Reviewer's report

Title: Quality of life and metabolic status in mildly depressed patients with type 2 diabetes treated with paroxetine: A double-blind randomised placebo controlled 6-month trial

Version: 3 Date: 9 December 2006

Reviewer: John M Hughes

Reviewer's report:

General

Change from baseline data should be analysed by an Analysis of Convariance (ANCOVA) with the baseline measurement as a covariate [1,2]. As pointed out by Senn [1], using percentage change implies that the treatment effect is multiplicative and consequently a logarithmic transformation of the data would be required. Vickers [2] shows with simulation that ANCOVA is always more efficient than alternative analyses and is therefore to be preferred. In my experience of studies that have used both these outcomes I cannot readily conceive of circumstances where anything other than ANCOVA need be used.

At the end of the study the unequal groups of 14 and 23 are equivalent to equal groups of 18. The absolute difference of 0.8% for GhbA1c with a combined standard deviation calculated from Table 1 of 0.33 gives a power in excess of 99% for alpha=0.05% [3]. So for this parameter the study appears to be over-powered.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The data should be analysed using ANCOVA unless the authors can provide compelling reasons for an alternative analysis.

The clinically important difference between the groups must be stated in absolute units for GhbA1c and RAND-36. The power that was achieved for each of these should be presented.

The time point for analysis when clinical effects are manifest should be stated and the data available at this point used. Was Last Observation Carried Forward (LOCF) in the original analysis plan or was it forced on the investigators by necessity?

Are all the metabolic parameters presented in Table 1 relevant to the prime objectives of this study, if not they should be removed.

Table 2 and 3 present median and SEM (Standard Error of the Mean) these should present mean, SEM and 95% confidence intervals as these are the appropriate statistics for the parametric ANCOVA analysis.

Adverse Events should be tabulated with an indication of severity and whether treatment related.

Who gave ethical approval for this study?

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

The ANCOVA analysis can also include other covariates for example BMI, sex, which the authors think relevant to outcome.


What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes

Declaration of competing interests:
I have worked for GlaxoSmithKline as a contract statistician.