Reviewer's report

Title: Evaluating the effectiveness of opportunistic eye screening model for people with Diabetes attending Diabetes clinic at Mnazi Mmoja hospital, Zanzibar

Version: 2 Date: 27 April 2014

Reviewer: Rajesh Rajagopalan

Reviewer's report:

The study has highlighted the importance of diabetic retinopathy screening and an estimate of the problem in Zanzibar. Opportunistic screening for diabetic retinopathy is a successful strategy in developing countries where awareness and uptake of screening programmes is minimal. However, the following revisions are suggested.

Major Compulsory Revisions:

The paper has quoted different cut off visual acuity levels for blindness. It has been stated as <6/60 in the abstract and as <3/60 in subsequent discussions. The visual acuity has been defined as “presenting visual acuity” and not “best corrected visual acuity”. For example a high myope with visual acuity of 3/60 would be categorised as blind though it is just a refractive error. Best corrected visual acuity would be the ideal way to represent visual acuity.

The classification of fasting blood sugar levels has excluded many values eg between 5-6 and 9-10. Conventionally, these results are reported in single decimal figures. Where will a patient with a blood sugar of 5.5 mmol/l be included? (Page 6 of the paper - normal 4-5 mmol/l, high 6 – 9 mmol/l and very high 10 mmol/l). In the final tables, patients have been divided into just normal and high for analysis. Suggest altering the write up so that all values are included and the classification is just into normal and high.

Blood pressure levels and categorisation also does not include a continuous spectrum. Once again blood pressure values between 120-130 mm Hg systolic and 80 to 90 mm Hg diastolic have been neglected.

The study has not specified any exclusion criteria. It is difficult to understand whether conditions like shallow anterior chambers, small pupils and significant cataract (other than the four dense cataract patients) which would prevent assessment of posterior segment were not present in any of the recruited patients.

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Minor essential revisions:

In page 2, under the results, it is indicated that a total of 356 patients were recruited. In the subsequent line, it is mentioned that 231/365 patients had eye problems. There is a discrepancy in the number quoted.

Discretionary Revisions

The clinical examination has included anterior segment examination with slit lamp. The paper could have used retinopathy screening by slit lamp with indirect ophthalmoscopy with 78D/90D lens instead of 20D lens as the grading would be more accurate. Indirect ophthalmoscopy with 20D for screening of diabetic retinopathy have been reported as an acceptable method in developing countries with limitation of infrastructure. Indirect ophthalmoscopy with 20D combined with direct ophthalmoscopy for detecting presence of macular edema would make the categorisation more accurate, if the usage of slit lamp is a limitation. However, in this study the infrastructure did use a slit lamp for anterior segment examination.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests