

Intensive treatment with continuous subcutaneous insulin infusion in type 1 diabetes: the role of educational therapy in metabolic control optimization



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INTRODUCTION

Type 1 diabetes is a complex chronic disease which needs a specific chronic care model. Continuous subcutaneous insulin infusion (CSII) is useful for patients whose lifestyle is irregular or have high levels of glycaemic variability.

CSII has advanced functions: bolus wizard, temporary basal, combined bolus and a CGM can be linked

A successful therapy comes by compliance, personal motivation, ability and, when using CSII, an appropriate use of technology.



OBJECTIVE: to evaluate the role of CSII educational therapy on short and intermediate metabolic control optimization.

MATERIALS AND METHODS

192 patients with CSII from the Center of *Città della Salute e della Scienza di Torino* take part in an educational follow up. Three areas were valued:

- knowledge and use of advanced functions
- ability in changing infusion sets
- management of disease - related events in everyday life

If necessary, nurses provide additional knowledge to the patients and ask them to come back in a short time to evaluate what was learnt during the first meeting.

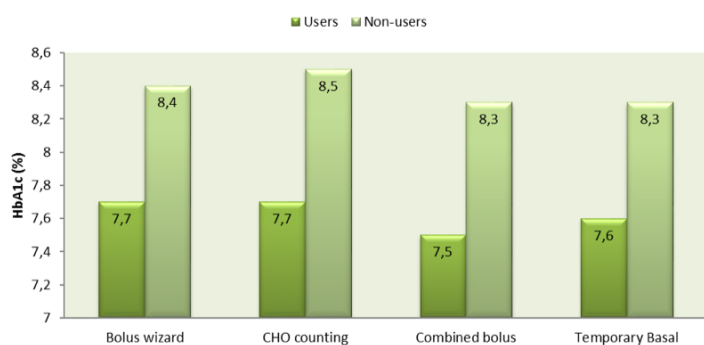
The use of CGM was investigated.

HbA1c was evaluated during the first meeting, after 3-4 months and then after 6-9 months.

RESULTS -1: USE OF ADVANCED FUNCTIONS

The use of advanced functions is relevant in order to obtain better HbA1c values.

Average HbA1c and Advanced Functions

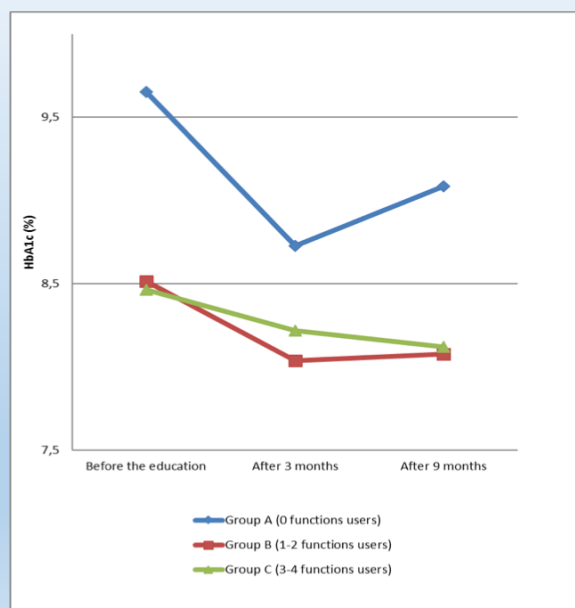


- ✓ Bolus wizard causes an HbA1c reduction of 0,7% (p 0,001)
- ✓ CHO counting use causes a reduction of 0,8% (p 0,00)
- ✓ Combined bolus use causes a reduction of 0,8% (p 0,00)
- ✓ Temporary basals use cause a reduction of 0,7% (p 0,00)

The number of advanced functions used is related with HbA1c values. The more being used, the more probability to find $A1c < 7,5\%$ increases. (p<0,05)

RESULTS- 2: ROLE OF EDUCATION

In the short time, education plays a relevant role for those patients who use less the advanced functions. This improvement doesn't seem to be durable, for those patients who don't use advanced functions at all.



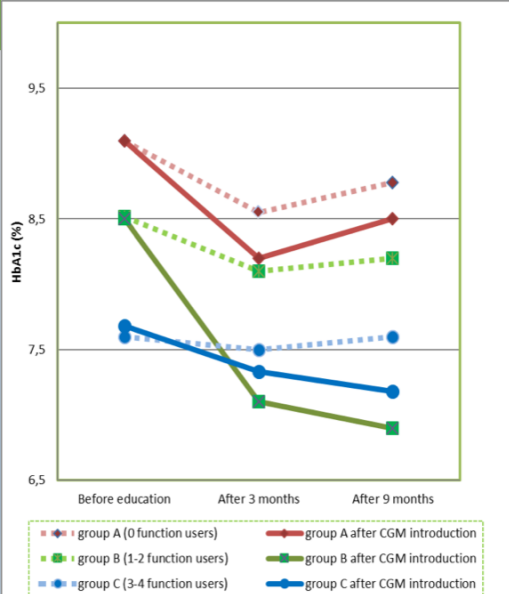
RESULTS – 3: CGM

39% of the CSII users have a linked CGM- system.

At the baseline, there is no significant difference in HbA1c values between the CGM users and non users (7,8% vs 7,9%, p: 0,38).

The introduction of a CGM- system after the educational follow up let patients get better HbA1c values, if they have good abilities in advanced functions use.

CGM is not usefull for those who are not able to use advanced functions: they are not able to achieve any significant improvement.



CONCLUSIONS

- Education plays a relevant role in CSII therapy, especially for basic CSII users.
- To get a durable improvement, it's necessary a periodical re-education
- The use of a CGM is relevant for patients with good abilities in using advanced funtions but need to obtain better HbA1c values.