

the cost depending on the item and such systems can limit universal access to SDMs. The government might cover some costs, but they are often limited in how much and how often a device is covered, and again, not all are covered. We see many individuals with ill-fitting and outdated equipment because of the inability to afford custom modifications and updated devices as needed to meet growth and changing mobility needs. Some individuals require different items for different reasons but can only get one item covered for the cost. They might need a power chair for independence, but then rely on a manual wheelchair for travel, or back-up, or for areas that cannot be navigated with powered mobility.

There is also far too much uniformity in designs, and we know that one size does not fit all, especially when we look at the unique needs of people with mobility challenges. Individuals are often left having to use things like duct tape, pool noodles, padding, bungee cords, and other home-made remedies to help improve the fit of the SDM. Families are very rarely consulted in initial product design and must make do with what is available by attempting to modify the best they can.

There are also huge issues with transition to adulthood, when clinicians and funding models might change, offerings become less, and items become more expensive.

Given the ongoing challenges that we see with respect to timely, reliable, and affordable access to SDMs, there is a need for continued advocacy from health care providers and families to make costs more affordable, reduce wait times, increase frequency of updated equipment fittings, and gain greater access to equipment. Equipment providers too need to be more creative with their offerings and solutions.

Options for independence and quality of life should never be inhibited by cost or access and the study by Feldner et al.¹ clearly captured the elements that exist around SDMs, with the advantages and the challenges that are presented when navigating the use of SDMs.

DATA AVAILABILITY STATEMENT

Not required.

ORCID

Brenda Agnew  <https://orcid.org/0000-0002-9541-5908>

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A novel investigation of eye-gaze as an access method for children with dyskinetic cerebral palsy

Kristine Stadskleiv 

Oslo University Hospital – Department of Clinical Neurosciences for Children, Oslo, Norway

Operating a computer using eye-gaze technology offers unique possibilities for communication, learning, and participation for individuals with severe speech and fine motor impairments and good comprehension of spoken language. However, providing a child with high-tech communication is not enough. In addition to everything that needs to be in place for language to develop – including a stimulating language environment where augmentative and alternative communication (AAC) is acknowledged as the language of the child, motivating and meaningful

activities and partners to communicate with, as well as access to appropriate vocabulary at all arenas – children need access to their communication aid on an even more basic, operational level.¹ Eye gaze offers a possibility for operating computerized communication aids when fine motor impairments preclude direct pointing with a finger or a hand. However, research pertaining to whom might benefit from such equipment, how the use of eye-gaze technology is best implemented, and whether there are specific considerations that needs to be taken, is for a large part absent.² The paper

This commentary is on the original article by Bekteshi et al. on pages 1402–1415 of this issue.

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by Bekteshi et al. represents an important step towards filling this gap.³

Bekteshi et al. examined how 12 participants (5–12 years with severe speech and motor impairments due to dyskinetic cerebral palsy [CP]) performed on tasks using eye-gaze technology. Their performance was compared to that of 23 typically developing children. A unique contribution is that they not only examined eye-gaze performance, but also were able to relate this to the participants' level of stress during performance by monitoring heart rate variability.

All 12 children with dyskinetic CP were able to operate the computers using eye gaze, performing games requiring the capability to fixate on targets, smoothly shift points of fixation and track moving visual objects. However, the children with CP required substantially longer time to complete the games compared to peers (approximately 41 minutes vs 26 minutes). That the children with dyskinetic CP, who also had higher levels of stress to begin with than the control group, still completed all tasks, speaks to the persistence of the dyskinetic group.

Another important finding is that gaming completion time was negatively associated with eye-tracking experience in the group with CP. As the authors write, this probably indicates that eye movements are trainable. The study thus adds to the literature by providing yet another argument for why it is important to provide children with AAC from an early age.

It is very commendable that the group of children with dyskinetic CP is so clearly described, including the use of the novel classification instrument for gaze pointing, the Eye-Pointing Classification Scale (EpCS).⁴ The EpCS provides a quick way to classify the ability to use eye-pointing for communicative purposes. It would be valuable if this tool is included in future publications pertaining to eye-pointing and use of computerized eye-gaze equipment, to ease comparison between studies.

Information about the cognitive abilities of the participants is, however, lacking. In this study it is probably of lesser importance, as pupil diameters were not different between the two groups of children, thereby indicating that the cognitive load was similar. In future publications more information about cognitive functioning, including executive functioning as suggested by the authors, should be investigated as there are some unique cognitive demands involved in using communication aids. Although it is true (as the authors write) that on the whole the dyskinetic group outperforms the spastic group, there are also individuals with cognitive impairments among those with dyskinetic CP⁵ and knowledge of this might be of relevance when introducing a communication aid.

DATA AVAILABILITY STATEMENT

Not required.

ORCID

Kristine Stadskleiv  <https://orcid.org/0000-0002-5478-5689>

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