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Perceptions of occupational and physiotherapists regarding their communication with clients with post-stroke aphasia during rehabilitation

by

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The author, whose name appears on the title page of this dissertation, has obtained, for the research described in this work, the applicable research ethics approval.

The author declares that he/she has observed the ethical standards required in terms of the University of Pretoria's Code of ethics for researchers and the Policy guidelines for responsible research.

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Thank you to my parents for always supporting me in everything I undertake, big and small. Big thanks to my church family at SBC and Common ground, your continued prayer and support kept me going! Thank you for believing in me.

Most of all, praise be to the greatest helper there is.

Isaiah 41:10- Fear not, for I am with you; be not dismayed , for I am your God; I will strengthen you, I will help you, I will uphold you with my righteous right hand.

ABSTRACT

Background: Persons with post-stroke aphasia often require rehabilitation services, including those provided by occupational therapists and physiotherapists. Due to the communication impairments that persons with post-stroke aphasia experience, their interaction with such healthcare professionals is often challenging. Understanding how occupational and physiotherapists navigate such interactions can be a helpful starting point for possible interventions to support these interactions. Therefore, this study sought to investigate the perceptions of South African occupational and physiotherapists on their communication with clients with post-stroke aphasia during rehabilitation.

Methods: An online questionnaire was developed to investigate the perceptions of occupational therapists and physiotherapists on their communication with clients with post-stroke aphasia. A combination of convenience and snowball sampling was used to recruit participants. Responses were received from 42 professionals. Descriptive statistics were used to analyse the results.

Results: Participants reported that communication with clients with aphasia was very important during rehabilitation, but only perceived this communication to be somewhat effective. They reported using various strategies to support understanding and expression of clients with aphasia. The severity of the clients' communication difficulty was rated as the most significant challenge to communication, while input from other professionals such as SLTs was perceived as a helpful asset to support communication with clients with aphasia. While many professionals had previously attended training in communication support strategies for clients with aphasia, all participants indicated that they would like more training in this area. Professionals in both groups indicated that they would like to receive training on communication support strategies for clients with aphasia.

Conclusions: The results of this study demonstrate that professionals do value communication with clients with aphasia, and that they already implement communication strategies to support this process. However, the need for additional training is also clear to improve professionals' skills and confidence. Institutional and organisational factors may also need to be addressed to optimise communication between rehabilitation professionals

and their clients with aphasia.

Keywords: Aphasia, rehabilitation, communication support strategies, person-centred care

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1. PROBLEM STATEMENT AND LITERATURE REVIEW

1.1 Problem statement

Within the person-centred care approach to healthcare, the participation of healthcare users is valued and should contribute to the partnership with healthcare workers (World Health Organization, 2007). As a result, a shift has occurred in the culture of healthcare provision. Increased emphasis is being placed on viewing healthcare users as individuals with unique needs, values and experiences to be incorporated into their care (Ekman et al., 2011; Forsgren et al., 2022; Leach et al., 2010; Santana et al., 2018). To understand these needs, preferences and experiences, communication between healthcare professionals and users of healthcare is vital (Ekman et al., 2011; Santana et al., 2018).

In South Africa, the provision of quality healthcare services is governed by the Batho Pele principles and the National Patients' Rights Charter which advocate for a person-centred standard of care (Jardien-Baboo et al., 2019). Article 2.2 of the charter states that clients should be made aware of the treatment and rehabilitation they receive, and that provision should be made for the special needs of those who are disabled. In addition, the charter advocates for client participation in decisions relating to their healthcare (Health Professions Council of South Africa, 2008). While this may be possible for most healthcare users, persons with complex communication needs, such as post-stroke aphasia, are at greater risk of communication breakdown during interactions with healthcare providers related to their care (Blackstone & Pressman, 2016; Van Rijssen et al., 2021). Though participation is advocated within the charter and the inclusion of people with aphasia (PWA) in the provision of person-centred services is considered the gold standard (Marcella Carragher et al., 2021; Forsgren et al., 2022), communication difficulties associated with post-stroke aphasia make this difficult to fully realise.

Although rehabilitation professionals, such as speech and language therapists (SLTs), may have the skills to support the communicative participation of PWA in healthcare settings, it has been noted in several studies that other professionals, such as doctors, nurses and allied health staff, lack confidence and knowledge on how best to support these patients (Clancy et al., 2020; Jensen et al., 2015; Van Rijssen et al., 2021). Since person-centred care

is a concept that is advocated for within healthcare policy (Jardien-Baboo et al., 2019), it should be reflected in the communicative culture of healthcare services, and this includes rehabilitation. This should encompass professionals utilising appropriate communication strategies to support the participation of PWA (Van Rijssen et al., 2021), since participation in healthcare services is a right of all healthcare users (Health Professions Council of South Africa, 2008).

Within the context of rehabilitation, It is within the scope of practice of both occupational therapists (OTs) and physiotherapists (PTs) to provide services to individuals post stroke (Department of Health, 2021). Although directly remediating communication function to enhance participation lies within the scope of SLTs, OTs and PTs are still required to communicate with PWA in the treatment context including the provision of client and family education on diagnoses, discussion of possible treatment plans and collaborative goal setting (Santana et al., 2018). In addition, providing instructions during treatment sessions and explanations of treatment targets also require communication between healthcare workers and the PWA. Therefore, both disciplines require knowledge of communication strategies that can be used to support PWA in the treatment context in a more person-centred way.

Currently, there is a dearth of knowledge regarding the perceptions of OTs and PTs in South Africa on their communication when interacting with PWA. Obtaining this information can assist in identifying to what extent the communication practices between PWA and these professionals are aligned to person-centred care, and to identify possible barriers and facilitators to optimising interaction between PWA and these healthcare professionals. This exploratory study therefore seeks to determine the perceptions of South African OTs and PTs on their communication with PWA in rehabilitation and how these may contribute to the creation of communicative access in the healthcare setting. The questions to be answered in this study is therefore as follows: (1) What perceptions are currently held by South African OTs and PTs on their communication with PWA in rehabilitation? and (2) How are professionals using communication support strategies with PWA in rehabilitation?

1.2 Literature review

An overview of the literature will examine the following topics: (1) aphasia within the adult population, (2) management of aphasia, (3) augmentative and alternative communication (AAC) and other communication support strategies for PWA, (4) the role of OTs and PTs in stroke rehabilitation, (5) person-centred healthcare and (6) communication practices of healthcare workers with PWA. Finally, the gap in the current research will be highlighted as a rationale for the current study.

1.2.1 Aphasia in the Adult Population

In 2010, stroke was the cause of 1 in 10 deaths worldwide with the highest burden of stroke occurring in low and middle-income countries such as South Africa (Maredza et al., 2015). Although there is a lack of information as to the actual prevalence of stroke within South Africa, it was estimated that approximately 33,500 strokes occurred in the rural parts of the country in 2011 (Maredza et al., 2015; Tribelhorn et al., 2021). South Africa has seen a 25% increase in the incidence of strokes between 2000 and 2016 with the prediction of an additional increase of 82% by 2030 (Abdelatif et al., 2021). The high incidence of stroke within South Africa can be attributed to the high burden of known risk factors for stroke among the population, which include hypertension, diabetes and HIV (Penn, 2014; Tribelhorn et al., 2021). As a result of the high burden of stroke, South Africa also has a high burden of post-stroke aphasia (Beukelman & Light, 2020; Penn, 2014).

Approximately 38% of people experience aphasia following a stroke (Cameron, McPhail, et al., 2018). Aphasia is an acquired neurological disorder which affects an individual's language abilities across modalities, including comprehension of auditory language, formulation of expressive output, reading and writing ability as well as expressive and receptive use of sign language (Power et al., 2015). In contrast to a developmental disorder occurring at birth, aphasia refers to a reduction or loss of language ability in a person who had previously developed language (Chapey, 2008). Aphasia occurs most commonly due to stroke in which the lesion occurs within the left hemisphere of the brain, but may also be caused by additional factors (Chapey, 2008).

Traditionally, aphasia has been classified into broad categories, namely fluent and non-fluent aphasia (Davis, 2007). Fluent aphasia occurs when the person is still able to

produce longer utterances, but their sentences do not convey meaning (Davis, 2007). In contrast, non-fluent aphasia is characterised by impaired grammar, with meaning still conveyed in content words (Davis, 2007). The division of aphasia into fluent and non-fluent groups is in line with the Boston classification system developed by Goodglass and Kaplan (1972). The Boston system further divides aphasia into various subtypes according to the person's fluency, understanding of language and repetition of language (Sheppard & Sebastian, 2021). Aphasia subtypes within the Boston classification system include (1) Broca's aphasia, (2) transcortical motor aphasia, (3) global aphasia, (4) mixed transcortical aphasia (5) Wernicke's aphasia, (6) transcortical sensory aphasia, (7) conduction aphasia and (8) anomic aphasia. Despite traditional classification systems for the characteristics of aphasia, the symptoms of this condition may not be uniform from one patient to another (Sheppard & Sebastian, 2021).

A more functional classification method for PWA suggested by Garret and Lasker in 2005 is based on the level of support required by the person within conversational exchanges (Garrett et al., 2020). It differentiates between PWA who are able to communicate independently with relevant AAC supports and those who rely on AAC supports in conjunction with support from communication partners (Garrett et al., 2020). PWA are classified into six categories across a spectrum of support required, from emerging AAC communicators who require the most support, to specific-need AAC communicators who may require minimal support. Classification is made based on a comprehensive view of the PWA's language difficulties, ability to communicate and potential to use AAC strategies (Garrett et al., 2020). AAC strategies and the overall approach to AAC intervention may differ based on the PWA's functional classification (Garrett et al., 2020).

1.2.2 Management of aphasia

The International Classification of Functioning, Disability and Health (ICF) is a framework developed by the World Health Organization to describe a person's health and its effects on their lived experience (Bornman & Murphy, 2006; World Health Organization, 2001). To accomplish this, the ICF proposes various domains to capture the interplay of factors contributing to disability and functioning including body structure and function and activities and participation. In addition, the ICF considers contextual factors such as personal and environmental factors (Bornman & Murphy, 2006; Simmons-Mackie & Kagan, 2007). Based on the ICF model, a person's ability to participate in everyday activities depends upon

the interaction between body structure and function, environment and personal factors (Bornman & Murphy, 2006). The ICF guides the rehabilitation of clients post stroke by providing an overall view of functioning and disability, and is typically used as a starting point in rehabilitation settings (Perin et al., 2020).

