159 | | 199 |
| 3 1/2 | 7 | 7 | | 24 | 150 | 149 | | 20 |
| 1 1/2 | 6 | 6 | | 25 | 89 | 71 | 89 | 106 |
| 1 | 6 | 5 1/2 | | 26 | 77 | 105 | 101 | 101 |
| 1 | 6 | 6 | | 27 | 93 | 89 | 112 | 153 |
| 0,6 | 6 | 5 1/2 | | 28 | 69 | 158 | 124 | 157 |
| 0,8 | 7 | 6 | | 29 | 89 | 97 | 114 | 133 |
| 1,2 | 6 | 7 | | 30 | 130 | 100 | 183 | 113 |
| | | | | 31 | | | | |

Diario

Accu-Chek

Note

| Prima di colazione | 2 ore dopo colazione | Prima di pranzo | Notte ore 2 | Notte ore ... |
|--------------------|----------------------|-----------------|-------------|---------------|
| 126 | 70 | 270 | | |
| 122 | 70 | | | |
| 260 | 160 | | | |
| 149 | 133 | | | |
| 139 | 164 | | | |
| 106 | 90 | | | |
| 154 | 152 | | | |
| 164 | 248 | | | |
| 149 | 118 | ore 1/2 99 | | |
| 51 | 102 | ore 3 89 | | |
| 20 | | ore 3 150 | | |
| 120 | 55 | 99 | | |
| 105 | 51 | 119 | 265 | |
| 124 | 120 | | | |
| 149 | 110 | | 179 | |

no fastidioso (frutta, pesce, dieta, maletta, vegg)

+4 +3

+1 1/2

+3

+2 1/2 prima

+2 OK pranzo

+4

+3 anche 3 1/2 ore

+3

inizio microinf

inizio terapia a calcolata

+2

+0,5

Glucometri con calcolatore automatico di bolo



Performance of a Glucose Meter with a Built-In Automated Bolus Calculator versus Manual Bolus Calculation in Insulin-Using Subjects

Allen Sussman, M.D.,¹ Elizabeth J. Taylor, M.S., C.D.E.,² Mona Patel, B.S.,³ Jeanne Ward, B.S.,³
Shridhara Alva, Ph.D.,³ Andrew Lawrence, B.Sc.,³ and Ronald Ng, Ph.D.³

Abstract

205 DMT1, MDI
Calcolo del bolo pandiale
in presenza di **normo o **iperglicemia****

- ***Manualmente***
- ***Con calcolatore di bolo***

Insulin-using patients made errors in more than half of the manually calculated insulin doses. Use of the automated bolus calculator in the FreeStyle InsuLinx meter minimized errors in dose determination. The patients also expressed confidence and preference for using the meter. This may increase adherence and help optimize the use of mealtime insulin.

Performance of a Glucose Meter with a Built-In Automated Bolus Calculator versus Manual Bolus Calculation in Insulin-Using Subjects

Allen Sussman, M.D.,¹ Elizabeth J. Taylor, M.S., C.D.E.,² Mona Patel, B.S.,³ Jeanne Ward, B.S.,³
Shridhara Alva, Ph.D.,³ Andrew Lawrence, B.Sc.,³ and Ronald Ng, Ph.D.³

Abstract

Background:

Patients consider multiple parameters in adjusting prandial insulin doses for optimal glycemic control. Difficulties in calculations can lead to incorrect doses or induce patients to administer fixed doses, rely on empirical estimates, or skip boluses.

- Su 409 dosi di insulina calcolate manualmente ben il 63% erano sbagliate.
- L'uso del calcolatore di boli, invece, ha ridotto al minimo tali errori (6%).

Use of an Automated Bolus Calculator Reduces Fear of Hypoglycemia and Improves Confidence in Dosage Accuracy in Patients with Type 1 Diabetes Mellitus Treated with Multiple Daily Insulin Injections

508 DMT1

Calcolatore di bolo per 4-12 settimane

Rispetto al calcolo manuale il calcolatore di bolo :

- è più facile da usare
- aumenta la fiducia nell'accuratezza del calcolo della dose
- riduce la paura dell'ipoglicemia

Use of an Automated Bolus Calculator in MDI-Treated Type 1 Diabetes

The BolusCal Study, a randomized controlled pilot study

Valutare :

1) effetto di Flexible Intensive Insulin Therapy (FIT) + Automated Bolus Calculator (ABC)

