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Augmentative and alternative communication for individuals with post-stroke aphasia: perspectives of South African speech-language pathologists

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ABSTRACT

This qualitative study aimed to describe speech-language pathologists' (SLPs') perspectives on augmentative and alternative communication (AAC) use for people with post-stroke aphasia focusing on: (a) current AAC practice, (b) factors that influence the use of AAC, and (c) the success and relevance of AAC interventions. Semi-structured interviews took place with ten South African SLPs with experience in aphasia intervention. The transcribed interviews were thematically analyzed using a six-phase process of inductive and deductive analysis within a phenomenological framework. All the participants use AAC with their clients, employing a variety of approaches that reflect their diverse settings, experiences, and perspectives on AAC. AAC use is complex, and SLPs make conscious choices considering multiple factors. Barriers to use were often associated with limited resources in the low- and middle-income country (LMIC) context, but most participants retained a positive view of AAC, actively working to circumvent barriers to use. Participants consistently emphasized the vital role of partners in communication interactions, linked to the importance of defining AAC broadly. It is necessary to advance the integration of AAC into rehabilitation plans to improve communication and social participation outcomes for people with post-stroke aphasia, especially in LMICs such as South Africa.

Stroke is the third most common cause of disability worldwide, with most of the global stroke burden affecting lower- and lower-middle-income countries (LMICs) (Feigin et al., 2021). The proportion of individuals with aphasia following ischemic stroke is estimated at approximately 34% (Crosson et al., 2019), and thus, many stroke survivors will find their communication abilities impacted. Augmentative and alternative communication (AAC) can offer people with post-stroke aphasia the opportunity to improve their communication and social participation in real-life activities (Garrett et al., 2020). The *Aphasia United Best Practices Working Group and Advisory Committee* included AAC as one of the top 10 best practice recommendations (Simmons-Mackie et al., 2017), and research evidence shows that AAC strategies (ranging from low-tech use of writing, photographs and communication books to apps on mobile phones or dedicated AAC devices) can improve outcomes for people with post-stroke aphasia (Brock et al., 2017; Dada et al., 2019; Dietz et al., 2018; Purdy & Van Dyke, 2011; Ulmer et al., 2017).

While the benefits of AAC are well documented, AAC is not always introduced to and used by persons with aphasia (Hetzroni & Ne'eman, 2023). Several factors affecting the use of AAC for people with post-stroke aphasia have been noted (Dada et al., 2017; Dietz et al., 2020; Pereira et al., 2019; Taylor et al., 2019). Studies have found that speech-language

pathologists' (SLPs') perception of AAC service delivery is negatively impacted by limited resources, financial constraints, lack of family and client buy-in, and lack of expertise (Chua & Gorgon, 2019; Dada et al., 2017; Pereira et al., 2019). Buy-in entails the motivation and partner support to use AAC (Jacobs et al., 2004). These factors may lead to the limited use of AAC for individuals with post-stroke aphasia. AAC may be abandoned in favor of traditional restorative treatment; it may be implemented only for people with severe aphasia; or it may be underused – for example, by only focusing on the expression of basic needs – discounting further communication purposes (Dietz et al., 2020; Johnson et al., 2006). There is a gap between scientific evidence and practice in real-life settings, and a need for AAC as an empirically supported treatment to be better integrated into rehabilitation plans for individuals with post-stroke aphasia (de Beer et al., 2020; Dietz et al., 2020; Hallowell, 2017).

The research-practice gap described is not unique to AAC and aphasia but has also been noted for the use of AAC in other settings, for example, with children with little or no functional speech in educational settings (Hetzroni & Ne'eman, 2023), mechanically ventilated patients in the ICU (ten Hoorn et al., 2016) and children with cortical visual impairment (Blackstone et al., 2021). Smith (2016) reflected on this challenge, noting that, firstly, clinicians need to

integrate research evidence with other sources of knowledge, such as the client's and family's values and needs. Secondly, how clinicians interpret research evidence will always be influenced by their existing knowledge, experience, values, and beliefs. Therefore, although not the only factor, the perspectives of SLPs are fundamental to the successful use of AAC for people with post-stroke aphasia.