In a study conducted by Chiou and Yu (2018), PWA reported that post-stroke aphasia, regardless of severity, reduces participation in meaningful activities of daily living within home and community environments. Since meaningful participation in various life domains has become a renewed focus in the field of aphasia with the introduction of the ICF (Kagan, 2011), the management of aphasia has shifted away from an impairment focus that is associated with the medical model, towards meaningful participation through targeting goals selected by the patient (Kagan, 2011). Thus, rehabilitation of aphasia can either be termed restorative or compensatory. Restorative approaches aim to improve body function and structures within the ICF, while compensatory approaches target participation restrictions and activity limitations (Sheppard & Sebastian, 2021). Restorative approaches within the field of speech and language therapy are based on psycholinguistic models of language and the premise that treatment assists in neural reorganisation to regain functional communication skills (Simmons-Mackie & Kagan, 2007).

Conversely, compensatory approaches to rehabilitation are more aligned with a person-centred approach and have given rise to service delivery approaches such as the Life Participation Approach to Aphasia (LPAA) (Chapey et al., 2000) and outcome-measurement frameworks such as the A-FROM (Kagan, 2011). Areas which have an impact on quality of life and affect meaningful participation should be considered by those involved in intervention in the post-stroke aphasia population. Post-stroke participation is described as consisting of the ability to contribute to relationships and roles, as well as being a part of selected activities (Kagan, 2011). Participation in the healthcare setting is a common activity for PWA, and optimal participation in such a setting is crucial to ensure optimal and meaningful treatment outcomes (Blackstone et al., 2015).

Although compensatory and restorative approaches are often viewed as opposing methods of intervention, Dietz et al. (2020) suggest that in the rehabilitation of post-stroke aphasia, traditional language therapy, which is restorative, and Augmentative and Alternative Communication (AAC) intervention, which is compensatory in nature, can be utilised simultaneously to facilitate meaningful participation.

1.2.3 Augmentative and Alternative Communication (AAC) and communication supports for aphasia

AAC describes any tool, strategy or technique used with the aim of replacing or supplementing language and/or speech that is no longer effective to facilitate participation for people with complex communication needs, such as post-stroke aphasia (Garrett et al., 2020). AAC consists of both aided and unaided forms to support communication. Unaided forms imply no use of external devices and include gesture, facial expression, eye gaze, vocalisations and signs (Beukelman & Light, 2020). Conversely, aided AAC entails the use of external devices or equipment and includes low-technology, such as paper-based communication boards or picture exchange symbols, as well as higher technology such as computer-based speech generating devices (Beukelman & Light, 2020). AAC is used to fulfil various communication functions for the user namely to communicate basic needs, to use language for pragmatic purposes, to build social connection and provide information (Dietz et al., 2020). Although aided and unaided forms of AAC may be available to PWA, not all PWA will be independent communicators who can learn to use aided and unaided AAC techniques to communicate effectively in many different environments (Garrett et al., 2020). Many PWA will therefore require the external support of communication partners to utilise AAC for effective communication.

In the rehabilitation of aphasia, intervention that extends beyond the PWA and targets the environment is becoming increasingly common (Simmons-Mackie et al., 2016). One such intervention is communication partner training, in which people who interact with the PWA - such as family, friends and healthcare workers - are trained to utilise strategies and additional materials to support communication (Beukelman & Light, 2020; Kagan, 1998; Simmons-Mackie et al., 2016). Communication partner training has been seen to have a positive effect on the knowledge and skills of healthcare workers in communicating with PWA in activities of care, including case history interviews (Legg et al., 2005) and discussion of medical procedures (Jensen et al., 2015). The use of communication strategies allows both communication partners to co-create meaning during a conversational exchange (Kagan, 1998). Strategies which may support the PWA can be described as supporting either comprehension or expression of language (Beukelman & Light, 2020). To support the comprehension of language, augmented input (writing key words, gesture, drawing, use of symbols and pictures) can be utilised to ensure the focus of the conversation is clear along with verbal adaptations such as slowed rate of speaking and use of simple grammar (Legg et

al., 2005; Rowland & McDonald, 2009). The PWA should also have a reliable method to respond to auditory input which can include the use of yes/no and fixed choice questions as well as the use of a written choice format (Kagan, 1998). In the process of shared decision-making and goal setting, visual communication tools that utilise picture symbols such as Talking Mats have been shown to be appropriate to facilitate the participation of PWA (Harty et al., 2011; Murphy & Boa, 2012). Since PWA may have prolonged hospital stays and often require ongoing rehabilitation in the chronic stages of recovery (Power et al., 2015), regular communication partners may include a number of healthcare workers such as OTs and PTs.

1.2.4 Communication of healthcare workers with people with post-stroke aphasia

1.2.4.1 Person-centred care. Processes of person-centred care in interactions between healthcare providers and people accessing care begin by emphasising communication (Santana et al., 2018). Communication in the context of person-centred care emphasises that the individual accessing healthcare should not just be listened to, but should be viewed as a vital part of the healthcare team and an expert on their condition or experience (Forsgren et al., 2022). The biopsychosocial approach to healthcare underpins the way in which person-centred care aims to understand and incorporate an individual's personal, environmental and contextual factors into their proposed care (Forsgren et al., 2022).

To implement person-centered care in healthcare interactions, three routines are proposed, namely (1) establishing partnership though the creation of a personal narrative, (2) working in a team and (3) ensuring the partnership built is protected by documenting the narrative and decisions made by the person accessing care (Forsgren et al., 2022; Santana et al., 2018). A personal narrative forms the basis for person-centred care in healthcare interactions and is defined as an account of a person's experience, understandings, context, resources, and how their illness affects their everyday functioning (Ekman et al., 2011). Once the personal narrative has been established, the partnership between the healthcare worker and the person accessing care is utilised to share information to make joint decisions in the process of treatment planning (Ekman et al., 2011). Finally, the preferences, beliefs and decisions of the person accessing care should be documented to ensure continuity of person-centred care.

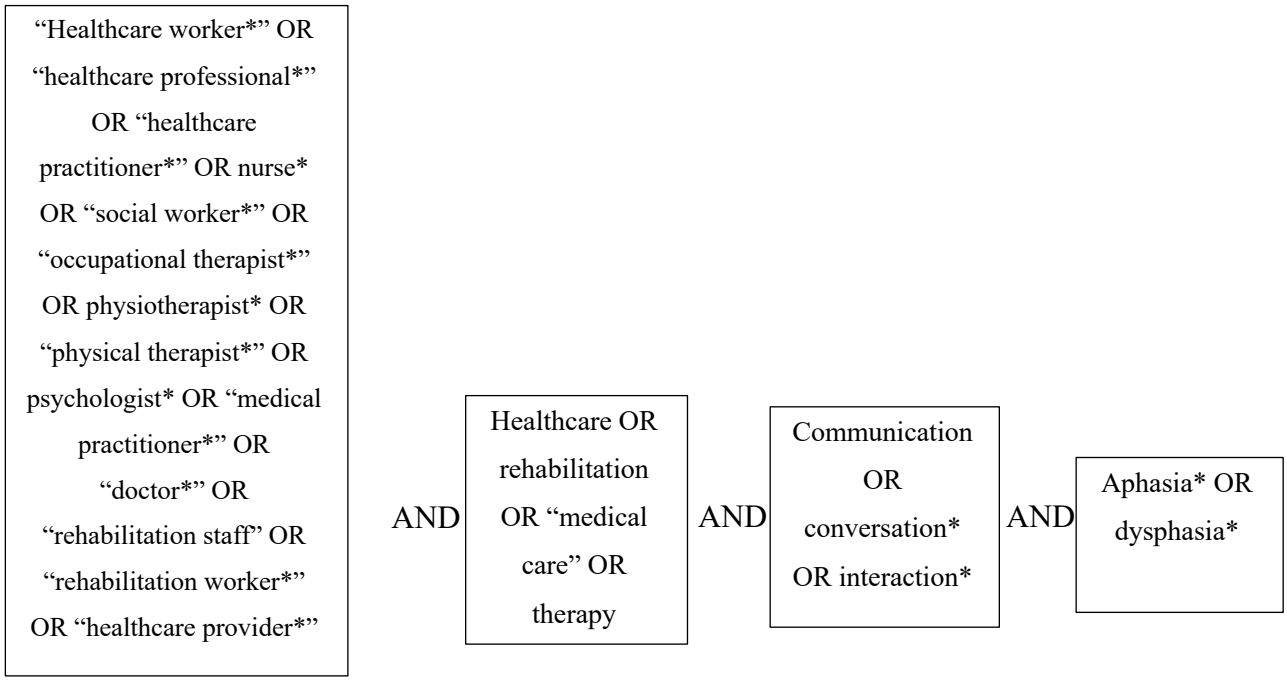
For people with communication difficulties such as post-stroke aphasia, the communication of a personal narrative may prove difficult and typical communication strategies highlighted in person-centred care may not be sufficient to gain the experiences of this population of clients (Forsgren et al., 2022). This also has a negative impact on the routines of person-centred care, which occur based on this narrative, such as the sharing of information in a working partnership with the healthcare provider and shared decision-making. As one of the starting points to person-centred care at the level of the individual healthcare provider, eliciting the personal narrative may require greater knowledge and skill within the post-stroke aphasia population (Ekman et al., 2011).

1.2.4.2 Review: Communication practices of healthcare workers with people with post-stroke aphasia. To investigate the current literature related to the communication practices of healthcare workers with adults with post-stroke aphasia, a systematised review was undertaken. This form of review typically utilises elements of a systematic review and seeks to investigate what is known around a topic, but does not always include searching that is comprehensive (Grant & Booth, 2009). The current systematised review was undertaken using a question which was structured to include the population (P), the concept (C) and the context (C). The question read as follows: *How does communication between healthcare workers and adults with post-stroke aphasia occur during healthcare encounters?*

1.2.4.2.1 Search strategy and terms. The researcher consulted a librarian to assist with refining the search strategy and terms that were relevant to the research question. The search terms are shown in Figure 1.

