

Patterns of suboptimal adherence to growth hormone treatment in children living in Italy

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CONCLUSIONS

The easypod™ connect platform with automatic adherence recording and data transmission allows proactive monitoring of adherence.

The prediction, together with individual reasons for suboptimal adherence, may determine when a child needs support and which personalized intervention strategy can be applied to improve adherence.

Understanding adherence patterns can be helpful to target children at risk for suboptimal adherence.

Further research is needed to apply more advanced statistics, such as machine learning, to predict suboptimal adherence continuously and in real-time.

INTRODUCTION

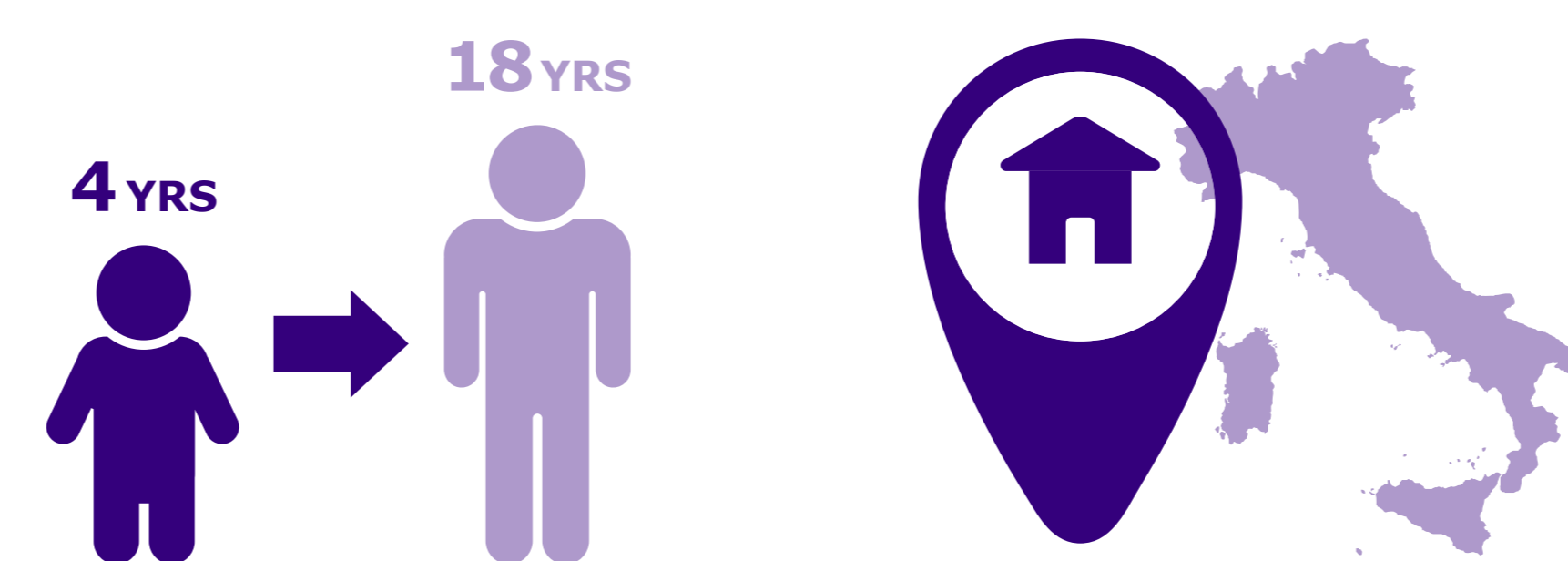
- Monitoring adherence to growth hormone (GH) treatment is important, because poor adherence can lead to suboptimal clinical outcomes.
- The easypod™ electromechanical injection device in combination with the web-based easypod™ connect platform electronically records and transmits accurate, objective records of the date, time, and dose injected of patients receiving GH with growth disorders, allowing physicians to accurately monitor patients' behavior.

OBJECTIVE

To study patterns of suboptimal adherence to growth hormone treatment and the effect of age, sex, and regimen on treatment adherence in children living in Italy

METHODS

Inclusion criteria:



- Data on adherence (mg injected/mg prescribed x 100) from treatment start to 24 months and background characteristics uploaded onto easypod™ connect from January 2007 to June 2019 were included.
- Suboptimal adherence was defined as <85% adherence (>1 missed injection/week).
- Logistic regression models (suboptimally adherent vs adherent) were used to study the effect of age at treatment start, sex, and regimen on adherence.