Taylor et al. (2019) conducted a literature review to investigate factors that may impact the effective use of high-tech AAC for individuals with post-stroke aphasia. These included the person with aphasia's age, insight and expectations, social supports, duration and intensity of SLP services and, crucially, therapist beliefs and perspectives. Pereira et al. (2019) focused on factors affecting the use of AAC for persons with post-stroke aphasia through interviews with three SLPs working at an outpatient university clinic in Brazil. The results highlighted facilitators and barriers to successful AAC intervention, including the cost of AAC devices; reliability of the AAC system; voice and language of the system (e.g., vocabulary size and the fact that in some systems it is not possible to use the client's voice); age-appropriate systems; ease of use; flexibility of some systems to customize vocabulary; time taken to construct and communicate sentences; and family participation. From these reviews, it is clear that a myriad of systemic factors influence AAC use and also its implementation beyond the therapy context. Two frameworks that are useful in categorizing and conceptualizing these factors are the International Classification of Disability, Functioning and Health (ICF) (World Health Organization, 2001) and the implementation science framework (Damschroder et al., 2009). While the former illustrates how participation and functioning results from the interaction of the person and various environmental factors (e.g., social environment, assistive technology), the latter illustrates how any health intervention (including AAC) is influenced by factors at patient level, clinician level, organizational and policy level.

South Africa, an LMIC with increasing stroke incidence (Ranganai & Matizirofa, 2020), faces many challenges in its healthcare system, including insufficient information about the occurrence of aphasia and its management. Furthermore, there is a paucity of studies that address the perspectives of SLPs on using AAC for people with post-stroke aphasia in this context. However, Dada et al. (2017) employed an online survey to investigate the perspectives of South African SLPs on their current AAC practices in general. A total of 77 SLPs participated, and the authors concluded that factors affecting AAC intervention included limited funding, lack of availability of AAC devices, time constraints (because of the high demand for SLP services), low expectations of the person using AAC, and difficulties in team collaboration. Many of these factors will apply to the use of AAC for people with post-stroke aphasia. South Africa has great healthcare inequalities with challenges such as a scarcity of professionals, disproportionate service distribution, gaps in the linguistic and cultural knowledge of service providers, and difficulties with the availability, accessibility and affordability of AAC devices and services (Dada et al., 2017; Tönsing &

Soto, 2020). Although studies have demonstrated AAC's positive outcomes for people with post-stroke aphasia, AAC is not always used, and the incorporation of AAC into aphasia rehabilitation by South African SLPs is not well-understood.

Dietz et al. (2020) reexamined the role of AAC for individuals with post-stroke aphasia, calling for AAC to become an essential aphasia rehabilitation tool to improve life participation outcomes for people with post-stroke aphasia. Understanding clinicians' perspectives on the use of AAC for people with post-stroke aphasia is necessary because their perspective is fundamental to effective AAC intervention. In LMIC settings with increasing stroke incidence and abundant healthcare challenges, the need for such research is critical. The incorporation of AAC into aphasia rehabilitation by South African SLPs has not been well-investigated and may play a crucial role in advancing healthcare development in that context. The purpose of this phenomenological study was to explore SLPs' perspectives on the use of AAC for persons with post-stroke aphasia with a specific focus on: (a) current AAC practice, (b) factors that influence the use of AAC, and (c) the success and relevance of AAC interventions.

Method

Participants

Participants were SLPs registered with the Health Professions Council of South Africa who had a minimum of 10 years' experience working with people with post-stroke aphasia. A total of 10 SLPs participated in the study (Table 1). Their current work settings included those where they provided inpatient care (8 participants), outpatient care at a practice or medical facility (four participants) or within the home or residential setting (two participants). They had extensive (15–48 years) work experience in both the private and government sector, and had at least 7 years of experience in providing AAC assessment and intervention (range: 7–48). Seven participants had at least 50% of their caseload comprising people with post-stroke aphasia. Further, all 10 participants indicated that their home language was English, while two participants also mentioned Afrikaans as a home language. The participants listed English, Afrikaans, French, isiXhosa, isiZulu, and sign language as languages used in practice. Of the 10 participants, only two spoke an African language, highlighting the disparity in providing SLP services to a country where the languages most frequently spoken as home languages are isiZulu (24.4%) and isiXhosa (16.3%) (Statistics South Africa, 2023).