Figure 1

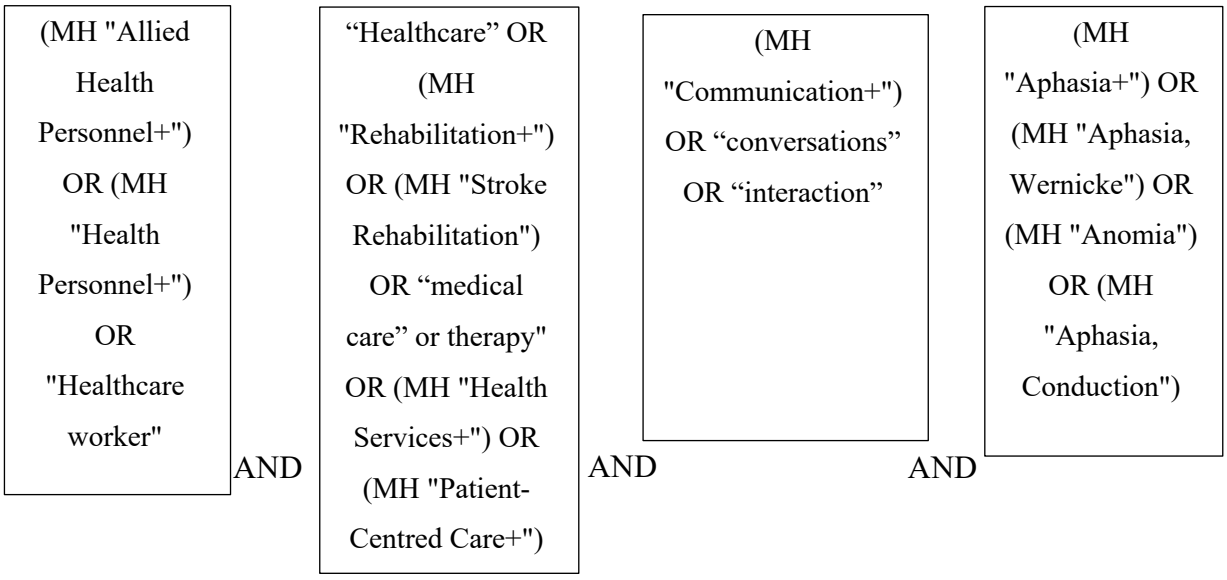
Search Terms to Investigate How Communication Between Healthcare Workers and PWA Occurs.



Additional Medical Subject Headings (MeSH) terms were used to search PubMed as represented in Figure 2.

Figure 2.

MeSH Terms Used to Search PubMed Database



The researcher conducted the research on March 21, 2023. The research process is depicted in Figure 3. EBSCOHOST was used to enter the search terms into the following databases: PubMed, Cumulative Index for Allied Health Literature (CINAHL) and Medline. Limits were set for the search including date of publication, language of publication, source type, and study design. A description and justification of each limiter applied is provided in Table 1.

Table 1

Justification of Limiters

LIMIT	LIMITERS SET	JUSTIFICATION
Date	Limiters set to restrict years of publication from 1998 to the present	Kagan (1998) was a seminal article in proposing supportive communication strategies for persons with aphasia.
Language	Limiters set to restrict to English language	To ensure that articles are understandable to the researcher whose home language is English.
Source type	Limiters set to include only articles that are peer-reviewed and are from academic journals	To ensure that articles included have been reviewed and are from credible sources
Methodologies	Limiters set to include empirical studies	To ensure articles included are not based on opinion or theoretical perspectives, but include data collected from participants.

Records were screened on a title and abstract level based on the following inclusion criteria shown in Table 2.

Table 2

Inclusion and Exclusion Criteria:

PCC	Inclusion criteria	Exclusion criteria
Population	Healthcare workers and adults with post-stroke aphasia	Carers, family members Adults with other acquired communication difficulties

Concept	Communication	medical procedures, speech-therapy-specific treatments
Context	Healthcare encounters defined as an interaction between a single client and therapist for the purposes of rehabilitation or medical intervention	Communication in leisure activities or ADLs not related to rehabilitation, communication in a community setting
Design	Empirical study	Study reporting on theoretical constructs and not collecting data directly from participants
Language	English	Published in other languages
Date	1998 to the present	Older than 1998
Source type	Peer-reviewed academic journals	Grey literature

1.2.4.2.2 Results. The PRISMA diagram (Figure 3) depicts the process followed to identify records. From the database search a total of 304 records were identified. The researched removed 24 duplicate records, and therefore 280 records were screened at an abstract and title level. A total of 250 records were excluded on title and abstract level review. Thirty records were retrieved for full text screening with three records not being obtained. Therefore, a total of 27 records were screened for eligibility at a full text level. One record was obtained via an ancestry search at full text level but was excluded. The remaining 27 records were reviewed at a full text level and another 12 reports were excluded.

Data was extracted and summarised in the form of a table (see Table 3). Studies have been separated into two groups, namely studies reporting on communication partner training implementation and evaluation, and studies investigating experiences of PWA and or healthcare workers in communication.

Figure 3.

Prisma Diagram of Process of Study Identification.

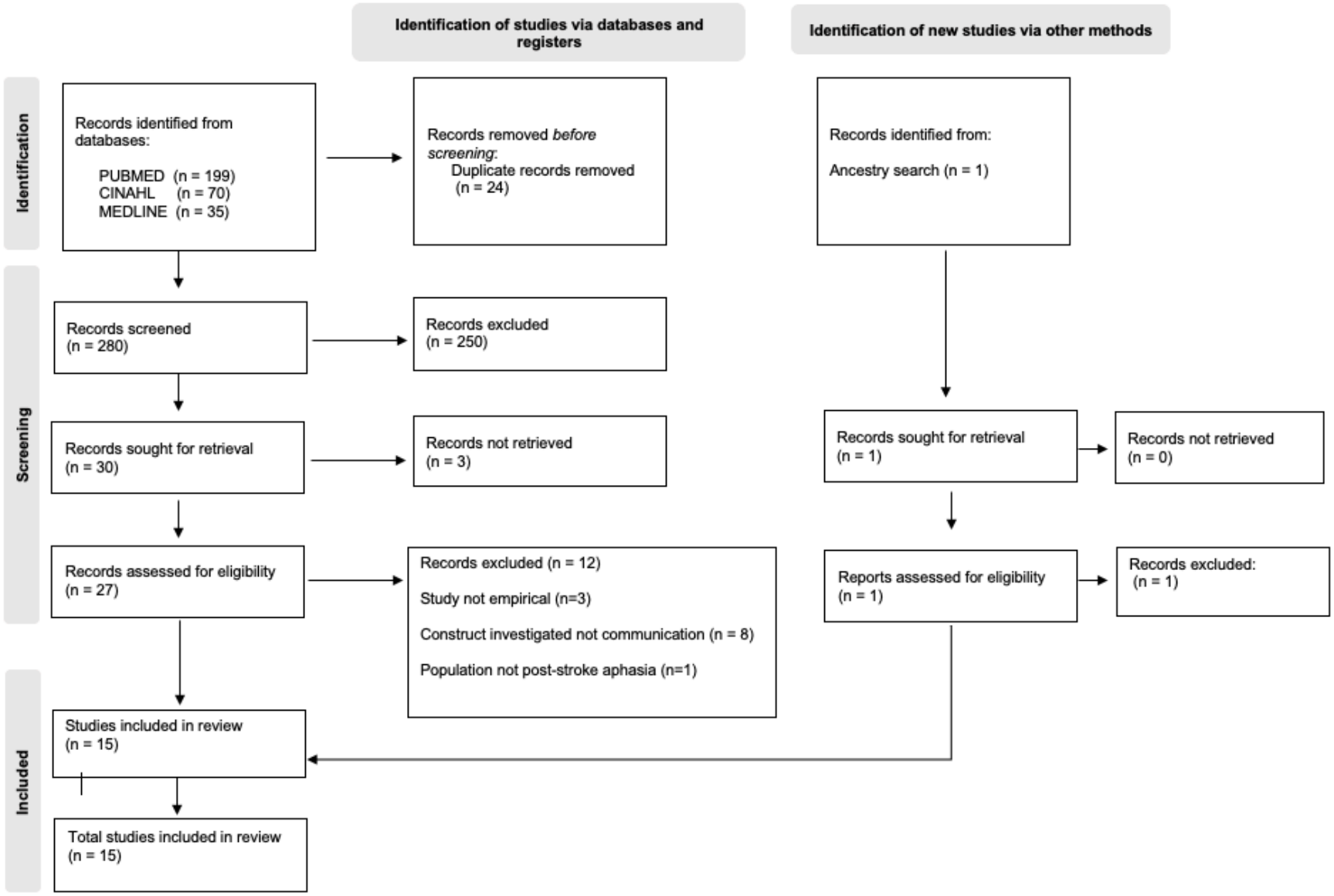


Table 3

Results of Systematised Review

Author & date	Aim	Country	Design	Participants	Results/findings
Studies reporting on communication partner training intervention and or evaluation					
1. Armour et al. (2021)	To improve new nursing staffs' knowledge and confidence in communicating with PWA by developing an online educational video on supportive communication strategies	USA	Non-randomised One group pre-test/post test design	49 nurses and nursing assistants in an inpatient rehabilitation hospital	Participants' responses to an evaluation instrument, 'The Test of the Knowledge of Aphasia' developed by Cameron et al. (2017) indicated a statistically significant improvement in knowledge, confidence, comfort/ease of use and intention to use communication support strategies. Limitations of the study are (1) a lack of clarity regarding the strategies taught, (2) no follow-up of use of strategies long-term.
2. Cameron et al. (2018)	To investigate perceptions of PWA and healthcare professional students involved in a communication partner training (CPT) programme	Australia	Nested study design Quantitative survey design with a portion of participants participating in semi-structured interviews/focus groups	Eight PWA (varying degrees of severity) and 49 SLT, seven OT and, 21 PT students completing theoretical modules in adult neurorehabilitation	Students and PWA reported benefits to participation in a CPT programme. Students reported increased levels of confidence in communicating with PWA post training, which was reflected in quantitative confidence ratings and focus groups. The opportunity to practice implementing strategies and receiving feedback from PWA was also highlighted as valuable by student participants. Overall, students reported a change in perceptions of aphasia, and ability to interact with PWA due to changes in knowledge of strategies and understanding of aphasia.

Author & date	Aim	Country	Design	Participants	Results/findings
3. Hansen et al. (2022)	To investigate the perceptions of staff on a new communicative approach (SCA) implemented in a multidisciplinary neuro-rehabilitation setting	Denmark	Qualitative descriptive design using semi-structured interviews	6 healthcare workers (OT, PT, Nursing)	Training on SCA improved staff perspectives on communication, with staff reporting increasing awareness of communication opportunities in their everyday practice. Self-reported confidence also increased. Staff reported increased influence of PWA on their rehabilitation processes after implementation of SCA with the importance of inclusion of patients in rehabilitation through communication being highlighted. Barriers to PWA involvement included time pressure to prioritise activities with use of communication strategies and discrepancies in goals set by PWA versus staff. Overall staff expressed a willingness to involve PWA in their own care through decision-making and inclusion of their perspectives. This study was limited in its small sample size of only 6 professionals within one neuro-rehabilitation centre.
4. Horton et al. (2016)	To investigate causal mechanisms in the transfer of SC training to practice by considering setting, staff perspectives, and character of the action	United Kingdom	Focus groups and interviews after SC (supported conversation) training and implementation period	Training of 28 staff members (nursing, therapy and assistant staff), 11 staff participated in focus groups/interviews	Barriers to implementing SC were linked to (1) patient factors such as severity of aphasia and cognitive impairment, (2) hospital environment such as noise and distraction and (3) rehabilitation routines. Within routines, incorporating SC added time to interactions (time to facilitate communication and time to respond to what PWA had to say). To problem-solve when implementing SC, staff leaned on teamwork (other professionals or the SLT), using time more efficiently to prioritise the incorporation of SC. Staff reported using communication strategies responsively - using multiple strategies to assist patients. SC training was received positively by staff and was reported to have an impact on their perceived confidence in interactions. Noted that training should consider system level barriers as well as staff knowledge and skills.

Author & date	Aim	Country	Design	Participants	Results/findings
5. Simmons-Mackie et al. (2007)	To improve communicative access to information and decision-making for people with aphasia by improving team members' knowledge in providing communication support and facilitating facility-specific communicative access goals	Canada	Observation of participants, focus groups, open-ended interviews	Various team members (ST, nursing, OT, PT, social workers) in three different settings - acute, rehabilitation and long-term care (nursing home)	Knowledge of communication support strategies improved after training. Professionals reported understanding that people with aphasia require adaptations to communication interactions. Professionals reported a that they now viewed participation differently, namely more active involvement rather than passivity. Communication access projects implemented at each setting differed in success according to institutional/organisational factors. These included manager presence in meetings to facilitate communication access at higher levels, time pressures, staff turnover, rapid pace of work and high caseload, short length of patient stay. Implementation of projects to promote communicative access through supportive communication strategies worked best in settings where staff had increased time to meet as a team, gain managerial support and implement projects. Noted in conclusion that long-term changes to practices do not stem from knowledge of professionals alone.
6. Shrubsole et al. (2021)	To determine if CPT implementation with two groups of HCW results in communication behaviour change and to determine the potential effectiveness, acceptability, and feasibility of implementation as perceived by HCW	Australia	Single-site mixed methods pilot study Intervention was adapted between group A (6 professionals) and group B (7 professionals)	13 health professionals (doctors, nursing, allied staff – PT and OT) in a subacute hospital setting	Significant changes to communication were noted in the second group of professionals in comparison to the first group. Group A reported CPT implementation to have reduced feasibility, acceptability, and effectiveness, which only caused professionals to partially change communication practices. This was attributed to changes made to implementation between the two groups. Authors note that increased time pressure and high patient turnover caused professionals to deprioritise communication access through CPT. It was concluded that the approach to CPT should be iterative with participant-identified barriers being addressed in the process of implementation to improve outcomes.

Author & date	Aim	Country	Design	Participants	Results/findings
Studies investigating experiences of PWA/healthcare workers in communication					
7. Burns et al. (2015)	To explore the experiences of PWA, their family members and physicians of communication during medical interactions	USA	Qualitative descriptive approach, face-to-face semi-structured interviews	18 participants (6 people with aphasia, 6 family members, 6 doctors)	Three themes reported on from interviews conducted: (1) PWA and family members as a team; (2) PWA and family members want doctors to try to communicate; (3) Doctors want to support communication, but may not know how. Doctors were aware that it was necessary in their role as an HCW to communicate effectively and repair breakdowns, but felt that they did have sufficient skills to do so, however, communication was valued and still described as important. PWA and family members echoed this by saying that doctors should be aware of how to facilitate effective communication. Reported barriers to communication included lack of training and time pressure per interaction. Interprofessional education (collaboration between SLTs and doctors) was noted as an important clinical consideration.
8. Carrager et al. (2021)	To explore the experiences of multidisciplinary professionals in providing healthcare to stroke patients	Australia	Phenomeno-logical methodology with semi-structured focus groups	16 healthcare professionals (SLTs, nurses, OTs, PT, dietitian, orthotist, interpreter) across subacute and acute settings within one hospital network	Themes that were established from inductive thematic analysis included (1) healthcare professionals (HCP) found communication with PWA to be time-negative; (2) HCP did not know how to help; (3) HCP limit conversations with PWA, (4) HCP want to know how best to help; (5) Staff feel good after successful communication with PWA. All HCPs reported that aphasia makes patient-provider communication difficult. Factors relating to ward environment, individual HCP, and the patient combine to cause HCP to avoid involvement of PWA in communication for the sake of efficiency over the patient's needs being incorporated into care.

Author & date	Aim	Country	Design	Participants	Results/findings
9. Clancy et al. (2020)	To explore experiences of HCP, PWA and carers of staff-patient communication in in-patient stroke settings	United Kingdom	Qualitative study including one-on-one interviews or focus groups	Six PWA, 10 carers of PWA, six HCP (physiotherapists, doctors, and nurses)	Communication was viewed as important but difficult amongst all three groups. Difficulties to communication that was person-centred were present at three levels: (1) the people, (2) the context, and (3) interactions. Both the context in which communication takes place and the interaction styles of communication were noted to influence the making of sense of life post stroke for PWA and engagement in rehabilitation. Findings of the study indicated that to improve staff-provider communication, increased time was needed (contextual factor), collaboration with the PWA's support network (people factor), and the need for staff education and training (interactional factor).
10. D'Souza et al. (2021)	To investigate barriers and facilitators to patient communication from the perspectives of HCPs, patients post stroke and volunteers	Australia	Qualitative descriptive study using focus groups as the first phase study in development of a Communi-cation-Enhanced Environment (CEE)	71 Acute and rehabilitation HCP (doctors, nurses, allied health staff) and volunteers, and seven post-stroke patients (only three with aphasia)	Barriers and facilitators to successful communication exist at three levels: (1) Hospital environment; (2) Patient factors; (3) Staff factors. Both barriers and facilitators were noted to influence each other, indicating that different patients may have different experiences of communicative access within one environment. Staff-patient communication was noted to be related to what staff felt their role in communication was, knowledge and skills in supporting communication, whether staff felt supporting communication lay in their scope of duties, and ability to be flexible with time and their access/use of resources to support communication. Time pressure was reported to be the biggest hospital environmental barrier to communication for HCP and patients. To ensure communicative access, authors concluded that several changes at levels of hospital environment and staff would need to occur, including education of staff in support strategies for communication.

Author & date	Aim	Country	Design	Participants	Results/findings
11. Knight, Worrall & Rose (2006)	To describe the amount of health information provided to patients post stroke (comparing those with and without aphasia) and to evaluate patients' perceptions of information provided	Australia	Participant observation and semi-structured interviews	7 patients post stroke (five participants without aphasia and two participants with aphasia) within an acute hospital setting	PWA received a lower total number of health information exchanges than patients without aphasia. Overall, patients with post-stroke aphasia experienced less communication and information time with incomplete or less detailed information being provided. Health information was only provided to PWA by professionals in this study when their significant others or family members were present. Authors concluded that PWA may appear more passive and unresponsive due to communication difficulties, making them potentially 'problematic patients' in a health system that is putting greater emphasis on patient collaboration and participation. Most patients were left with an incomplete understanding of stroke with authors linking this to the inefficiency of information provided and the communication skills of health professionals.
12. Söderhielm, Eriksson & Möller (2023)	To investigate communicative participation during goal-setting meetings from the perspective of PWA and HCW	Sweden	Observational case-control study	Nine PWA and nine patients without aphasia, 38 HCW	In comparison to controls (patients without aphasia), PWA reported that their own ability to ask questions was impaired in the meeting with HCWM. Participants with severe aphasia did not report difficulties in comprehending the meeting. Only one patient with severely impaired verbal expression reported that they had difficulty asking questions. Five participants in the study had severely impaired verbal expression and authors concluded that the lack of reported difficulty may be due to impaired metacognitive ability allowing reflection on questions asked in the study. HCW reported a higher percentage of use of communicative strategies in meetings with PWA than those without, although none of the HCW rated that they were satisfied with the number of strategies used in meetings with PWA.
13. Van Rijssen et al. (2021)	To explore and describe experiences of HCW in communicating with PWA and	Belgium, Netherlands	Qualitative semi-structured interviews	17 HCW (Nursing, PT, OT, social worker, dietitian)	Communication difficulties were reported to affect shared aspects of assessment, decision-making, therapy, and diagnosis in the post-stroke population, thereby leading to negative feelings from HCW. HCW agreed that communication partner training (on knowledge of aphasia and supportive communication techniques) was needed to improve communication but suggested that training should not only

