Reviewer's report

Title: Longitudinal study on visual outcome and spectacle use after intracapsular cataract extraction in Northern India

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Reviewer: Dr Richard R Wormald

Level of interest: A paper of limited interest

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

This paper presents the findings of a follow up study reporting the outcome of the provision of full prescription aphakic spectacle correction for persons who had had previous intracapsular cataract extractions on one or both eyes in the last 4 years either at a base hospital or eye camp. The population was based from 10 rural villages in Haryana state or from the urban slums of Delhi.

The message of the paper is that intracapsular surgery with correctly prescribed aphakic spectacles is an acceptable and effective way of dealing with cataract in a part of the world where more modern technology is not yet available to poor people. In fact modern small incision high tech micro-surgery is increasingly common in urban India especially in the private sector but not available to the vast majority of rural and urban poor.

I have some sympathy with this message which is probably valid but I am not sure the authors present convincing evidence to support their case.

If this paper is regarded as an outcome study rather than a selected case series, then the reader must be convinced that the participants are genuinely representative of the population relevant to the article and that selection bias has been avoided. More information on how this population was selected is desirable.

Persons who did not have 6/60 vision were excluded from the study. Poor vision may be due to other pathology but to exclude poor vision as a result of the complications of surgery introduces bias. At least, we need to know how many of the cohort were excluded for this as this is part of the effectiveness of the surgery.

The author (SKG) interviewed participants and filled in the questionnaire. Though we are told "care was taken not to ask any leading questions"; as provider of the intervention, it is likely that participants through natural politeness will have exaggerated their satisfaction to please the Doctor.

82% is a satisfactory follow up rate and the authors did well to achieve this in the circumstances.

It is surprising what a small proportion have had surgery to both eyes. I would expect acceptance of spectacles would be better for those who had both done with a balanced prescription for each
eye. That most of the second eyes has poor vision but had not had surgery perhaps is a reflection of the scarcity of surgical resources or did they actually feel they did not want a second operation? If so, this rather contradicts the studies' findings.

The paper reports vision by both eyes and persons moving between each in a rather confusing manner. Since we are dealing with personal satisfaction, I suggest that only vision of persons in presented. This would be much less confusing. I dont think participants can be considered to have contributed eyes to the study as if they were some independent article.

We are told that half the eyes which were not using provided spectacles had poor vision so perhaps it is not surprising that they were less satisfied.

One might expect people to be happier with the correct rather a standard prescription but the real question is the relative cost benefit of this option compared to the standard issue.

It is not true to say that very few studies have looked at the actual outcome of ICCE. In fact there are three large trials in India where AC or PC IOLs are compared to aphakic spectacles and ICCE, although I think these all got standard spectacles. Best corrected visual acuity is presented however. These trials are summarised in a systematic review on the Cochrane Library which I recommend to the authors.

The study does not provide "ample evidence" that the provision of standard +10 correction is inadequate though it might suggest it. The historical comparison within each participants experience is subject to serious bias. This question needs to be addressed by a parallel group Randomised Controlled Trial.

Other issues such as the switch from ICCE to ECCE even without an IOL is a concern in India. Capsule opacification is almost inevitable if no IOL is used. Could the authors be sure that none of the participants actually had ECCE with an opacifying capsule?

**Competing interests:**

None declared.