Convenience sampling was used to recruit participants to ensure information-rich and diverse perspectives. Prior to recruitment, ethical clearance was obtained from the authors' institution. Participants were recruited using an email invitation circulated by the national professional association containing information about the study and the selection criteria. Members who were willing to participate could enroll themselves in the study. Participants' background information was obtained via an online biographical questionnaire populated onto Google Forms.

Table 1. Description of participants.

No	Age	Home language	Language used in practice	Highest academic qualifications	Years of experience working with clients with post-stroke aphasia	% caseload made up of clients with post-stroke aphasia	Years of experience in AAC assessment and intervention	% caseload for whom AAC assessments/ interventions provided
1	36	Afrikaans, English	Afrikaans, English, Sign language	Master's	11	50-75%	7	50-75%
2	55	English	Afrikaans, English	Master's	30	50-75%	30	10-25%
3	37	English	isiZulu, Afrikaans, English	Master's	15	>75%	10	10-25%
4	46	English	isiXhosa, Afrikaans, English	Doctorate	26	50-75%	26	5-10%
5	46	English	English, French	Bachelor's	25	5-10%	25	5-10%
6	45	English	Afrikaans, English	Bachelor's	22	25-50%	5	5-10%
7	69	English	isiXhosa, English	Bachelor's	48	>75%	48	50-75%
8	53	English	Afrikaans, English	Bachelor's	20+	50-75%	20+	5-10%
9	45	English	Afrikaans, English	Master's	22	25-50%	22	25-50%
10	41	Afrikaans, English	Afrikaans, English	Bachelor's	16	50-75%	15	10-25%

Materials

A semi-structured interview protocol was developed following the steps outlined in the Interview Protocol Refinement (IPR) Framework, a four-phased process aimed at systematically improving the reliability of interview protocols and the quality of data obtained from participants (Castillo-Montoya, 2016). The four phases included: (1) aligning the research questions with the interview questions, (2) establishing an inquiry-based discussion, (3) obtaining feedback on the interview protocol, and (4) piloting the interview protocol (Castillo-Montoya, 2016). Three main questions were conceptualized in alignment with the three sub-aims of the study. The sub-aims relate to the participants' perspectives on: (i) current practice, (ii) factors that influence AAC use and (iii) success and relevance of the use of AAC for persons with post-stroke aphasia. For each main question, the authors formulated possible probes and follow-up questions. The authors were guided by the ICF (World Health Organization, 2001) and the implementation science framework (Damschroder et al., 2009) in the phrasing of specific questions about possible influencing factors at the level of the person and at the level of the environment.

Feedback from two experts with experience and background in AAC and post-stroke aphasia was obtained, and the interview protocol was refined further. Expert 1 was an SLP and audiologist with a Doctorate Degree in AAC who worked in a university setting. She had nine years of experience working with persons with post-stroke aphasia and nine years of experience in implementing AAC. Expert 2 was an SLP who worked in an inpatient rehabilitation setting. She had nine years of experience working with persons with post-stroke aphasia and seven years of experience in implementing AAC. Furthermore, the interview protocol was piloted with one SLP who fit the selection criteria, and further amendments were made (see Supplementary Table 1 for the interview protocol).

Research design

A qualitative study design using a phenomenological approach was used to condense the personal perspectives of 10 South African SLPs on the phenomenon of AAC use for persons with post-stroke aphasia. The approach aims to describe the general essence of a phenomenon by condensing and summarizing participants' views into a general description (McMillan & Schumacher, 2014). This design was appropriate for a detailed investigation of a complex phenomenon that has been little explored to date in this context. The study was approved by the Ethics Committee of the Faculty of Humanities, University of Pretoria. All institutional requirements for including participants in research studies were met.

Researchers

The interviews were conducted by the first author, a South African practicing SLP working in a private rehabilitation setting with 12 years of experience working with persons with post-stroke aphasia and 12 years of experience implementing AAC. The second author was a South African SLP and researcher working in the field of AAC at a higher education institution in South Africa, with experience in conducting assessments and making AAC recommendations for persons with aphasia.

Procedures

Semi-structured, in-depth interviews were scheduled at times convenient to the participants and conducted individually via video conferencing. With consent, interviews were audio-recorded and video-recorded.

All interviews were automatically transcribed using the Otter.ai: Transcribe Voice Notes application, after which intelligent verbatim (naturalized transcription) was employed to clean the transcripts. The transcripts were checked against the recording and corrected by the author and then by another independent person in a second round. In this process, repetitions and fillers were also removed in line with the approach of naturalized or intelligent verbatim transcription (McMullin, 2023). Transcriptions were coded using ATLAS.ti Mac (Version 22.1.0). The interview data were transcribed and analyzed thematically using a six-phase hybrid inductive and deductive analysis process described by Fereday and Muir-Cochrane (2006). The first stage entailed

developing an a priori provisional code manual based on the research questions and previous literature. This initially deductive approach was taken as the authors had specific topics in mind based on the ICF and implementation science frameworks as well as previous literature on persons with aphasia. These topics led the initial analysis. Both authors were involved in this process. During the second step, the first author applied the code manual to the first transcript. The second author checked the coding and suggested changes that were discussed between both authors until consensus was reached. The first author then re-read all transcripts, summarizing broad concepts to take note of themes both de- and inductively. During Step 4, the first author coded all transcripts with the help of the coding manual, adding new data-driven codes as needed. The fifth step entailed clustering codes into existing and new themes and subthemes. Definitions for themes and subthemes were written, ensuring that themes were clearly distinguishable. During the last step, the finalized coding scheme was once again applied to the transcripts in a second cycle of coding. The first and second authors collaborated closely during Steps 4-6, with the first author taking the lead and the second author checking and verifying the decisions made. After the first author had completed Step 6, the second author then read through all the coded transcripts again, suggesting changes that were discussed with the first author until final consensus was reached.

A summary describing the themes and subthemes was emailed to all participants with a request to check accuracy and completeness of the themes and subthemes in order to ensure that participants' views were captured (Birt et al., 2016). Six participants responded and indicated that no changes were necessary.

Results

Three a priori themes and a fourth inductive theme were identified from the data: (a) current practice; (b) influencing factors; (c) success and relevance; and (d) the definition of AAC. An overview of the four themes, subthemes, and examples of codes assigned is provided in Table 2. Supplementary Table 2 provides an expanded version of this table, with examples of quotes added.

Current practice

Four subthemes could be identified for the main theme of current practice. The subthemes included use, decision-making, types of AAC devices, and timing. Most participants used AAC for all clients with aphasia and reported using a combination of unaided, low-tech, high-tech, and partner-supported AAC interventions. Most participants agreed that AAC is relevant and applicable to all clients with post-stroke aphasia. A few participants described AAC as the means through which speech-language therapy services are provided for this population, as can be seen in the comment by Participant 9: "I cannot see how we [SLPs] can do therapy without it. [AAC] is the medium through which we do therapy … It is always

applicable." In addition, they explained that AAC assists in identifying the person with aphasia's communication abilities and strengths to use in therapy – as Participant 10 noted: "I often find your therapy tools merge with your AAC tools. Because you [as the SLP] see what the client [with aphasia] can do [to communicate] and what their strengths are." The communication partners of people with aphasia were highlighted as playing an essential role in decision-making and use – this group was emphasized throughout by all the participants as having a key role.

Influencing factors

The participants mentioned the following factors influencing their practice: (a) the person with aphasia; (b) the AAC system; (c) the communication partner; (d) the therapist; (e) the physical and social environment; (f) the service organization; (g) policy; and (h) scientific evidence. Participants emphasized the importance of the person with aphasia's view of AAC, their insight into the function of AAC as augmentative and not necessarily alternative, and acceptance of alternative forms of communication – all of which affect the clients' use of AAC. In the words of Participant 2: "You can never take away the hope that they [clients with post-stroke aphasia] have that their speech will return. Once they realize the power of communication that the [AAC] system can bring them and that it does not limit them … If they understand its value, it is unlimited."