Author & date	Aim	Country	Design	Participants	Results/findings
	what CPT should include				be knowledge-based but have opportunity for practice with PWA. HCW also highlighted what they felt the role of SLT should be: coaching in the use of supportive conversation techniques, keeping up-to-date communication tools for HCW, modelling use of techniques and communication tools, and providing feedback to HCW on use of strategies and tools after being trained. In addition, HCW commented on the need for organisational changes (such as increased time and adaption of materials to be aphasia-friendly) to be necessary, as CPT implementation involved barriers beyond individual HCW.
Observational studies					
14. Gordon et al. (2009)	To explore how nursing staff and patients with aphasia/ dysarthria communicate with each other in the stroke unit	United Kingdom	Observational study using a conversational analysis approach	14 nursing staff and five PWA in a hospital acute stroke unit and rehabilitation ward	Interactions between PWA and nursing staff was observed to be largely task-orientated and determined by the hospital setting. PWA were less likely to initiate communication interactions in comparison to participants with dysarthria. Nursing staff tended to dominate topics of conversation and were not responsive to the needs or interests of PWA.
15. Martinelli (2021)	To investigate if and how collaborative talk can be used in history-taking with students and PWA and how this effects information gained during conversational interactions	USA	Observation of participants	Two student healthcare workers and one PWA	Collaborative talk was defined as joint production of utterances, checking for understanding, using a forced choice to assist with production of utterances and summarising what has been said by the PWA, and reframing of questions. Both students used collaborative forms of talk, but did not always check for accuracy of information gained from the PWA, leading to incompleteness of information to form case history. Authors concluded that communication training should include understanding of collaborative requests from PWA (such as eye gaze and pauses) which could be an opportunity to employ communication strategies.

1.2.4.2.3 Literature synthesis. Studies which were located using the search strategy described above, stemmed from 7 different countries. Studies which involved participants from LMICs were not found and all studies were completed in high-income countries. Across all studies, 32 participants with aphasia and 343 healthcare workers were involved. Healthcare workers included nurses, nursing assistants, OTs, PTs, social workers, dietitians, and orthotists. A total of 23 OTs and 46 PTs participated across studies. Studies were noted to either have a focus on communication partner training (CPT) in the healthcare setting (n = 6) or reported on observations (n = 2) or experiences (n = 7) of healthcare workers when communicating with PWA.

Regarding study results and findings, the following topics were found to be prevalent across the literature: 1) Impact of communication difficulties on interactions between PWA and HCW; (2) barriers and facilitators to communication between HCW and PWA; (3) implementation and evaluation of communication partner training (CPT). Narrative summaries of these topics are given here.

Impact of communication difficulties on interactions. Although communication in medical settings was viewed as valuable by health professionals (Burns et al., 2015; Clancy et al., 2020), a diagnosis of post-stroke aphasia was reported to disrupt the usual routines of care that require participation from PWA, including assessment, therapy, diagnosis, and decision-making (Marcella Carragher et al., 2021; Van Rijssen et al., 2021). Both groups of healthcare workers within studies by Marcella Carragher et al. (2021) and Van Rijssen et al. (2021) reported negative feelings following ineffective communicative exchanges with PWA. This resulted in participants in the study by Marcella Carragher et al. (2021) opting to avoid involvement of PWA in communication for the sake of efficiency of care interactions. Not only do healthcare workers reduce involvement of PWA in care interactions, but communication difficulties may also affect the amount of health information shared. In comparison to other patients with motor speech difficulties post stroke, patients with post-stroke aphasia were observed to initiate fewer interactions with nursing staff in a study conducted by Gordon et al. (2009). Knight et al. (2006) noted that patients with post-stroke aphasia were involved in fewer communicative interactions from healthcare workers in an acute hospital setting and information was mostly provided by staff in the presence of family or carers. This led to most patients having an incomplete understanding of stroke after informational counselling, which the authors linked to ineffective information provision due

to communication skills of health professionals. While professionals may be aware of their role to ensure effective communication and to repair communication breakdowns, they may also feel inadequately prepared to support communication within the post-stroke aphasia population (Burns et al., 2015).

Barriers and facilitators to communication with PWA. These were reported in the literature to exist at three levels namely, the hospital environment, patient factors and staff factors (Clancy et al., 2020; D'Souza et al., 2022; Horton et al., 2016). Since barriers and facilitators to communication influence each other, different clients in the same setting may experience different communicative access. Within the hospital setting, one of the most prevalent barriers to communication between PWA and healthcare workers was having enough time to communicate effectively (D'Souza et al., 2021). Time was reported to be the biggest pressure for healthcare workers in both studies reporting on barriers to communication, and in studies which implemented communication partner training.

Shrubsole et al. (2021) and Simmons-Mackie et al. (2007) both reported that implementation of communicative access for people with post-stroke aphasia, either through supported communication strategies or through hospital-specific projects, was limited in settings with increased time pressure. Incorporation of communication support strategies into rehabilitation routines and activities takes time to facilitate, requiring professionals to manage time more efficiently in sessions to create space for strategies to be trialled and implemented (Horton et al., 2016). In settings with a high patient turnover, less time per client caused healthcare workers to deprioritise communication access and use of appropriate strategies (Shrubsole et al., 2021). In addition to lack of time, noise and distraction in hospital settings were also noted to be barriers to effective communication (Horton et al., 2016). Alongside patient factors including severity of aphasia impacting on communication, D'Souza et al. (2021) noted that communication between post-stroke clients and healthcare workers depended on staff perspectives on what their role in communication was, as well as their knowledge and skills in supporting communication. In contrast to healthcare workers who participated in the study by D'Souza et al. (2021), who felt that communication was within the scope of the SLT, allied healthcare workers in a study undertaken by Van Rijssen et al. (2021) highlighted that the role of the SLT within the post-stroke aphasia population should be to provide coaching on supportive conversation strategies with feedback on their use to other professionals, where possible. Both studies demonstrate that healthcare workers'

understanding of communication with PWA as either being within their scope of duties or not, contributed to their willingness to facilitate communication effectively within this population. Facilitators to effective communication were noted to include professionals' knowledge and skills in implementing supportive communication strategies (D'Souza et al., 2021) as well as interprofessional collaboration with an SLT to educate staff on relevant support strategies. Ability to utilise strategies responsively and with a problem-solving approach also served as a facilitator to more effective communication between staff and PWA (D'Souza et al., 2021; Horton et al., 2016).

Implementation and evaluation of communication partner training (CPT). Several studies on communication partner training were located that aimed to implement training amongst different healthcare workers including doctors, nursing staff, and allied healthcare workers (social workers, PTs, OTs and SLTs). Armour et al. (2021) noted a significant improvement in knowledge, confidence, and intention to use communication support strategies amongst 49 nurses and nursing assistants who were trained in supportive communication strategies. The design of this study may be considered a limitation to the results as the researchers used a pre-test/post-test design with no long-term follow-up on use of strategies. In a study completed by Hansen et al. (2022) that sought to investigate the perspectives of staff on implementation of supported communication strategies in a neuro-rehabilitation setting, staff felt more aware of communication opportunities in everyday routines after training. In addition, perceived confidence in communication with PWA improved and increased participation of PWA in the rehabilitation process were also noted by staff. Although staff within this study reported increased confidence and awareness of communication, time pressure was still reported as a barrier to the use of strategies. Although the study by Cameron, Hudson, et al. (2018) amongst student healthcare professionals reported a positive change in perceptions of aphasia and ability to interact with PWA after training on communication strategies, Simmons-Mackie et al. (2007) noted that overall changes to communication for PWA in medical encounters do not stem from change in professionals' knowledge of strategies alone, but also requires broader changes within hospital environments. This finding aligns with that of Shrubsole et al. (2021) who investigated communication partner training amongst two groups of professionals at the same site. For one group, the training was changed according to site-specific barriers identified by participant healthcare professionals, while the other group's intervention remained the same. Significant changes to communication were noted in the group whose training was adapted to

suit site-specific needs in comparison to the control group. Authors therefore concluded that communication partner training should be provided in an iterative way according to organisational or hospital characteristics (Shrubsole et al., 2021).

1.2.5 The role of OTs and PTs in stroke rehabilitation

OTs and PTs form part of a multidisciplinary team that is typically involved in post-stroke rehabilitation (National Department of Health, 2019). Post-stroke rehabilitation involves a goal oriented and person-centred perspective that aims to restore client's pre-stroke function and independence as far as possible (Bryer et al., 2010; Whitehead & Baalbergen, 2019). Both disciplines work predominantly with the motor deficits that occur post-stroke, however, the intended outcomes of occupational therapy and physiotherapy intervention are different (Whitehead & Baalbergen, 2019). Physiotherapy intervention aims to facilitate early mobilisation of post-stroke clients and overall mobility, while occupational intervention places emphasis on facilitating independence in activities of daily living (Whitehead & Baalbergen, 2019). Typically, post-stroke clients are also cognitively screened by the occupational therapist in conjunction with the work of a speech and language therapist to provide cognitive rehabilitation as needed (Whitehead & Baalbergen, 2019).

In the process of interdisciplinary rehabilitation, including that of occupational therapy and physiotherapy, clients and families should be involved in the creation of realistic yet meaningful rehabilitation goals, problem-solving, and decision-making processes (Louw et al., 2021). Without the incorporation of the client and family's experiences and concerns into personal goals, activities that are targeted in rehabilitation intervention may not remediate abilities according to clients' perceived needs and preferences (Brown et al., 2022). In addition, it is recommended that informational counselling and education for clients and their families begin at the start of an encounter with a healthcare worker and continue throughout their management (Louw et al., 2021). During provision of therapy, clients are required to follow instructions and therapists often wish to evaluate the processes of therapy with clients (Van Rijssen et al., 2021). All of these activities underscore the need for effective communication between team members and the client that then contributes to the standard of person-centred care outlined in South African health policy (Bryer et al., 2010).

