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The British Childhood Visual Impairment and Blindness Study 2 (BCVIS2)

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Abstract

Purpose : Representative epidemiological data on childhood visual impairment in the U.K are lacking. The BCVIS2 study is a comprehensive national study to determine the incidence, distribution and characteristics of all-cause childhood visual disability, encompassing for the first time, visual impairment (VI) alongside severe visual impairment (SVI) and blindness (BL).

Methods : All children newly diagnosed as VI or SVI/BL using the WHO classification (VI: 0.5-1.0 LogMAR, SVI: 1.01-1.30 LogMAR and BL: <1.30 LogMAR in the better eye) were identified in the U.K. within a 1 year period (October 2015 – November 2016). Cases were reported on a monthly basis simultaneously but independently through two established, national active surveillance schemes; the British Ophthalmological Surveillance Unit (BOSU, consisting of over 1,300 attending/consultant ophthalmologists), and the British Paediatric Surveillance Unit (BPSU, including over 3,300 attending/consultant paediatricians). Validated postal questionnaires were completed by the reporting clinician at initial case identification and 12 month follow up.

Results : Interim analyses are reported here based on the current complete dataset from 748 (of 983) ascertained cases.
Analysis of SVI/BL cases (n=463) shows that:
- children of low birth weight, of ethnic minority origin, or from the most socially deprived group are over-represented
- most children (79%) have additional major non-ophthalmic disorders
- disorders of the visual pathway/cortex remain predominant with increased contribution from 48% to 57%

Children with VI (n=285), in comparison to SVI/BL are:
- diagnosed later (36% vs 60% diagnosed aged <1 year)
- less likely to have additional non-ophthalmic conditions (51% vs 79%)
- more likely to have a retinal disorder such as retinal dystrophy (23% vs 11%) or oculocutaneous albinism (12% vs 3%)

Conclusions : Forthcoming analysis on the full cohort will investigate (a) the changing epidemiology of SVI/BL in the past 15 years and (b) provide novel data on the epidemiology of childhood VI. These should address current gaps in the evidence base in childhood visual disability required for the commissioning and delivery of national health (NHS) services and formulation of public health policies.

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