EQ-5D-5L based Utility Values by Clinical Response and Symptom Severity in Japanese Patients with Major Depressive Disorder
Post-hoc Analysis of Japanese Brexpiprazole Clinical Trials

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Introduction

Major depressive disorder (MDD) is a leading global cause of disability and substantially impairs quality of life (QOL) and function. In Japan, the burden of MDD is considerable, yet utility values stratified by clinically defined symptom severity remain unclear. [1]This study aimed to estimate utility values in Japanese patients with MDD according to both clinical response categories and symptom-severity levels, providing Japan-specific inputs for health economic evaluations.

Methods

This post-hoc analysis used patient-level data from two Japanese brexpiprazole clinical trials(Fig 1) (NCT03737474 and NCT03697603) [2, 3]. Health states were defined cross-sectionally at each assessment time points. The Montgomery–Åsberg Depression Rating Scale (MADRS) was used to define clinical response categories: remission (≥50% reduction and score ≤10), response (≥30% reduction), and no response (<30% reduction). Symptom severity was characterized using standard cut-offs for both MADRS (none: 0–6; mild: 7–19; moderate: 20–34; severe: ≥35) and the Hamilton Depression Rating Scale (HAM-D; none: 0–7; mild: 8–16; moderate: 17–23; severe: ≥24. Each observation at a given time point was treated as an independent data point in a multilevel model, with patients specified as random effects. Multilevel linear regression adjusted for age and sex was used to estimate utilities. EQ-5D-5L utility values were derived using the Japanese value set[4]. Correlations between depression symptom scores (MADRS and HAM-D) and EQ-5D-5L-based utility were assessed using Spearman coefficients.

Table 1 EQ-5D-5L derived utility values for different health states of depression

Measure		None	Mild	Moderate	Severe
MADRS	Range	0-6	7-19	20-34	≧35
	Utility Scores	0.9151	0.8067	0.7340	0.6346
HAM-D	Range	0-7	8-16	17-23	≧24
	Utility Scores	0.8809	0.7925	0.7376	0.6449

Fig 1.Progression of patients included in the utility analysis based on brexpiprazole clinical trials

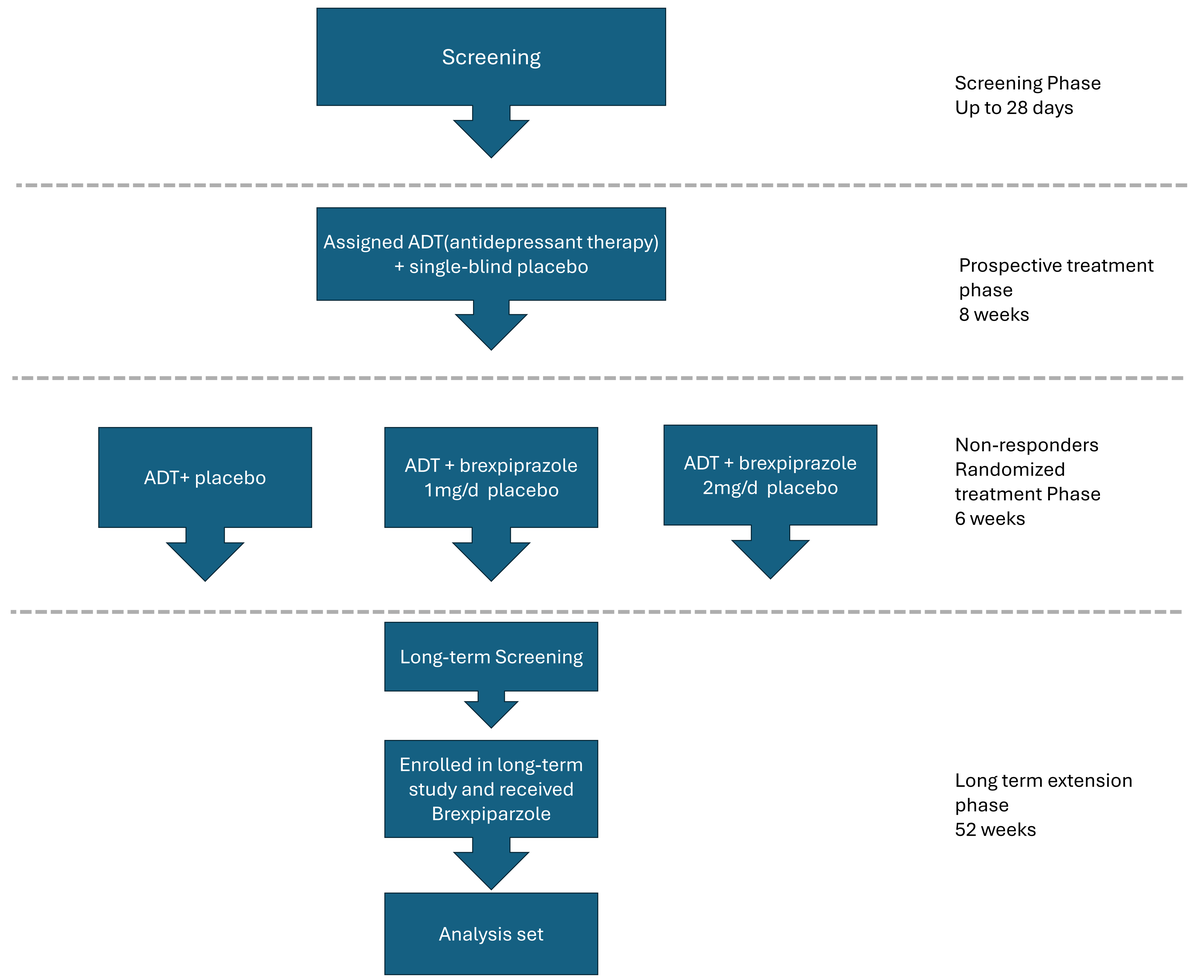

Table 2 EQ-5D-5L derived utility values for different clinical response categories based on MADRS

	No-response	Response	Remission
Criteria	<30% reduction	≥30% reduction	≥50% reduction and score ≤10
Utility value	0.7081	0.7578	0.8483

Results

A total of 216 patients were included, with a mean age of 40.7 years, of whom 133 were male. Utility values by health states and response categories are summarized in Tables 1 and 2, respectively. Utilities decreased with increasing symptom severity across both MADRS- and HAM-D-defined categories. MADRS and HAM-D scores were moderately and negatively correlated with utility (−0.5647 and −0.5651, respectively).

Limitations

These estimates are based on post-hoc analyses of clinical trial data and may not fully represent real world MDD populations in Japan.

Conclusions

Utility values in Japanese MDD patients vary systematically with both symptom severity and MADRS-defined clinical response. These severity-based estimates provide robust inputs for Japan-specific health economic evaluations of MDD treatments.

References

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