Although research has been done on the implementation of communication partner training and use of supportive strategies amongst allied healthcare workers in various

countries, none of the studies located in the systematised review focused on OTs and PTs as two distinct groups of professionals who may be regular communication partners of PWA. Rather, studies often included OTs and PTs in participant groups amongst other professionals, with numbers of OTs and PTs differing in each study. Research considering the perceptions of OTs and PTs regarding communication amongst the PWA population is currently lacking. In addition, studies located in the systematised review were completed in high-income countries and therefore a dearth of information still exists as to the current practices of OTs and PTs as communication partners to PWA in the South African context.

While South Africa is considered to be a middle-income country economically, its healthcare context does not reflect this, as healthcare outcomes are poorer than those in many lower- income countries (Coovadia et al., 2009). South Africa's political legacy of Apartheid continues to have far-reaching effects on its healthcare system, which faces challenges in terms of distribution of financial and human resources between different parts of the country, as well as a disparity between resources available in the public and private sectors. While approximately sixty-four percent of South Africa's population access care within the public sector (Coovadia et al., 2009), up to 40% of healthcare workers work within the private sector, which only provides services to approximately 17% of the population (Mumbauer et al., 2021). This is also reflected in the distribution of allied healthcare professionals such as OTs and PTs. A retrospective study conducted by Ned et al. (2020) concluded that 74.8% of OTs were employed in the private sector, while 25.2% were employed in the public sector. Similarly to this, a study conducted by van Rensburg (2014) noted that in 2010, 82.5% of PTs worked within the private sector, leaving only 17.5% in the public sector - thereby creating an uneven distribution of human resources.

The current study seeks to investigate the perceptions of these professionals employed within both the public and private sectors to better understand their communicative practices amongst the post-stroke aphasia population, thereby contributing to a South African knowledge base.

2. METHODOLOGY:

2.1 Aims

2.1.1 Main aim

The main aim of the study is to investigate the perceptions of occupational therapists and physiotherapists on their communication during rehabilitation with clients with post-stroke aphasia.

2.1.2 Sub-aims

The sub-aims of the study were:

i. To describe OTs' and PTs' perceptions of the importance of communication with PWA during rehabilitation
ii. To describe OTs' and PTs' perceptions of the effectiveness of communication with PWA during rehabilitation
iii. To describe OTs' and PTs' reported confidence in communicating with PWA in rehabilitation
iv. To describe the communication strategies that OTs and PTs implement in rehabilitation with PWA
v. To identify potential challenges and assets/resources to communication by OTs and PTs with PWA

2.2 Research design and process

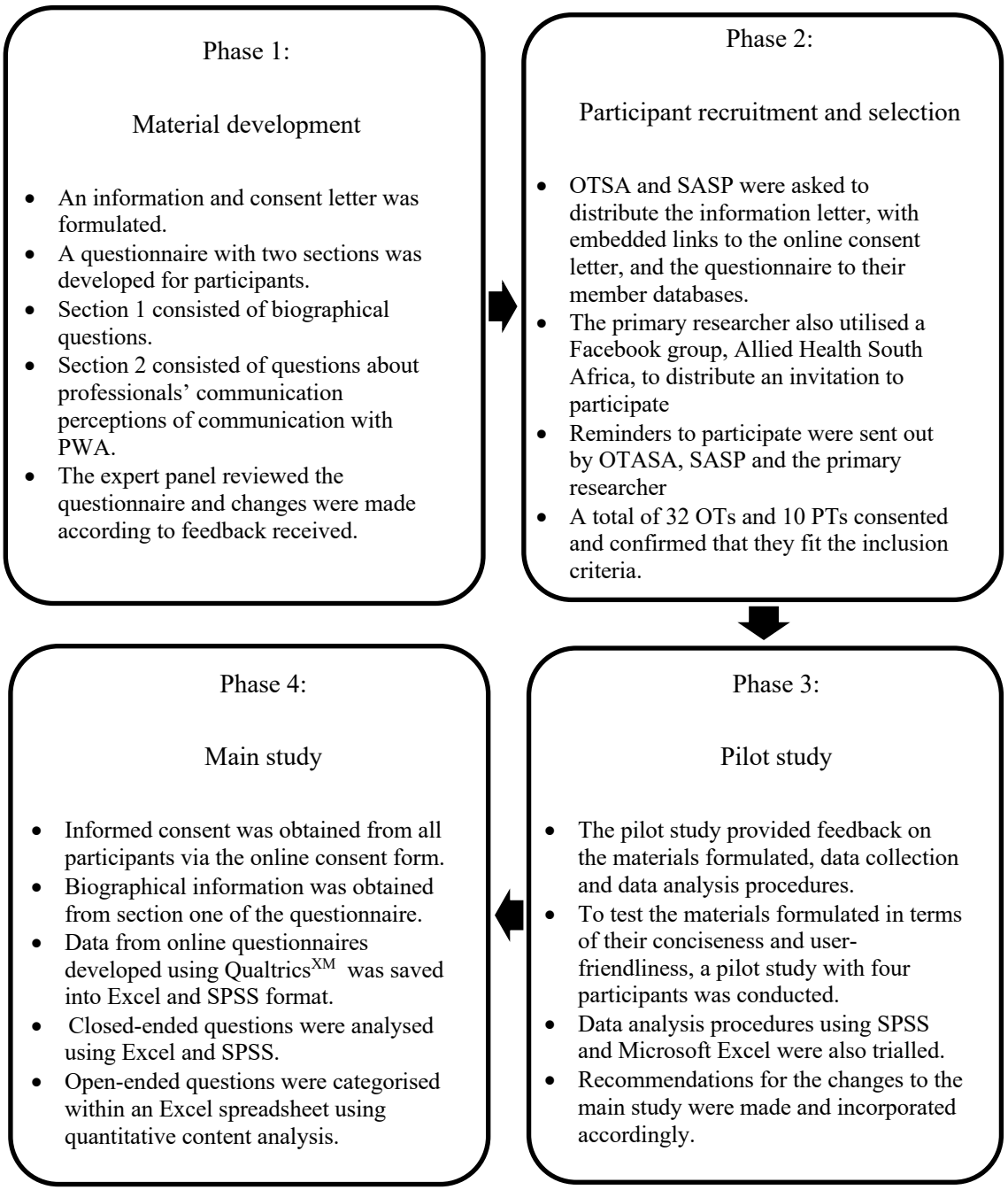
A non-experimental survey design was utilised in this study. The survey used in this study was descriptive and exploratory and aimed at describing the practices, experiences and perceptions of the target population (McMillan & Schumacher, 2014; Nardi, 2018). A descriptive design was chosen to describe the perceptions of South African OTs and PTs who work with PWA (Kothari, 2014). As the aim of the study was not to draw causal inferences, the use of a descriptive design was appropriate to the research question. In addition, a survey design was chosen to collect responses from 30-60 professionals situated across South Africa. The questionnaire was developed specifically for this study and contained both closed and open-ended questions. The inclusion of both types of questions is

appropriate to survey research in which a fuller understanding of the research question is desired (Andres, 2012). The study was approved by the Ethics Committee of the Faculty of Humanities (see Appendix A).

The study consisted of four phases. Phase 1 of the study entailed material development. Phase 2 entailed participant recruitment and selection. During Phase 3, a pilot study was completed, and Phase 4 entailed the completion of the main study. The various phases of the study are illustrated in Figure 4.

Figure 4

Phases of the Study



2.3 Participant recruitment and selection:

2.3.1 Sampling and recruitment

Participants were recruited for this study using a combination of non-random convenience and snowball sampling. This is a form of non-probability sampling in which members of a target population do not have an equal chance of being included in the study. Members of the target population are included due to practical criteria, such as easy accessibility, geographical proximity and availability of time (Etikan et al., 2016). In this study, recruitment was done through two professional associations, one email database of professionals held by the Centre for AAC, as well as a Facebook group for rehabilitation professionals.

Participants were recruited via the professional bodies for OTs and PTs in South Africa, namely the Occupational Therapy Association of South Africa (OTASA) and the South African Society of Physiotherapy (SASP). Both organisations provided permission and sent out a recruitment request via email with the information letter (Appendix B) attached. The information letter contained an embedded link to the consent form and questionnaire. Permission was sought and granted from the Centre for AAC to use a database containing the emails of various professionals who work within the AAC field in South Africa (AACSA) as an additional source of recruitment. The same cover email sent to OTASA and SASP was used and the information letter with the embedded link was attached to the email. The researcher also shared an invitation to participate, which included the information letter and link to the questionnaire on a Facebook group for rehabilitation professionals, Allied Health South Africa. It was indicated in each cover email that recipients were welcome to forward the invitation to participate to any other professional that might fit the inclusion criteria. In addition, OTs and PTs within the researcher's personal network were asked to share the invitation to participate on discipline-specific WhatsApp groups. These groups are generally used to keep professionals in both the private and public sectors up to date with continuous professional development activities. No rules exist for who can post, and group members are free to post such invitations to the group, or to request that the group administrator does so on their behalf.

The inclusion criteria were included in the information letter so that participants were aware of them. The embedded link led to a Qualtrics-generated questionnaire where professionals were requested to confirm that they had read the information letter. Those who

confirmed were asked to grant/deny consent to participate. Those that granted consent were able to commence with the questionnaire. A sample size of 30 to 40 participants is considered appropriate for a descriptive study (Hertzog, 2008). Overall, 42 participants were recruited between the two disciplines with 32 OTs and 10 PTs participating.

Sampling was non-random as the probability of selecting each member from the sample group (OTs and PTs) was not known (McMillan & Schumacher, 2014). It is not a requirement of practicing OTs and PTs to belong to either of the professional bodies, OTASA and SASP, which were used to recruit participants for this study. Therefore, the complete population of OTs and PTs practicing in South Africa was not represented. The total sample size for each profession was also not known. Rather, sampling was convenient, since participants were selected due to accessibility, and as the perceptions on communication in these two groups was the focus of the research question. In addition, snowball sampling was used as the invitation to participate was shared by professionals on WhatsApp groups and via email rather than just through established organisations to recruit the desired number of participants from each discipline. Due to the sampling method, the findings' external validity was not expected to be high. A limitation of the use of convenience sampling is that generalising the findings to the whole population is not possible as the sampling of participants is not random (Andrade, 2021). However, since the study was exploratory, generalisability was not expected.

