

Investigating the impact of the TuiTek® patient support program, designed to support caregivers of children prescribed recombinant human growth hormone treatment for growth hormone deficiency in Taiwan: A pilot study



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CONCLUSIONS

These findings indicate that the TuiTek® PSP can positively address disease- and treatment-related barriers amongst caregivers regarding optimal adherence of their children to r-hGH treatment.

The TuiTek® PSP has the potential to positively impact on adherence levels and patient clinical outcomes.

INTRODUCTION

- Poor adherence to recombinant human growth hormone (r-hGH) treatment presents a significant barrier to achieving optimal growth outcomes.¹⁻⁴ It is important to identify and address the treatment adherence-related needs of children prescribed r-hGH, and develop new approaches to improve adherence.
- The TuiTek® Patient Support Program (PSP) is a multicomponent, digital, personalized program designed to educate, support and enhance patient care through PSP nurses' interactions with patients and caregivers.

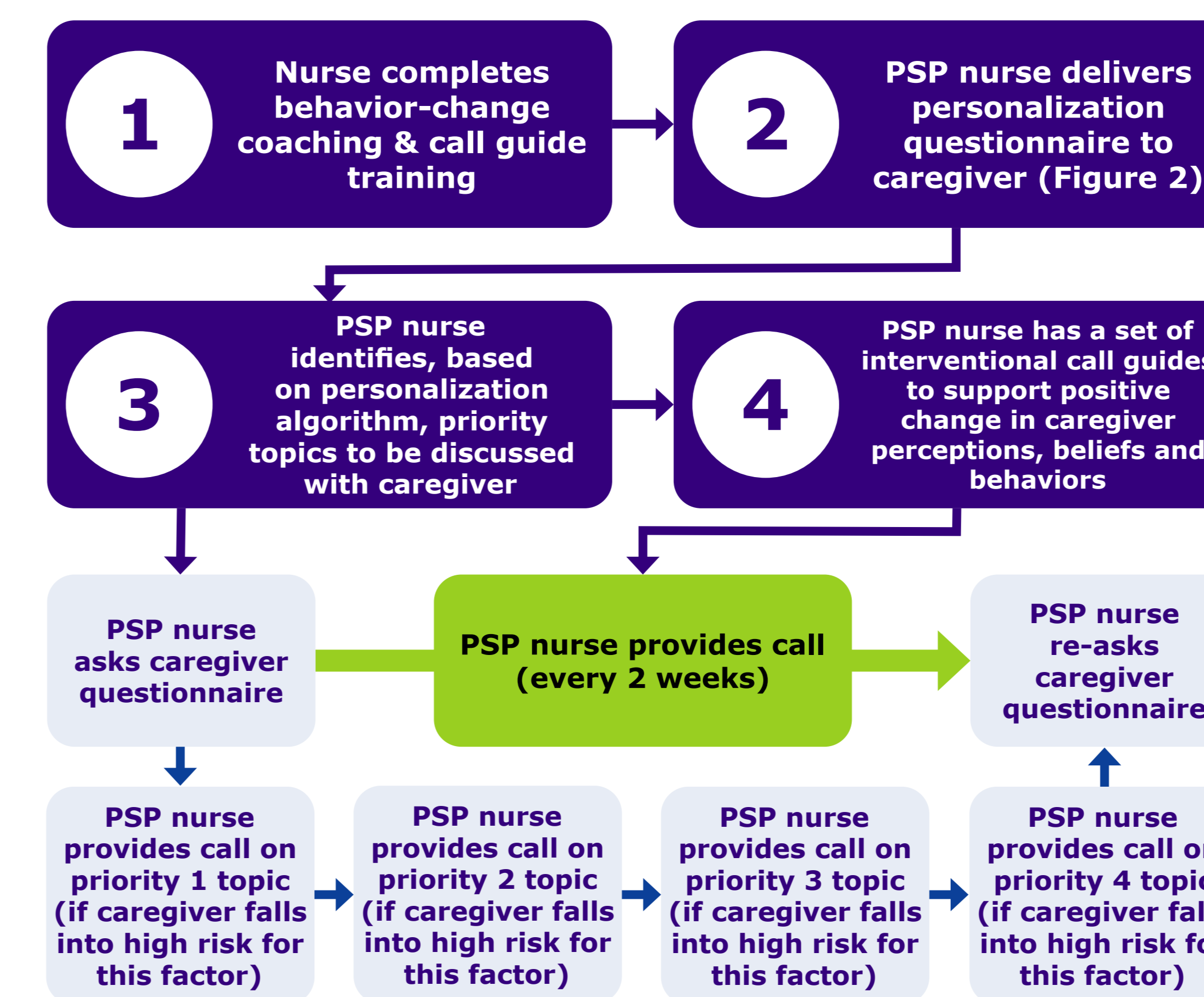
OBJECTIVE

To measure the impact of the TuiTek® PSP on caregivers' knowledge, beliefs, and perceptions of growth hormone deficiency (GHD) and adherence to its treatment

METHODS

- A pilot study of the TuiTek® PSP was conducted among 31 caregivers of children with GHD and receiving r-hGH treatment via the easypod™ auto-injector device in Taiwan (Figure 1).

Figure 1. Personalized Nurse Coaching Support Workflow



- Caregivers within the 'high risk' category for knowledge, beliefs, and perception factors influencing adherence to r-hGH treatment were identified via the TuiTek® personalization questionnaire (Figure 2) and followed up with bi-weekly telephone calls by a nurse practitioner over a 3-month period.

Figure 2. Personalization Questions and Scoring

Factor	Question	Cut off 'High Risk'
1 Disease and Treatment Coherence	How well do you feel you understand your child's treatment and condition?	If the score is 1-3, the caregiver receives a Disease and Treatment Coherence call
2 Emotional Burden	How much does your child's condition affect you emotionally? (e.g. does it make you angry, guilty or frustrated?)	If the score is 3-5, the caregiver receives an Emotional Burden call
3 Treatment-Related Anxiety	How much does your child's treatment worry you? (e.g. do you feel worried about side effects or about giving injections, if applicable)	If the score is 3-5, the caregiver receives a Treatment-Related Anxiety call
4 Self-Administration	How comfortable do you feel giving your child responsibility over managing GHD and their treatment?	If the score is 1-3, the caregiver receives a Self-Administration call

A Wilcoxon signed-rank test was used to compare changes in questionnaire-based scoring patterns between baseline and follow-up.

