Reviewer's report

Title: Predicting neurodevelopmental outcomes for at-risk infants: reliability and predictive validity using a Chinese version of the INFANIB at 3, 7 and 10 months

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Reviewer: Domenico Romeo

Reviewer's report:

The paper evaluates reliability, validity and predictive power of a Chinese version of the INFANIB, a screening tool for early detection of gross motor developmental delay for children aged 0-18 months. Since it was published (1985) there are only 7 studies in literature (pub-med) using INFANIB to assess high risk infants.

In the paper 118 high risk infants (preterm and full-term) were assessed using the INFANIB at 3, 7 and 10 months with a neurological outcome at 12 months. The authors used previous published data as reference data for defining cut points for the different ages, reporting a good sensitivity for neurological outcome at 12 months.

Although this data can be useful for neonatologist or pediatric neurologist for follow up of preterm and term neonates at risk of neurological problems in Chinese population, the low number of infants included, in the absence of a control group decreases the value of the study. A longer neurological outcome (at last 18 months) would have also been preferable.

Major Compulsory Revisions

Introduction

Authors should state why they wish to use the INFANIB rather than other neurological assessments (Touwen, AIMS, Hammersmith Infant Neurological Assessment) available and supported by a lot of studies reporting their prognostic value in different population of infants.

Add some references about the differences in motor development among different races.

Methods

Subjects

It would be interesting to have a more detailed description of the cohort: range of GA and birth-weight, NICU hospitalization, presence of genetic abnormalities (syndrome or malformation).

Describe better the findings of US scans and the timing of the assessment.

There is no control group with low risk infants. It would have been useful if there had been a control group of Chinese term born children. I suppose that American normative data are used and it is well known that these data may differ between
countries and populations, as stated by authors in the introduction; this issue could improve the results in term of predictive power.

Explain better the diagnosis of asphyxia (Apgar, Ph, neurological signs).

Determination of gross motor development
Add reference for the Peabody developmental motor scales.

The age of 1 year to made the diagnosis of CP could determinate some difficulties in term of under-overestimate the incidence. The main studies on epidemiology in CP, recommend to have ha definite diagnosis at 4 years (See Stanley F, Blair E, Alberman E. Cerebral palsies: epidemiology and causal pathways. Clinics in developmental medicine. Vol 151. New York: Cambridge University Press, 2000). However in clinical practice, it is necessary to have a neurological outcome at least at 18-24 months

Results
Table 1
Is not clear if the data are reported as median and standard deviation. Check this information.
Add data on US scans.
Table 2
There is an incongruence between the total number of infants (both preterm and full term) and the sum of the number of the 3 categories. Check this data.

Discussion
I’m not sure that the poor prediction at 3 months could be related to the “difficulties to assess the infant due to the impossibility to a fully cooperation with instructor during the measurement”; the item included in the INFANIB are used in clinical setting, like as in other neurological assessments, and are therefore standardized even at this age. Probably the poor predictive power is related to the poor prediction of the single item themselves at this age, as reported in different works and therefore it should be suggested not to base the prognosis only on one neurological examination, especially at early ages.

Minor Essential Revisions

Results
“According to the PDMS evaluation…having CP or motivation retardation”, should be “movement retardation”. The same two lines below.

**Level of interest:** An article of limited interest

**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 that I have no competing interests