2.3.2 Selection criteria

The participant selection criteria as outlined in the information letter are presented in Table 4.

Table 4

Participant Selection Criteria

Criterion	Justification	Measure used
Registered with the HPCSA as an OT or PT.	In South Africa, only health professionals registered with the HPCSA may practise (HPCSA, 2022).	Biographical questionnaire (Appendix C)
Must have at least one adult with post-stroke aphasia on their current caseload or have provided therapy to one adult with post-stroke aphasia within the two years.	The phenomenon under investigation is communication of professionals with PWA, therefore professionals should have recent experience of it.	Biographical questionnaire (Appendix C)
Currently practising in South Africa.	Study aims to investigate practices of therapists working in the South African context.	Biographical questionnaire (Appendix C)
Able to participate in an English-language-based online survey.	The first language of the researcher is English and therefore the measurement instrument (questionnaire) will be developed in English.	Included as part of participant selection criteria within information letter (Appendix B)

2.3.3 Participant description

The background information of participants was obtained from the online biographical questionnaire (see Appendix C) which was populated as Section 1 of the online questionnaire developed using Qualtrics^{XM}. Each participant was assigned a number which did not correspond to the numbers utilised in the Results and Discussion section to ensure confidentiality was maintained. The information recorded for OTs and PTs is presented in Table 5 and Table 6.

Table 5

Occupational Therapy Participant Demographics (n = 32)

Variable	Description		
	M	***SD***	**Range**
Years of experience in working with PWA	7.5	6.8	0-30
Number of PWA seen in the last 12 months	11	10.6	40
Variable	**Description**	***n***	**%**
Home language/s	English	14	43.8
	Afrikaans	7	21.9
	Afrikaans, English	7	21.9
	Tshivenda	2	6.3
	English, isiXhosa	1	3.1
	Sotho	1	3.1
Language used in clinical practice	English, Afrikaans	15	42.9
	Combination of three languages	8	22.9
	English	7	20
	Combination of four languages	1	2.9
	More than five languages	1	2.9
Province	Gauteng	12	38
	Western Cape	8	25
	Eastern Cape	4	13
	Mpumalanga	3	9
	KwaZulu-Natal	2	6
	Free State	1	3
	Limpopo	1	3
	Northern Cape	1	3
	Northwest	0	0
Place of work	Hospital inpatients	19	54.3
	Hospital outpatients	17	48.6
	Home visits	17	48.6
	Private practice rooms	15	42.9
	Sub-acute rehabilitation centre	13	37.1
	Care home/ residential care home	6	17.1

Variable	Description		
	M	***SD***	**Range**
	Long-term rehabilitation centre	3	8.6
	Other	3	8.6
Current sector in which patients are seen	Private	23	65.7
	Public	10	28.6
	Other	2	5.7
	NGO	0	0
Variable	**Description**	***n***	**%**
Services provided	Assessment	26	74.3
	Treatment	25	71.4
	Goal-setting	23	65.7
	Home programmes	23	65.7
	Informational counselling on assessment results	21	60
	Other	3	8.6
	Referral to rehabilitation	*1*	*2.9*
	Prevention	*1*	*2.9*
	Family therapy /integration	*1*	*2.9*

Table 6

Physiotherapist Participant Demographics (n = 10)

Variable	Description		
	M	*SD*	Range
Years of experience in working with PWA	11.7	10.3	1-35
Number of PWA seen in the last 12 months	4.9	3	10
Variable	**Description**	***n***	**%**
Home language/s	English	4	40
	Afrikaans	3	30
	Sesotho	2	20
	Afrikaans, English	1	10
Language used in clinical practice	English	4	40
	Afrikaans, English	1	10
	Combination of three languages	2	20

Variable	Description		
	M	*SD*	Range
	English, Afrikaans, isiXhosa		
	Sesotho, English, Zulu	1	10
	Combination of more than three languages	1	10
Province	Gauteng	5	50
	Eastern Cape	2	20
	Free State	2	20
	Limpopo	1	10
	Mpumalanga	0	0
	KwaZulu Natal	0	0
	Northwest	0	0
	Northern Cape	0	0
	Western Cape	0	0
Variable	**Description**	***n***	**%**
Place of work	Hospital inpatients	7	70
	Hospital outpatients	6	60
	Private practice rooms	4	40
	Sub-acute rehabilitation centre	4	40
	Home visits	3	30
	Care home/ residential care home	2	20
	Long-term rehabilitation centre	1	10
Current sector in which patients are seen	Private	7	70
	Public	4	40
Services provided	Assessment	9	90
	Treatment	9	90
	Goal setting	9	90
	Home programmes	9	90
	Informational counselling on assessment results	8	80
	Other (referral to SLT)	1	10

A total of 42 professionals participated in the study. The two groups of professionals were not equal in size as more OTs participated (n = 32) than PTs (n =10). Amongst the OT group, experience in working with PWA was 7,5 years on average, with a wide range existing from less than a year to 30 years of working experience. Most participants had a home language of either English (43.8%), Afrikaans (21.9%) or a combination of both (21.9%). The language used in practice varied widely between mainly Afrikaans and English (42.9%) and a combination of multiple languages including English, Afrikaans, Zulu, Sepedi, and Xhosa (22.9%). Most therapists worked within the private healthcare sector (65.7%) with most PWA being seen as either hospital inpatients, hospital outpatients, or via home visits. Services provided to PWA were spread somewhat equally between rehabilitation activities such as assessment (74%), treatment (71.4%), goal setting and provision of home programmes (65.7%), and informational counselling (60%).

Within the PT group, experience in working with PWA was higher at 11,7 years of experience on average. The home language of participants was predominantly English (40%). As in the OT group, the language used predominantly in clinical practice was also English (40%). Seventy percent of PTs worked in private healthcare and forty percent within the public sector. PWA were reportedly seen mainly as hospital inpatients (70%), hospital outpatients (60%), within sub-acute settings (40%), or private practice rooms (40%). Services provided to PWA were spread out equally as within the OT group, with most participants providing services as assessment (90%), treatment (90%), goal-setting and home programme provision (90%), and informational counselling (80%).

2.4 Material development and equipment

Materials used in this study consisted of an information letter provided to all prospective participants, an electronic consent form, a biographical questionnaire and a survey. Equipment utilised in this study consisted of a MacBook Air®, Apple iPad 9, Qualtrics Research Suite5™ survey software, and IBM® SPSS® Statistics (Version 28.0.1.0).

2.4.1 Information letter and consent form

A detailed information letter was composed by the primary researcher whereby prospective participants were informed of the purposes and details of the study (see Appendix B). The information letter included the title of the study, the main aim, rationale, the inclusion criteria, expectations for participation, participants' rights, access to research results, and risks and benefits of participation. Contact details (email addresses and phone numbers) of both the primary researcher and research supervisor were also provided. An embedded link to the questionnaire was provided at the end of the information letter. Consent was obtained from prospective participants using an electronic consent form (see Appendix C). The format of the questionnaire on Qualtrics™ was of such a kind that without providing consent and indicating that the information letter had been read, prospective participants could not begin the questionnaire.

2.4.2 Biographical questionnaire

The biographical questionnaire aimed to record biographical information from participants. No identifying information (age, phone number, gender, race) was captured within this section to maintain participants' anonymity. The biographical questionnaire was adapted from Brown et al. (2022)'s international survey of rehabilitation professionals investigating goal setting with post-stroke aphasia clients. Justification for the inclusion of information included is provided below in Table 7.

Table 7

Biographical Questionnaire Rationale

Area of information	Examples	Justification
Personal information	Profession (OT or PT), home language(s), language used in clinical practice,	The main aim of the study is to describe South African professionals' perspectives on their communication with PWA. Non-

Area of information	Examples	Justification
and practice setting	which province of South Africa participants practice in, private or public healthcare, hospital or rehabilitation setting.	identifying personal information such as home language and language used in practice as well as practice setting may influence perspectives on communication.
Experience	Years of experience treating post-stroke clients, number of post-stroke clients seen in the last 12 months	Participants should have experience with post-stroke aphasia clients to provide perspectives on communication as per the inclusion criteria.
Areas of practice	Services provided to post-stroke aphasia clients	The type of services provided may influence the type of communication demands posed on HCPs and PWA (Light & McNaughton, 2014). As a result, participants' perspectives on communication with PWA could be influenced by the types of services they render to PWA and the types of activities they engage in with PWA.

2.4.3 Survey development

The survey aimed to collect information on participants' perspectives on communication with clients with post-stroke aphasia. The survey used for the current study was developed by utilising multiple sources of information including a survey conducted by Brown et al. (2022) on the use of communication strategies during goal-setting amongst rehabilitation professionals and literature found through the systematised review conducted as part of the literature review (see Section 2.4). Literature found within the literature review provided further guidance regarding the development of the questionnaire. Studies which were focused on the experiences of healthcare workers during communication with PWA were utilised to inform questions as to barriers and facilitators to communication (see Question 3.6 and Question 3.7-3.24), while articles reporting on communication partner training intervention were used to consider training needs of professionals (see Question 3.25 and Question 3.26). Lastly, specific communication strategies (see Question 3.4 and Question 3.5) found to be helpful for PWA were also gleaned from the literature.

The literature basis for each question included in the survey is presented in Table 8.