RESULTS

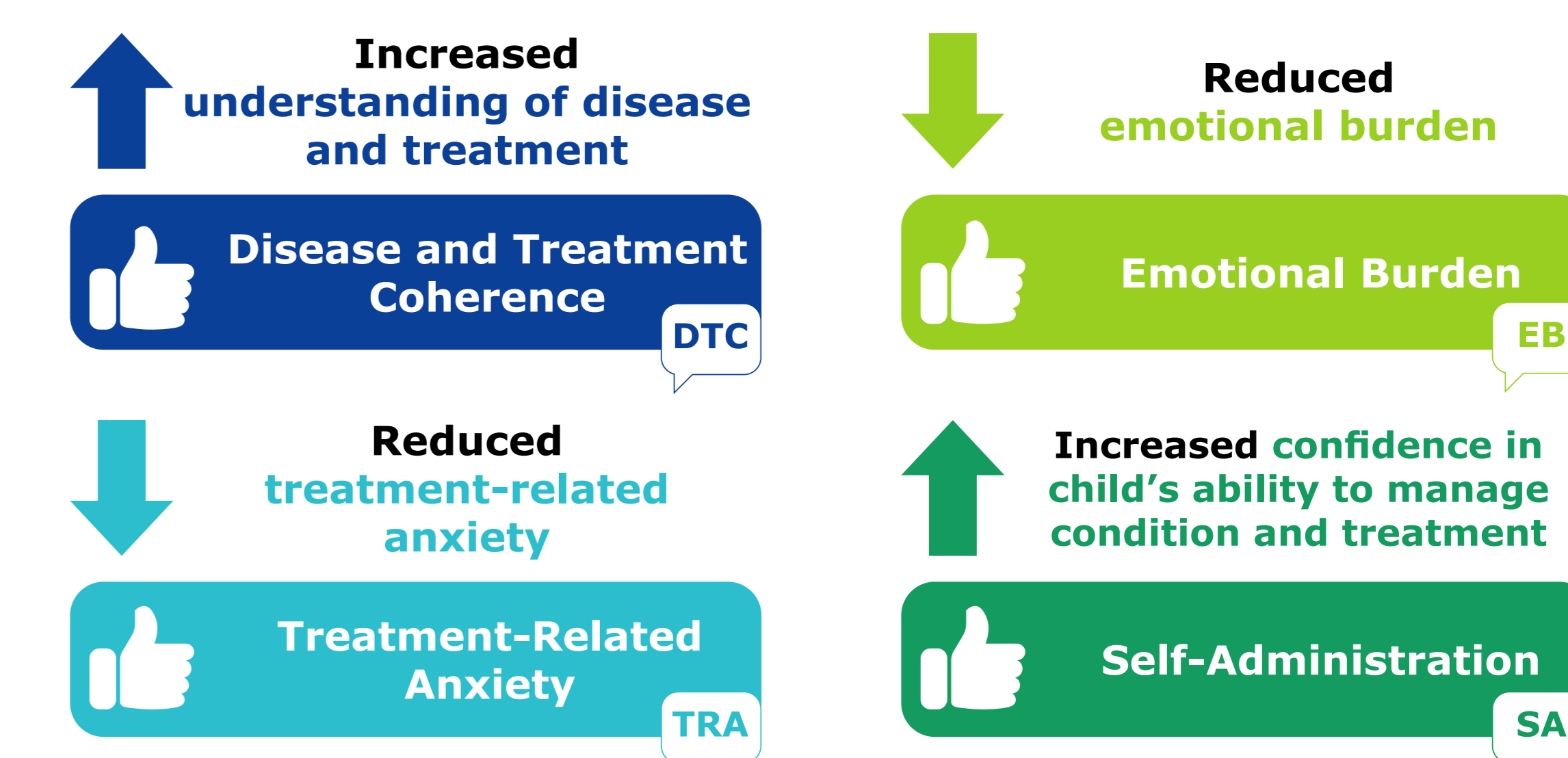
Table 1. Changes in Scores from Baseline to Follow-Up

Factor	Baseline		Follow-up		Mean Difference	Percentage change (%)
	n (%)	Mean	n (%)	Mean		
Disease and Treatment Coherence	11 (35)	4.1	0 (0)	4.7	0.6*	100
Emotional Burden	27 (87)	3.7	17 (55)	2.6	-1.0*	37
Treatment-Related Anxiety	25 (81)	3.5	12 (39)	2.4	-1.1*	52
Self-Administration	28 (90)	1.9	12 (39)	3.4	1.5*	57

*p<0.05

- At follow-up, all caregivers classified as 'high risk' within the disease and treatment coherence item at baseline had moved into the 'low risk' category.
- Statistically significant changes in questionnaire scores between baseline and follow-up for disease and treatment understanding, emotional burden, self-administration, and treatment-related anxiety (all p<0.05) were also observed (Table 1).
- Between baseline and 3-month follow-up, the percentage of caregivers scoring as 'high risk' for emotional burden reduced by 37%; there was also a positive change in confidence of self-administration by 57% and the percentage of caregivers scoring as 'high risk' for treatment-related anxiety was reduced by 52% (Table 1; Figure 3).

Figure 3. Improved Caregiver Perceptions Across All Behavioral Factors



Abbreviations: GHD, growth hormone deficiency; PSP, patient support program; r-hGH, recombinant human growth hormone; TuiTek®, a combination of behavioural science (Tuition) and technological innovation (Tec).

References: 1. Smith J, et al. *Health Expect* 2015;18(4):452-474; 2. Graham S, et al. *Horm Res Paediatr* 2018;90(4):221-227; 3. Graham S, et al. *Endocr Pract* 2021;27(2):146-151; 4. Brod M, et al. *Patient* 2017;10(5):653-666.

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