According to the World Health Organization approximately 50% of medication prescribed for long-term illnesses is not taken as directed; it is reported that poor compliance is one of the most common factors underlying suboptimal growth during growth hormone (GH) therapy. The EasyPod™ Connect Observational Study (ECOS) assessed real-time adherence in patients from 24 countries who were receiving recombinant human GH (r-hGH). Saizen® via easyPod™, which is an electronic injection device connected to the easyPod™ connect platform. The connect platform allows uploading of the dose history to a secure online database, subsequently enabling the physician or nurse, using a personal computer, to view and print graphical and schematic data displays. Overall, ECOS showed a median adherence rate of ≥80% was maintained by the majority of patients over 3 years of treatment and over each individual treatment period. In this study, we assessed the adherence to r-hGH administered via easyPod™ in the Argentinean cohort of patients from ECOS (NCT01582334).

**OBJECTIVES**

Primary
- To assess the level of adherence of participants receiving Saizen® via easyPod™ and the easyPod™ connect platform.

Secondary
- To describe the impact of adherence on growth outcomes (change in height in standard deviation score [SDS] and change in height velocity SDS) for participants.
- To identify participant adherence profiling.

**METHODS**

- Study design: long-term, observational, open-label, Phase IV study.
- Patients: were 2–18 years treated with r-hGH administered by easyPod™ for ≤6 months and ≤5 years.
- Adherence data were obtained prospectively via the easyPod™ connect platform for all subjects.
- Demographic, auxological, and diagnostic data were obtained from the patients’ medical notes.
- Good adherence (proportion of days with injections) received/days with injections planned) was defined as ≥80%.
- All analyses were descriptive.
- Spearman’s product-moment correlations were calculated for the association between adherence and outcome.

**RESULTS**

**Patients**
- 68 patients were enrolled in the ECOS study (full analysis set). The demographic data are shown in Table 1.
- 63 patients were included in the adherence data analysis set (GAS: patients with adherence data available for a period of ≥3 months after enrolment in the study).
- 33 were growth hormone naive.
  - The mean height at GH1 (cm) was 113.45 ± 21.34 in the GAS set.
  - The median (Q1;Q3) was 110.68 (111.11) in the GAS set.

**Adherence**
- After 1 year of treatment, median (Q1;Q3) adherence in the easyPod™ connect DAS was 88.5% (67.9%;95.6%) (N=44) (Figure 2).
- Good adherence increased each year but was maintained by the majority of patients over 3 years of treatment and over each individual treatment period. In agreement with the results from the global analyses of ECOS, treatment with r-hGH administered via easyPod™ led to high adherence rates in this representative population from Argentina.

**Growth Outcomes**
- After 1 year, the median change in height SDS was 0.43 (0.21;0.64), change in height velocity was 7.61 cm/year (6.44;8.47) and the change in height velocity SDS was 2.02 (0.32;3.40) (Table 2).
- In the r-hGH treatment-naive patients, the 1-year growth outcomes showed variable outcomes based on the origin of GH.

**Correlation of Growth Outcomes with Adherence at 1 Year**
- The Spearman’s product-moment correlation for adherence rate and change in height SDS was 0.458 for all indications and 0.536 for the GHD patients.
- The sub-analysis of adherence and growth outcomes at 1 year in patients with no missing data and no gaps in treatment ≥1.5 week produced similar results: change in height SDS was 0.45 (0.21;0.64) and change in height velocity SDS was 2.02 (0.32;3.40) (N=22).

**DISCUSSIONS**

The ECOS study was sponsored by Merck Healthcare KGaA, Darmstadt, Germany.

The adherence profile over time (Figure 3) demonstrates the variation in the proportion of patients from higher to mid-lower adherence rates during the follow up. It suggests that adherence rates decrease during the course of prolonged treatment.