All participants mentioned the need to personalize AAC systems to ensure improved generalization for individuals with post-stroke aphasia. Many noted that generic systems do not work for this population and that AAC systems must be highly personalized to benefit them. Participant 5, for example, commented: "AAC … should always be as meaningful as possible to that person. Sometimes, with these kinds of generic systems … it is not set up in a way that that person [with post-stroke aphasia] relates to it … It's that the client feels this [AAC system] is mine, and I can connect with it that is important."

Again, participants agreed that partners are an integral component of the success of AAC, and most considered that therapists' perspectives play a significant role in implementing AAC. They mentioned that some SLPs saw AAC as a last resort when restorative treatment attempts had failed. SLPs need to be reflective to overcome challenges and use AAC successfully. As Participant 5 put it: "The clinician factors are complex, and it just depends on [the SLP's] ability, willingness to learn, and willingness to be reflective."

Success and relevance

Participants provided descriptions of the success and relevance of AAC for persons with post-stroke aphasia. Some reported poor generalization, but nine of the 10 maintained that AAC was relevant for this population. The primary facilitators of successful generalization included sustained practice and a communication accessible environment through communication partner support. Participant 3's response

Table 2. Themes, sub-themes, and examples of codes assigned.

Themes	Sub-themes	Examples of codes
Current practice	Implementation	Implement AAC for all people with aphasia
		Limited implementation
		Funding
		Referral to specialized AAC providers
	Decision-making	Based on comprehensive assessment
		All persons with aphasia are candidates
		Not all persons with aphasia are candidates
	Types of AAC	High-tech
		Low-tech
		Partner supported strategies
	Timing of implementation	Depends on where the patient is at
		Timing is crucial
Influencing factors	Person with aphasia	Language and symbolic functions
		Psychosocial factors
		Cognitive functions
		Motor and sensory functions
	AAC System	Appropriateness
		Cost
		Functionality and flexibility
	Communication partner	Beliefs and attitude
		Collaboration in system personalization
		Training and education
	Therapist	Perspectives and beliefs
		Education and Experience
	Communication environment	Impact of social and physical environment
		Opportunities to generalize
	Organizational aspects	Service provision
		Multidisciplinary team approach
	Policy	Barriers from medical aid policies
		Lack of policies and guidelines
	Scientific evidence	Availability, accessibility and applicability
		Resource intensive to stay up to date
Success and relevance of AAC	Successful vs unsuccessful implementation	Limited success
		Examples of successful implementation
	Practice that promotes success	Consistent practice
		Communication partner is key
	Relevance	AAC is relevant
Definition of AAC		Conceptualizations by other SLTs
		Participants' definition of AAC

reflected this stance: "You need that golden thread of the communication partner … The communication partner … is as much of a ramp or a crutch as an eye gaze device is for someone with motor neuron disease … The golden thread is the person who is facilitating it. If you do not have that, then your aphasic patient … will struggle to be an independent user of the AAC device, and that is not anybody's fault. It's the nature of the injury."

Definition of AAC

A fourth theme was inductively identified, namely the definition of AAC. Some participants highlighted the importance of the definition of AAC and indicated misconceptions and disagreements about the definition amongst SLPs, other healthcare providers, funders, and policymakers. Participants reported that some SLP colleagues tended to define AAC as the device itself, which participants highlighted as inaccurate. Participant 6 said: "I see using what I call total communication as a form of AAC, but many people [other SLPs] do not … In many people's [other SLPs] minds, AAC is a communication board or a high-tech communication device. I would disagree with that definition."

Participants felt strongly about the importance of the clinician's perspective of AAC and having a comprehensive

definition of it. It became clear that if one adopts a broad definition of AAC, all SLPs use AAC for all clients with aphasia. Participant 10 said: "We [as SLPs] need to change our perspective on what we understand AAC to be."

