Causes and Temporal Trends of Childhood Blindness in Indonesia: Study at Schools for the Blind in Java.

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AIMS: To ascertain the causes of blindness and severe visual impairment (BL/SVI) in schools for the blind in Java, to identify preventable and treatable causes and to evaluate temporal trends in the major causes. METHODS: From a total of 504 students, 479 were examined. Data was collected using a modified World Health Organization Prevention of Blindness (WHO/PBL) eye examination record for children. RESULTS: The majority of the students (95%) were blind and 4.6% were severely visually impaired. The major anatomical site of BL/SVI was whole globe in 35.9%, retina in 18.9%, lens in 16.4% and cornea in 16.1%. The major underlying aetiology of BL/SVI was undetermined/unknown in 32.7% (mainly microphthalmia, anterior segment dysgenesis and cataract), hereditary factors 31.9% (mainly retinal dystrophies), and childhood disorders 28.5%. Avoidable causes of BL/SVI accounted for 59.9% of the total students, whereas measles blindness was the underlying condition for 23.1% of the preventable causes; cataract and glaucoma accounted for 15.5% and 8.2% of the treatable causes, respectively. Exploration on trends of SVI/BL among two different age groups <16 years and ≥16 years suggested that childhood disorders and corneal factors have declined, while hereditary disorders have increased. Optic nerve disorder, although not counted as a major cause of blindness, seems to be on the increase. CONCLUSIONS: More than half of the BL/SVI causes are potentially avoidable. Cataract and corneal disorders related to measles or vitamin A deficiency were the major treatable and preventable causes. Declining proportions of childhood factors and corneal disorders over a period of 10-20 years could reflect improved vitamin A supplementation and measles vaccination coverage in Indonesia. This finding, and the increased proportion of hereditary disease causes, could suggest improving levels of socioeconomic development and health care services.