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## **Psychological effects of withdrawal of growth hormone (GH) therapy from GH-deficient adults**

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### Abstract

To determine the psychological effects of discontinuation of GH treatment from GH-treated adults with GH deficiency (GHD), GH replacement was discontinued for 3 months from 12 of 21 adults, in a double-blind placebo-controlled trial, where 9 continued with GH. Semi-structured interviews were given at baseline and end-point plus questionnaires including a new hormone-deficiency-specific, individualised, questionnaire (HDQoL); 2 well-being questionnaires [GWBI, (British version of PGWB) and W-BQ12]; and 2 health-status questionnaires [NHP and SF-36]. Ethical Committee approval obtained.

Results: Psychological symptoms reported in interviews by placebo-treated patients (N=12) included decreased energy (9 patients), increased tiredness (6), pain (5), irritability (4), crying episodes (5), depression (4). Few symptoms were reported by the GH-treated group, but between-group differences did not reach significance (Chi-Square). Treatment-group-by-time interactions for W-BQ12 Energy, SF-36 General Health and some HDQoL domains were close to 2-tailed significance, indicating a trend towards poorer functioning in these variables in the placebo-treated group by end-point, and little change in the GH-treated group.

Conclusions: Discontinuation of GH-treatment in GH-deficient adults has detrimental psychological effects. Three questionnaires are recommended to measure these

effects: the HDQoL, the W-BQ12 and SF-36. The frequently-used NHP and GWBI were not sensitive to change. This may explain why some previous GH-replacement trials have not obtained significant psychological results. Interviews provide useful qualitative data and are recommended with small samples.