2) fattibilità di educazione strutturata in 3 ore

Use of an Automated Bolus Calculator in MDI-Treated Type 1 Diabetes

The BolusCal Study, a randomized controlled pilot study

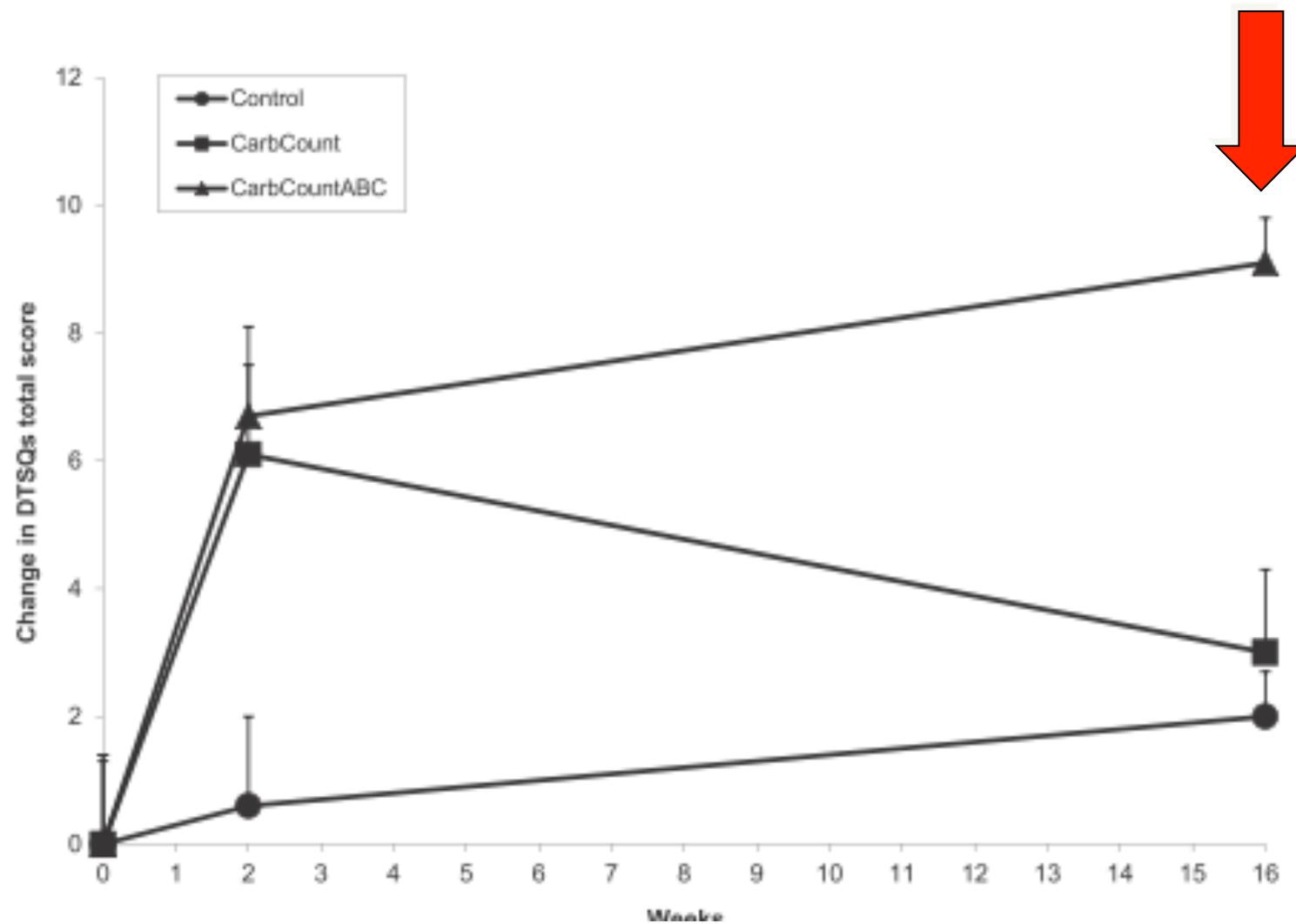
51 DMT1, Hba1c 8-10.5%, MDI

RCT, aperto, 16 settimane, 3 bracci paralleli

- 1) Controllo (solo educazione a FIIT)**
- 2) CARB Count (educazione a FIIT + CHO counting)**
- 3) Carb Count ABC (come gruppo 2+ Bolus calculator)**

