

Observed High Adherence to Recombinant Human Growth Hormone Treatment Using a Multi-Component Approach to Improve Adherence in Individuals with Growth Disorders

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Abstract. We explored whether a multi-component approach – using a digital health device, the easypod™ auto-injector, the ‘MySupport’ patient support programme (PSP) and a Patient Activation Measure® (PAM®) – could improve adherence in patients receiving recombinant human growth hormone (r-hGH). A 13-item PAM was used to assess caregiver self-reported knowledge, resulting in two PAM scores for 88 patients at four UK hospitals after an average of 5.6 months. Most patients improved their PAM score by ≥ 1 level (43%) or maintained it (> -1 and < 1 ; 21%). In parallel, 74% of patients maintained (-5 to $+5\%$) or improved ($\geq 5\%$) their adherence. Further studies are required to evaluate a multi-component approach to adherence in a larger population and for a longer duration.

Keywords. Auto-injector, growth hormone, patient activation measure, patient support programme

1. Introduction

To initiate catch-up growth and improve adult height, a long-term commitment from patients and caregivers to regular injections of recombinant human growth hormone (r-hGH; somatropin; Saizen®, Merck Healthcare KGaA, Darmstadt, Germany) is required. However, poor adherence to r-hGH therapy is common and leads to reduced efficacy and a multi-component, individualized approach is generally required to increase motivation to improve adherence.[1] Here, we briefly explore some of these components and describe how additional incorporation of a Patient Activation Measure® (PAM®) may facilitate caregiver engagement and, in turn, patient adherence.

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2. The easypod™ connect ecosystem and patient support programmes (PSPs)

The easypod™ auto-injector device automatically records and transmits the date, time and dose of r-hGH injected and makes these data accessible to healthcare professionals (HCPs) via the easypod™ connect ecosystem.[2] For patients receiving r-hGH treatment in the UK, Merck Serono Ltd. (an affiliate of Merck KGaA) provides a PSP called MySupport, which is run by Lloyds Pharmacy Clinical Homecare.[3] The programme includes initial nurse training based on individual patient needs, ongoing remote telephone and digital support from MySupport nurses, conducted at 7 days, 30 days and 3 months after the initial nurse training visit (England and Wales), communication via telephone, text message, e-mail, post and other channels, dispensing and delivery of medication and ancillary items and ongoing contact with HCPs.

3. Patient Activation Measure

We used a validated 13-item PAM (licensed by Insignia Health, Portland, OR, USA) to collect two separate PAM scores for caregivers of 265 (PAM 1) and 113 (PAM 2) patients receiving r-hGH at four UK hospitals. The response categories were ‘**Agree Strongly**’, ‘**Agree**’, ‘**Disagree**’ and ‘**Disagree Strongly**’. The majority of caregivers agreed (strongly) on all items (range, 96–100%). A total of 88 patients (out of n=265) – all of whom were supported via the MySupport PSP – had two PAM scores and showed a mean change in total score of +1.0 point, after an average of 5.6 months between assessments. The majority of patients improved (by ≥ 1 level [43%]) or maintained (> -1 and < 1 [21%]) their PAM score. Such findings are consistent with a high level of activation conferred by MySupport among caregivers. In parallel, 74% of patients maintained (-5 to $+5\%$) or improved ($\geq 5\%$) their adherence.

4. Discussion and Conclusions

Activation was already very high among caregivers at the start of the study. When incorporated with a PSP ecosystem, we observed an improvement in PAM of 1.0 point after an average of 5.6 months. These findings highlight that the ideal PSP ecosystem should include a multi-component approach with a digital health platform, nursing support and patient/caregiver feedback. Further longer-term studies in a larger population, investigating the effect of such multi-component approaches to improving adherence to r-hGH therapy, are required.

References

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