Discussion

Clinician perspectives and beliefs are crucial factors that influence the use of AAC for people with post-stroke aphasia. The SLPs who participated in our study routinely use AAC with their clients with post-stroke aphasia. Their views on their current practice, factors that influence AAC use, the success and relevance of their AAC input, and how they define and understand AAC were shared in this study. There were many overlaps among these four main themes, which are discussed in an integrated way in this section.

Most participants reported implementing AAC with their post-stroke clients. This finding aligns with empirical evidence that AAC effectively addresses communication challenges in this population (Dada et al., 2019; Dietz et al., 2018; Ulmer et al., 2017). One participant mentioned that she had achieved more success with traditional restorative treatment approaches than with compensatory strategies. However, research suggests that a holistic aphasia rehabilitation plan should include both restorative and compensatory

strategies (Dietz et al., 2020; Garrett et al., 2020). In general, however, the participants agreed that both restorative and compensatory approaches are essential, and many use AAC from the outset with their clients. Several SLPs found it challenging to think of AAC as a specific intervention because it is the medium through which their therapy takes place. They viewed it as integrated with and intrinsic to their overall rehabilitation approach.

The SLPs use various approaches in their assessments and decision-making. There were different practices regarding the timing of introducing different forms of AAC (e.g., first relying on unaided and only later introducing aided methods; versus introducing aided AAC from the start). This use of various approaches is not surprising given the myriad of factors that can affect people post-stroke and the wide variety of settings in which the participants work. In general, the SLPs appeared to follow the principles of Garrett and Lasker's functional classification framework (Garrett et al., 2020), initially focusing on aspects such as unaided AAC (involving no external tools or technology, e.g., gestures), low-tech AAC, and partner-supported strategies. Once the person with aphasia is open to alternative forms of communication, they introduce more comprehensive AAC systems.

Financial constraints and funding issues were mentioned by all participants at several points in their interviews. Currently, South Africa's healthcare system is characterized by a two-tier system, with some clients having access to private healthcare and others (with fewer financial means) depending on government-funded healthcare with fewer choices for rehabilitation or the purchase of devices. Participants reported that this population faces expenses linked to the aphasia – and their post-stroke condition in general. Many people will be unable to return to work, and the monthly income from a government pension is limited (Moleko & Ikhide, 2017). Expenses may include assistive devices such as wheelchairs, therapy, and traveling fees to attend treatment. Masuku et al. (2018) described caregivers' experiences of people with aphasia in Gauteng, South Africa, reporting that poverty impacted the opportunity for and use of rehabilitation services, as funds were used to meet basic needs such as food. In agreement with the literature, participants in our study noted that aphasia was not always the main priority for their clients when day-to-day survival was a concern.

In line with the resource-constrained environment, many participants reported implementing unaided and low-tech AAC, as noted in previous South African research (Bastable & Dada, 2020; Dada et al., 2017). Communication books were frequently mentioned, and, in agreement with Garrett and Lasker (2007), participants spoke of ensuring these were personalized for their clients. Communication books allow communication partners to support the person with aphasia by scaffolding interactions (e.g., providing choices and supplementing auditory input).

Participants reported using both dedicated and non-dedicated AAC devices. When devices are tailored to a user's needs, they are more likely to be used. Thiessen and Brown (2021) emphasized the importance of the involvement of the person with post-stroke aphasia and their communication partner in personalizing AAC devices. Devices like mobile phones and tablets were frequently mentioned and widely used by participants as a form of AAC for their clients. In 2019, between 20 and 22 million South Africans used a smartphone (Statista, 2022), and the mobile technology revolution has meant a significant increase in the use of non-dedicated personal devices (Light et al., 2019). Mobile technology has many advantages for AAC users, including social acceptance of AAC by the user, their communication partners, and the public; availability through mainstream vendors; and the relatively manageable cost of AAC solutions for high functionality (Bornman et al., 2016; McNaughton & Light, 2013). A South African survey with 30 AAC users found that all 30 participants owned and used mobile devices despite low socioeconomic status, limited education, and being unemployed (Bornman et al., 2016), and Kamwesiga et al. (2017) confirmed that people post-stroke found mobile phones an essential lifeline.