| | n | Control | CarbCount | CarbCountABC | Between-group difference P* |
|--------------------------|----|----------------------|----------------------|-----------------------|-----------------------------|
| HbA_{1c} | | | | | |
| Baseline | 51 | 0.1 ± 0.7 | 0.2 ± 0.6 | 0.8 ± 0.7 | 0.088 |
| 16 weeks | 51 | -0.1% | -0.8% | -0.7% | 0.029 |
| Within-group difference† | 51 | -0.1 | -0.8 | -0.7 | 0.175 |
| HFS | | | | | |
| Baseline | 2 | -0.1 | -0.6 | -0.8 | 0.819 |
| 16 weeks | 2 | -0.1 | -0.6 | -0.8 | 0.964 |
| Within-group difference† | 49 | -1.92 (-10.0 to 6.2) | -5.2 (-9.8 to -0.6)‡ | -3.4 (-7.2 to 0.3) | 0.674 |
| PAID | | | | | |
| Baseline | 46 | 30.5 ± 19.9 | 30.8 ± 17.6 | 33.4 ± 21.1 | 0.896 |
| 16 weeks | 51 | 27.2 ± 18.8 | 28.0 ± 19.2 | 25.6 ± 15.3 | 0.898 |
| Within-group difference† | 46 | -3.3 (-21.0 to 14.4) | -5.8 (-12.0 to 0.5) | -6.9 (-13.5 to -0.4)‡ | 0.842 |
| ADDQoL | | | | | |
| Total baseline | 51 | -2.0 ± 1.7 | -2.0 ± 1.7 | -2.1 ± 1.7 | 0.954 |
| Total 16 weeks | 51 | -1.4 ± 0.9 | -1.8 ± 1.6 | -1.8 ± 1.6 | 0.853 |
| Within-group difference† | 51 | 0.6 (-0.8 to 1.9) | 0.2 (-0.1 to 0.5) | 0.4 (0.0-0.7)‡ | 0.673 |
| Present QoL baseline | 51 | 1.8 ± 0.9 | 1.0 ± 1.1 | 1.0 ± 1.0 | 0.182 |
| Present QoL 16 weeks | 51 | 1.8 ± 0.9 | 0.9 ± 1.4 | 1.3 ± 1.2 | 0.257 |
| Within-group difference† | 51 | 0.0 (-0.8 to 0.8) | -0.1 (-0.6 to 0.4) | 0.3 (-0.2 to 0.9) | 0.483 |
| DTSQs | | | | | |
| Total baseline | 50 | 26.5 ± 6.4 | 23.4 ± 6.0 | 22.4 ± 6.4 | 0.283 |
| Total 16 weeks | 51 | 28.5 ± 5.1 | 26.4 ± 6.0 | 31.5 ± 3.3 | 0.009 |
| Within-group difference† | 51 | 2.0 (-0.5 to 4.5) | 3.0 (0.8-5.3)‡ | 9.1 (6.0-12.2)§ | 0.001 |
| Hyperglycemia baseline | 50 | 4.1 ± 1.6 | 4.0 ± 1.7 | 3.6 ± 1.2 | 0.535 |
| Hyperglycemia 16 weeks | 51 | 3.4 ± 1.8 | 3.4 ± 1.4 | 2.7 ± 1.3 | 0.197 |
| Within-group difference† | 51 | -0.3 (-1.9 to 1.4) | -0.6 (-1.1 to -0.2)‡ | -0.9 (-1.7 to -0.1)‡ | 0.581 |
| Hypoglycemia baseline | 51 | 2.4 ± 1.3 | 2.3 ± 1.4 | 2.5 ± 1.0 | 0.905 |
| Hypoglycemia 16 weeks | 51 | 1.8 ± 1.4 | 2.2 ± 1.1 | 1.6 ± 1.2 | 0.197 |
| Within-group difference† | 51 | -0.6 (-2.1 to 0.9) | -0.1 (-0.8 to 0.7) | -0.9 (-1.4 to -0.3)‡ | 0.228 |
| DTSQc | | | | | |
| Total 16 weeks | 50 | 9.8 ± 6.5 | 9.5 ± 4.9 | 14.6 ± 3.1 | 0.002 |
| Hyperglycemia | 50 | 1.1 ± 0.8 | -0.1 ± 1.5 | -0.4 ± 1.8 | 0.009 |
| Hypoglycemia | 50 | 0.1 ± 1.0 | -0.4 ± 1.1 | 0.0 ± 1.4 | 0.489 |

Maggiore soddisfazione nel trattamento



Diabetes Interactive Diary: A New Telemedicine System Enabling Flexible Diet and Insulin Therapy While Improving Quality of Life

An open-label, international, multicenter, randomized study



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OBJECTIVE — Widespread use of carbohydrate counting is limited by its complex education. In this study we compared a Diabetes Interactive Diary (DID) with standard carbohydrate counting in terms of

