Reviewer's report

Title: Increased respiratory rate and decreased thoracic movement are simple methods to assess respiratory insufficiency in amyotrophic lateral sclerosis

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Reviewer: Annette Edwards

Reviewer's report:

This is an important clinical area which this paper tries to address - if there were easy clinical findings to determine if a trial of NIV would be useful, it could have a major impact both on patients quality of life and workload of clinical services.

My main concern is that the details of the study aren't clear - if I understand correctly, 77 patients were diagnosed with ALS between Jan 2005 and March 2012, the patients were then all referred to Department of Pulmonary Diseases and the measurements performed on all patients shortly after their diagnosis of ALS (? within 3 months). From the flow chart it appears that there was missing measurement in 28 of these patients (is this lost data or did they not wish to have measurements?). Hence 49 patients were followed up but in only 1 patient was NIV never recommended - was this based on their clinical condition? Of the remaining 42 (7 patients being excluded) only 2 patients didn't need NIV. It isn't clear from the study how long patients are followed up for (especially as recruitment has continued up until March 2012) It appears then that 40 out of 42 patients are thought suitable for a trial of NIV - this appears to be a very high percentage compared to what we see in clinical practice.

I may have misunderstood - the writing under the methods section states that 77 patients met the El Escorial World Federation Criteria for ALS and that a NIV trial was recommended for 42 of these patients - I read this as 42 out of 77 patients eventually fulfilling the criteria (in terms of symptoms/measurements listed under the section ventilatory support) for NIV.

In light of the above I feel unable to recommend for publication at present - however, if these issues are addressed including length of follow up and clarification of numbers in method section then it would warrent a re-consideration - there are potentially very interesting results

NB a few English adjustments would make it easier to read eg "3 patients denied for the follow-up" I presume means "3 patients declined follow up" rather than follow-up was denied for 3 patients.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a
statistician.

**Declaration of competing interests:**

I declare I have no competing interests