Some participants reported referring candidates for high-tech interventions to appropriately specialized service providers or SLPs. They felt that managing people with post-stroke aphasia and implementing AAC for this population is a specialized field. Hetzroni and Ne'eman (2023) discuss the need for additional training for SLPs (and other professionals), and the development of an intensive continuing professional development program to address this need. Many of the SLPs in the current study considered that further training and continual upskilling are essential for competent practice in this area. In South Africa, SLPs often work in small teams with limited funds available for additional training. The onus is often on individual SLPs to develop their AAC skills and knowledge after hours and at their own expense. Previous studies have also identified the need for South African SLPs to receive practice- and context-relevant AAC training to enable appropriate AAC use in the economically, linguistically and culturally diverse South African context (Dada et al., 2017; Tönsing et al., 2018). Cost-effective continuing education opportunities focusing on aphasia and AAC may include face-to-face or online short courses and workshops offered through South African or international universities as well as professional bodies (e.g., the South African Speech-Language Hearing Association) and not-for-profit organizations with expertise in AAC and/or aphasia (e.g., International Society for AAC).

In addition to the SLP's key role in AAC use, factors that influence outcomes were classified in terms of (a) the person with post-stroke aphasia, (b) the AAC system, (c) the communication partner, (d) the communication environment, and (e) the organizational aspects of service delivery including policy and scientific evidence. These layers can be conceptualized as moving from very specific individual factors to broader societal factors as stipulated by the implementation science framework (patient, clinician, organizational, and policy levels) (Damschroder et al., 2009). Regarding individual factors, Taylor et al. (2019) reported how insight and expectations of the person with post-stroke aphasia might influence the use of high-tech AAC. Participants described the impact of the person with post-stroke aphasia's view and social acceptance of AAC. Clients' views and acceptance

affect their insight into the function of AAC as augmentative (not necessarily alternative) and their acceptance of alternative forms of communication.

All participants consistently highlighted the critical role of communication partners. Communication is socially shared, and partners are an integral component and, therefore, key to AAC's success. Participants said the communication partner must have insight and belief in the AAC user's competence. They emphasized the importance of the partner's willingness to provide support, to actively interpret the person's manner of communication, and to consistently encourage and initiate the use of AAC in interactions. A family-centered approach is also essential for intervention that is culturally and linguistically responsive (Light et al., 2019; Pereira et al., 2019). Participants highlighted the need for conversation partner training, supporting the research of Simmons-Mackie et al. (2010), who found positive outcomes for communication partner training. Participants pointed out the lack of opportunities often faced by people with aphasia to generalize their communication skills. They noted that providing real-life opportunities can lead to more successful outcomes.

Participants explored the organizational aspects of service delivery, mainly focusing on SLP service delivery and stakeholder collaboration. Again, many of these factors reflect the challenge of the LMIC environment, where resources are constrained. They described limited therapy time, early discharge, and restricted length, number, and frequency of sessions. In South Africa, the coverage of rehabilitation services (including length of hospital stay, number and frequency of sessions, follow-up, and referral to outpatient therapy) is low in frequency and duration compared with high-income countries (Tawa et al., 2020). The limited therapy services are also influenced by the scarcity of professionals and the uneven distribution of clinicians across public and private healthcare as well as between rural and urban areas (Pillay et al., 2020). Evidence suggests that the main factor that improves outcomes for clients post-stroke is greater intensity of treatment early post-stroke (Rhoda et al., 2015). For effective use of AAC for people with post-stroke aphasia, high-intensity training, and ongoing support are required (Taylor et al., 2019). However, achieving this input level is challenging for clinicians, given the constraints of the healthcare services.

Participants discussed the general lack of guidelines and micro-level policies regarding AAC provision and use for persons with aphasia in South Africa. South Africa has approved the United Nations (UN) Convention on the Rights of Persons with Disabilities (CRPD), which promotes the right to health and rehabilitation for persons with disabilities. The public health system policy documents contain some high-level guidelines for AAC system use; however, few consistent procedures are in place (Dada et al., 2017). The *Aphasia United Best Practices Working Group and Advisory Committee* strongly advised that every person with aphasia should be discharged from inpatient facilities with some means of communicating their needs and wishes (Simmons-Mackie et al., 2017). South African SLPs need to continue to advocate for the drafting and implementation of guidelines and policies at the level of local public and private health systems to ensure that international and national high-level recommendations and policies are effectively translated into practice.