130 DMT1

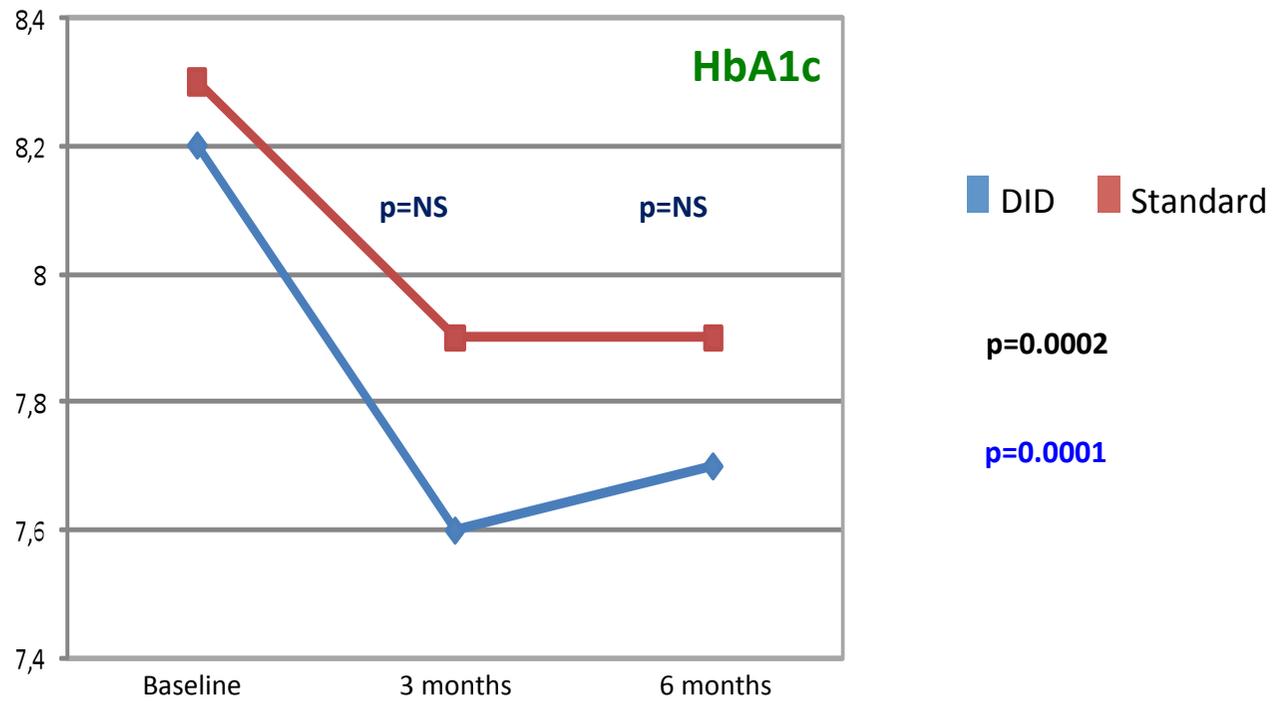
DID vs educaz. tradizionale alla CHOcounting

- Controllo metabolico
- Tempo per educare

group B from 8.4 ± 0.7 to $7.9 \pm 1.1\%$; $P = 0.68$). Nonsignificant differences in favor of group A were documented for fasting blood glucose and body weight. No severe hypoglycemic episode occurred. WHO-DTSQ scores increased significantly more in group A (from 26.7 ± 4.4 to 30.3 ± 4.5) than in group B (from 27.5 ± 4.8 to 28.6 ± 5.1) ($P = 0.04$). Role Physical, General Health, Vitality, and Role Emotional SF-36 scores improved significantly more in group A than in group B.

CONCLUSIONS — DID is at least as effective as traditional carbohydrate counting education, allowing dietary freedom for a larger proportion of type 1 diabetic patients. DID is safe, requires less time for education, and is associated with lower weight gain. DID significantly improved treatment satisfaction and several quality-of-life dimensions.

Risultati: nessuna differenza tra i gruppi



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Conclusioni

- Il DID è risultato efficace, quanto il metodo tradizionale di educazione al conteggio dei carboidrati, permettendo una **maggiore libertà nell'alimentazione** nei soggetti con Diabete tipo 1.
- Rispetto al metodo tradizionale ha richiesto **meno tempo per l'educazione** e **non ha aumentato il rischio di episodi ipoglicemici**.
- Il DID, inoltre, ha fatto registrare una **soddisfazione significativamente maggiore per il trattamento e la qualità della vita**



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NAPOLI, 18-20 OTTOBRE 2012



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STAZIONE MARITTIMA



La tecnologia può essere utile... ...ma...



Commentary on “Performance of a Glucose Meter with a Built-In Automated Bolus Calculator versus Manual Bolus Calculation in Insulin-Using Subjects”

Paolo Rossetti, M.D., Ph.D.,¹ Josep Vehí, Ph.D.,² Ana Revert, M.S.,¹ Remei Calm, Ph.D.,²
and Jorge Bondia, Ph.D.¹

Al fine di ottenere benefici dalla tecnologia sono necessari programmi educativi volti ad aumentare l'empowerment dei pazienti e la conoscenza degli operatori

The Current Status of Bolus Calculator Decision-Support Software

David C. Klonoff, M.D., FACP

- Effetto di grassi e proteine della dieta
- Insulina residua
- Scarsa compliance riduce i benefici



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Grazie per la vostra attenzione!

Daniela Bruttomesso

