Exploring domains and key items for a new paediatric vision screening index using qualitative interviews

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Abstract Early identification of visual problems in children is vital to prevent l term developmental and educational challenges. Current vision screening approaches have gaps in assessing specific aspects of visual

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problems and a shortage of user-friendly, self-administered, and freely accessible tools. This study explores interview-based perspectives to inform the conceptualisation and development of items for a self-administered digital paediatric vision screening index. A qualitative design was adopted using semi-structured interviews with twenty participants: nine paediatric vision care experts, six parents of children aged 4-12 with diagnosed visual problems, and five children aged 10-12 with diagnosed visual problems. Participants were recruited through purposive sampling. The interviews were conducted using a pre-developed interview guide, transcribed verbatim, and analysed using thematic analysis in Atlas.ti version 24. A hybrid deductive-inductive approach was applied, allowing themes to emerge while mapping them onto pre-identified domains of vision problem indicators. Thematic analysis identified four core conceptual domains: reduced vision clarity, binocular vision anomalies, ocular surface disorders, and poor visual perception. Participants verified the relevance of 27 items identified through a systematic review and contributed 5 additional items grounded in real-world observations and lived experience. These inductively generated items included symptoms such as poor handwriting, avoidance of near tasks, and hypersensitivity to bright light, which are often overlooked in conventional screening protocols. This qualitative approach provides a critical foundation for the subsequent psychometric validation of a parent- and child-friendly vision screening index, with the potential to support more equitable and accessible eye health services for children.

Keywords

Author Keywords: Paediatric vision screening; Question-based; Qualitative interview; Thematic analysis

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Data availability statement

The datasets generated during and/or analysed during the current study are not publicly available due to ethical and confidentiality restrictions involving human participants but are available from the corresponding author on reasonable request.

Conflict of interest statement

The authors declare no competing interests.

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