

Sir,
Underestimating the importance of amblyopia: flawed methodology?

We read with interest the report of the first 5 years of the British Ophthalmological Surveillance Unit (BOSU), which has been published recently. Its endorsement by the Royal College of Ophthalmologists will lend weight to its findings, but perhaps now is a good time to ask if its findings are reliable.

The methodology employed is suspect, relying as it does on cases, admittedly of, in the main, rare cases being noted, recorded or remembered to be transferred to a yellow card at the end of each month. How many cases are either unrecognised or forgotten, and never recorded seems a question that is impossible to answer accurately.

We felt that an attempt at independent audit of disease/condition incidence would be useful.

The quoted study of visual loss in nonamblyopic eyes by Rahi and co-workers^{1,2} would seem to lend itself to such review, and nicely illustrates the problem with overall 'yellow card reporting' methodology. For example, the tragic loss of the nonamblyopic eye from an air gun injury will probably be reported, but what about age-related macular degeneration, worse in the nonamblyopic eye of an 80-year-old man? The duration of visual disability may be shorter in the second case, but both are, to our mind, equally cogent arguments for the early detection and treatment of amblyopia in childhood. As the paper states, there is a trend to limit such screening on the basis that amblyopia does not really cause much in the way of serious bilateral visual dysfunction.

What is the incidence of serious visual loss in nonamblyopic eyes? The Department of Health has published statistics of registrations for partial sight and blindness,³ stratified by age for 1997 and 2000, which are similar for each year. Excluding children under 5 years of age (who might be expected to show visual improvement in the amblyopic eye if their nonamblyopic eye were damaged), there are a total of 30,070 registrations for both categories.

A certain percentage of these registrations will be because of visual loss in nonamblyopic eyes. Assuming that amblyopia does not confer a significant protection against visual loss in the fellow eye, the percentage will be the same as in the general population.

The incidence of amblyopia commonly quoted is that given by Von Noorden,⁴ of 2–3%. This does not, of course, indicate the incidence of amblyopia sufficiently

dense to cause serious visual difficulty were that eye to become the better eye. Von Noorden does quote Evens and Kuypers,⁵ who observed that among 56,055 patients with amblyopia, 852 had a visual acuity of 0.3 or worse, and an incidence of 1.5%.

Even taking this lower figure, the number of amblyopes who suffered visual loss in the fellow eye sufficient to warrant registration is roughly 450. In the period of Rahi's study, July 1997–September 1999, this would extrapolate to 1012. This suggests that the quoted figure of 370 is a gross under-estimate.

If such inaccuracy can be suggested in one report from BOSU, what evidence is there that the others are any more reliable?

References

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