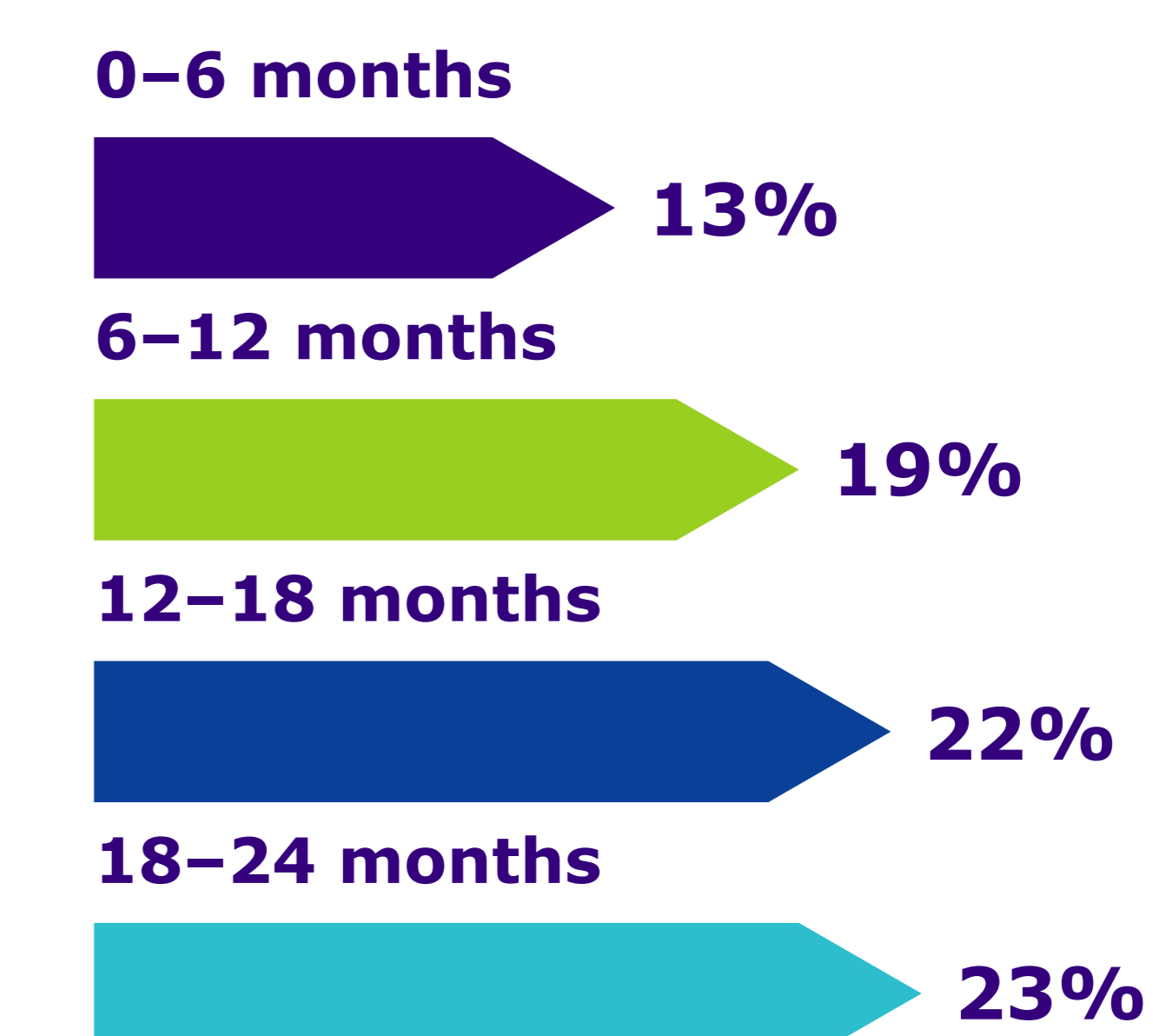
RESULTS

- Data available for:
 - n=677 children for a 0–6-month interval (Table 1).
 - n=541 children for a 0–12-month interval.
 - n=401 children for a 0–18-month interval.
 - n=278 children for a 0–24-month interval.

Table 1. Demographic and baseline characteristics

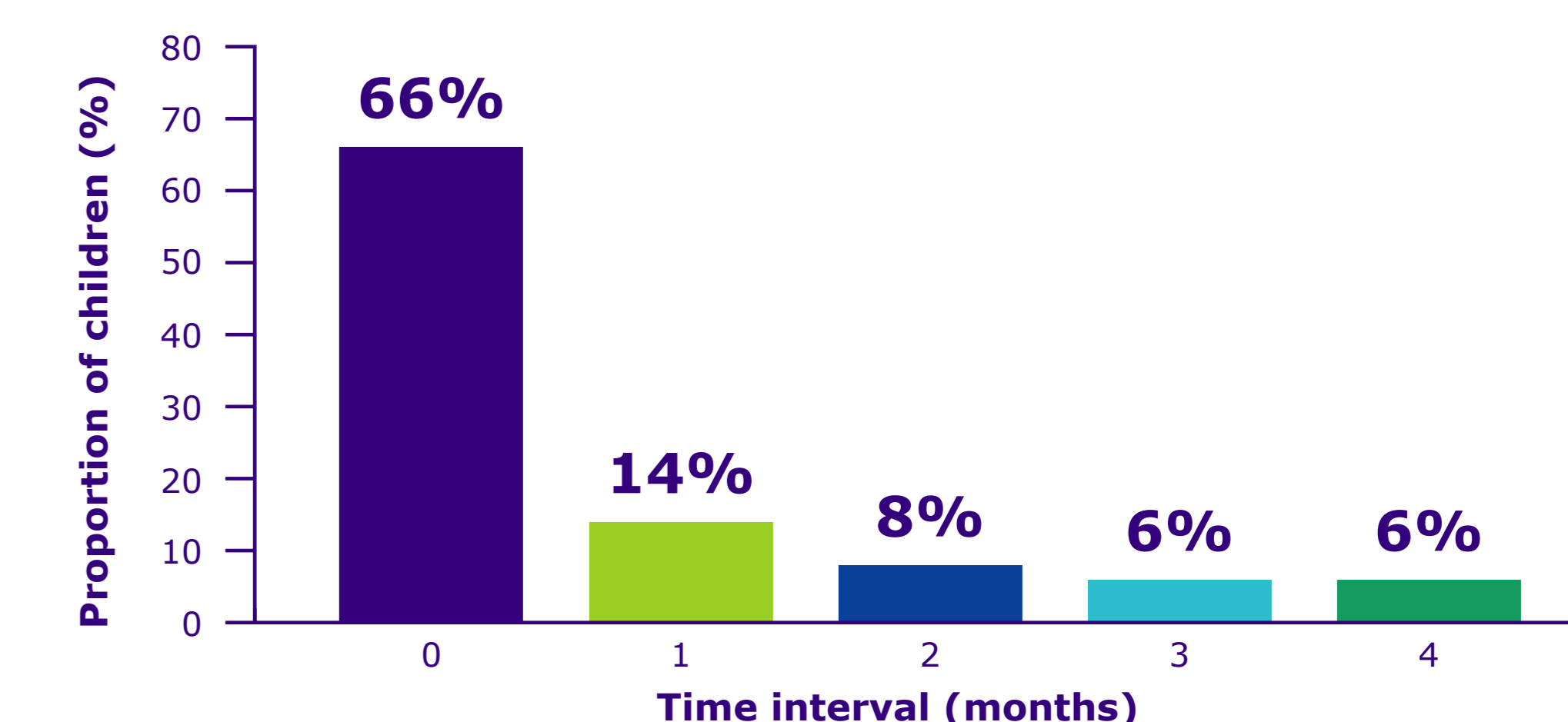
Characteristic	All patients (N=677)
Mean age treatment start, years	10.7
Sex, %	
Girls	45
Boys	55
Indication, %	
GHD	26
Small for gestational age	3
Turner syndrome	2
Not registered	69
GH treatment regimen, %	
6-day regimen	56
7-day regimen	44

Figure 1. Proportion of 6-month time intervals with suboptimal adherence



- A total of 34% of all children who were 24 months on treatment were suboptimally adherent in at least one 6-month time interval (0–6, 6–12, 12–18, and 18–24 months) (Figure 2).

Figure 2. Proportion of children by number of 6-month time intervals with suboptimal adherence



- Age at treatment start, sex, and regimen had no significant effect on suboptimal adherence.