AAC is broad and encompasses many therapy strategies that SLPs implement, both restorative and alternative. Participants' conceptualization of AAC significantly influenced their responses to interview questions, and some pointed out that some SLPs consider AAC as the device itself. Hengst and Sherrill (2021) reported that AAC approaches are often predominantly directed by "prosthetic models" that conceive devices as substitutions for affected body structures and functions, and Dietz et al. (2020) confirmed this by reporting that many people view AAC as only aided. A relatively old definition by the American Speech-Language Hearing Association (2005, cited by Beukelman & Light, 2020) described AAC as "attempts to … compensate for temporary or permanent impairments, activity limitations, and participation restrictions of individuals with severe disorders of speech-language production and/or comprehension" (p. 4). Such a broad definition ensures that partner strategies such as writing choices, paraphrasing and repeating what the person with aphasia said, and the verification of understanding are also included in the definition of AAC. Accepting a comprehensive definition of AAC may impact SLPs' perceptions of the success and relevance of AAC and promote AAC advocacy.

Clinical implications

SLPs must consider the importance of system personalization and the crucial involvement of communication partners in AAC system development for successful use. Adopting a broad view of AAC may be central to the approach's effectiveness in resource-constrained settings. AAC does not necessarily require expensive high-tech equipment. In settings like South Africa, SLPs appear to rely heavily on low-tech communication books tailored for their clients, mobile phones, which are ubiquitous in the context, and the involvement of communication partners – who, as some SLPs noted, can be viewed very much as part of AAC. The different conceptualizations of AAC significantly impact practice and advocacy. SLPs must understand and acknowledge a broad definition of AAC to advocate for it while educating other health professionals, teams, organizations, and the public. The study also points to an ongoing need for continuing professional development courses and workshops regarding aphasia and AAC. More training opportunities in these areas must be available in South Africa (Tönsing et al., 2018).

Limitations and future directions

The study has several limitations. First, the findings may reflect some degree of bias in the sample. SLPs who agreed to participate are more likely to have been professionals interested in AAC and have positive views on the topic. Second, the study relied on subjective SLP perceptions and reports on their practice rather than objective observation of their practice. Third, the qualitative nature of the work and the small sample means generalization to the larger South African SLP population should be made with caution.

Further studies are urgently needed to advance the understanding of AAC use for this population and to improve practice. A larger-scale survey could be undertaken in South Africa to describe SLPs' use of AAC for people with post-stroke aphasia. There is a limited evidence base within the South African context regarding the AAC needs of people with post-stroke aphasia and their communication partners. Studies on the effect of AAC use and practice for persons with post-stroke aphasia are complicated by the heterogeneity of the populations and the array of potential outcomes researchers can investigate. However, such studies could guide SLPs' AAC practices and choices for this population.

Further deliberation amongst researchers and practitioners may be needed to agree on an acceptable definition of AAC. Especially in the field of aphasia, where the use of compensatory strategies such as Supported Conversation for Adults with Aphasia (SCA™) (Kagan, 1998) has a long-standing history, it may be helpful to deliberate to what extent AAC could encompass and describe all such strategies.

Conclusion

The finding that all the participants implemented AAC with clients with post-stroke aphasia is positive and aligns with the current evidence base and best practice recommendations. AAC use is complex, and therefore, SLPs make conscious choices regarding the use based on the unique factors they individually experience working in South Africa. Despite barriers to use, most participants hold favorable views of AAC and actively work to overcome the obstacles. The vital role of partners in communication interactions was strongly reflected and linked to participants' comments about the need to view AAC broadly as a spectrum of strategies, techniques, and aids, including unaided methods and communication partner strategies to ensure optimal outcomes for persons with post-stroke aphasia.

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