Table 8

Literature Basis for Questionnaire

Question/Response option	Reference
Question 3.1: Importance of communication	
In general, how important is communication between you and your client(s) with post-stroke aphasia during rehabilitation?	D'Souza et al. (2021), Clancy et al. (2020)
Question 3.2: Efficacy of communication	
In general, how efficient is communication between you and your client(s) with post-stroke aphasia during rehabilitation?	Burns et al. (2015)
Question 3.3: Confidence in communicating with clients with aphasia	
How confident do you feel in communicating with clients with post-stroke aphasia?	Brown et al., (2022)
Question 3.4 Communication strategies to assist with understanding	
Simple grammar	Legg et al., (2005), Kagan, (1998)
Writing down key words	Kagan (1998)
Slowed rate of speaking	Legg et al., (2005)
Drawing	Beukelman & Light, (2020)
Checking/confirming if client with aphasia (PWA) has understood	Cameron et al., (2018)
Pointing to item being spoken about	Beukelman & Light, (2020)
Gesture	Beukelman & Light, (2020)
Use of pictures or graphics/diagrams	Beukelman & Light, (2020), Cameron et al., (2018)
Modified written information (increased text size, underlining and bold text for key words)	Brown et al., (2022), Cameron et al., (2018)
Keep message short and concrete	Cameron et al., (2018)
Ensure environment is quiet with as few distractions as possible	Brown et al., (2022)
Asking a familiar partner (e.g., spouse) to relay the message to the PWA	Cameron et al., (2018)
Question 3.5: Communication strategies to assist with expression	
Use of a written choices	Beukelman & Light, (2020)
Use of Y/N questions	Legg et al., (2005), Kagan (1998)
Communication boards/pictures	Legg et al., (2005)
Giving summaries of what PWA has said	Beukelman & Light, (2020), Cameron et al., (2018)
Giving PWA time to respond	Beukelman & Light, (2020)
Using writing to reflect what PWA has said	Kagan (1998), Beukelman & Light, (2020)
Fixed choice questions (giving two options)	Kagan (1998)
Encourage gesture (can you show me?)	Rowland & McDonald (2009)
Encourage PWA to refer to written key words	Rowland & McDonald (2009)
Encourage PWA to use drawing or writing	Rowland & McDonald (2009)

Question/Response option	Reference
Asking a familiar partner (e.g. spouse) to relay to you what the CWA is trying to communicate	Cameron et al., (2018)
Question 3.6: Challenges to communication	
Please rate to what extent you experience any of the following challenges to communication with clients with aphasia.	Brown et al., (2022)
Lack of input from other professionals such as SLT on client's communication strengths and needs	Brown et al., (2022)
Severity of communication difficulty makes inclusion in conversations difficult	Brown et al., (2022)
Not enough time to implement communication strategies	
I do not feel I have knowledge about communication strategies to support clients with aphasia	
I do not have access to appropriate resources (communication boards/pictures/accessible information)	
The environment in which I need to communicate with the client is noisy and/or contains distractions.	Horton et al., (2016)
Question 3.7-3.8: Other challenges to communication	
Do you experience any other challenges related to communication with clients with post-stroke aphasia?	Brown et al. (2022)
Questions 3.9-3.25: Resources to support communication	
Have you drawn on the following resource/asset below to assist you in communicating better with clients with post-stroke aphasia?	Brown et al., (2022)
Input from other professionals (e.g. SLT)	
Knowledge of strategies to support communication with CWA	
More time to spend with CWA in rehabilitation activities	
Support/involvement of family members or community	
Mentoring from other colleagues more experienced in supporting CWA in communication	
Able to access communication resources (e.g. pictures, graphics, accessible information, communication boards)	
Do you make use of any other resources/assets to assist you to communicate with clients with aphasia?	
Which assets/resources do you feel may help you in the future to communicate better with persons with aphasia? Tick all that apply.	

Question/Response option	Reference
Question 3.26-29 Training to support clients with post-stroke aphasia	
Have you ever received training or education on communication strategies to support clients with aphasia?	Brown et al., (2022)
What topics did the training cover? Please tick all that apply.	
Information about aphasia and how it affects communication Strategies for communication to support clients with aphasia How to create accessible communication resources (e.g. for education/providing information)	
Would you like to receive training on communication strategies and aphasia?	Brown et al., (2022)

Some questions included in the questionnaire utilised the Likert scale ranging from one to five for participants to rate the effectiveness, and importance of communication as well as their confidence in communication with PWA. Although there are several ways that scales can be labelled, in this study, endpoint-labelled scales were utilised as this type of labelling has demonstrated higher reliability and reduces the cognitive load during the reading process (DeCastellarnau, 2018).

The researcher obtained feedback on the biographical questionnaire and the main portion of the questionnaire from a panel of four experts. Each member of the panel was practising as a Speech and Language Therapist (SLT) in South Africa during the period in which feedback was given. All panel members had experience in the field of AAC. Biographical information was collected from each member of the panel including their number of years of experience in AAC with adults with post-stroke aphasia, number of years of experience with AAC in other populations, clinical settings in which adults with post-stroke aphasia were seen, and services provided to post-stroke clients.

Experience in working with adults with post-stroke aphasia and AAC ranged from less than one year to five years. Panel members did, however, have between four to twelve years of experience in AAC amongst other populations, such as school-aged children and paediatric inpatients. Three panel members reported that adults with post-stroke aphasia were seen as hospital inpatients and outpatients as well as in clients' homes, while another member reported working in long-term rehabilitation facilities and care homes. Services provided to

post-stroke clients within the scope of SLTs included AAC assessment and therapy, informational counselling and training on device use, support groups, and multidisciplinary team discussions.

Feedback given from the panel was incorporated into the updated version of the questionnaire. Panel members suggested that key terms in each question of Section 2 should be placed in bold to ensure that readers were aware of the main idea of the question. In addition, an alignment of terms between Question 7 and the aims of the study was suggested. The sub-aims of the study utilised the terms 'barriers' and 'facilitators' to communication, while in the questionnaire the terms 'challenges' and 'supports' were used. Alignment of terms between the sub-aims and the questionnaire was ensured by changing the terms in the questionnaire to refer to 'challenges' and 'supports. It was also suggested that a single open textbox be used to allow respondents to list communication support strategies in Questions 4 and 5 of Section 2. However, it was felt that this may reduce the ease with which the questionnaire could be completed, leading to fewer finished questionnaires. This suggestion was therefore not implemented. The final questionnaire is provided in Appendix D.

2.4.4 Equipment for data collection

Equipment for data collection included a MacBook Air® with access to Qualtrics^{XM} to formulate the consent form and questionnaire. Qualtrics^{XM} was used to keep record of the number of responses received. Raw data was downloaded in Excel and SPSS formats to the researcher's MacBook Air®.

2.4.5 Equipment for data analysis

For data analysis of responses, Microsoft Excel and IBM® SPSS® Statistics (Version 28.0.1.0) were used.

2.5 Pilot study

Phase 3 of the study consisted of a pilot study. The purpose of the pilot study was to refine documents presented to participants and the data collection tools, namely the questionnaire, to be utilised amongst the full study sample (Leon et al., 2011). An additional aim of the pilot study was to trial data analysis procedures and programmes, namely Microsoft Excel and SPSS, to be utilised in the main study.

Four participants were recruited from the researcher's personal network. Each pilot study participant was provided with the information letter with the embedded link to the consent form and gave consent to participate. Each participant was aware that they were free to discontinue their participation in the pilot study at any point. Two OTs and two PTs participated. Each participant met the inclusion criteria for the study as outlined in the information letter provided. Three professionals (two OTs and one PT) worked in the government sector at tertiary-level institutions. One PT worked in private practice at the time of the pilot study but had worked previously in the government sector. Three participants (1 OT and 2 PTs) were provided with a pilot study feedback form to fill out after completing the biographical questionnaire and survey. The feedback form required participants to comment on the time taken to complete the questionnaire and survey, the comprehensiveness of the survey, how understandable the questions were, and if participants felt any adaptations should be made. Responses from the feedback forms were incorporated into the pilot study table (table 5) below.

One of the pilot study participants who is currently practising as an OT, participated in a cognitive interview of the questionnaire. Cognitive interviews are suggested in the design of surveys to investigate participants' thinking processes, while completing questions (Ryan et al., 2012). In this study a 'think-aloud' approach was taken, in which the participants' spontaneous verbal responses during the completion of questions was recorded (Ryan et al., 2012). The participant was instructed to complete the survey and verbalise any thoughts, concerns or questions about the material of the biographical questionnaire and survey during completion. The researcher transcribed what was said by the participants during the completion of the questionnaire and survey. Once the participant had completed the questionnaire and survey, the researcher asked questions in line with the pilot study feedback form provided to other participants.

The pilot study participants were not included in the final sample. The aims, procedures, materials, and recommendations from the pilot study are highlighted in Table 9.

Table 9

Pilot study aims, materials, procedures and recommendations:

Aim	Materials	Procedures	Results	Recommendations
To establish if the information letter and consent forms were clearly written and understandable	Information letter and consent form	Each participant read the information letter and consent letter. Feedback on the clarity and readability of the letter was obtained.	Participants reported that both letters were clear and understandable.	No changes for main study recommended.
To determine the ease of access to complete the questionnaire and survey on Qualtrics^{XM}	Information letter with embedded link to questionnaire and survey	Participants were provided with the information letter and embedded link to the questionnaire and survey	Participants were able to easily access the questionnaire and survey via Qualtrics^{XM}	No changes to main study needed.
To assess the clarity of questions and instructions given within the biographical questionnaire and main questionnaire	Biographical questionnaire and survey feedback form	Each participant completed the biographical questionnaire and main questionnaire on Qualtrics^{XM}, and the feedback form was also completed electronically.	Grammar errors were noted within some survey questions. Question 3.6 was reported to be unclear by one participant, with multiple choice questions not matching the Likert scale used. However, all other participants reported questions were clear. Questions (Q28 and Q29) about training for participants were reported to be redundant. Participants requested a submit button at the end of the survey.	Phrasing of question 3.6 adapted to ensure this matched Likert scale options. Q28 removed and response logic added to redirect participants to correct follow-up question.
To obtain an estimate of how long the questionnaire may take to complete	Biographical questionnaire and main questionnaire feedback form	Participants reported how long it took to complete the questionnaire and if they felt this was too long.	Completion time ranged from 8 to 20 minutes per participant. Participants took no longer than 20 minutes to complete the questionnaire. Participants did not report concerns as to the length of time required for survey and questionnaire completion.	No changes needed for main study.

Aim	Materials	Procedures	Results	Recommendations
To determine if the data from close-ended questions allowed for statistical analysis using the chosen programmes	Responses from close-ended questions Microsoft Excel (Version 16.66.1) and SPSS (Version 28.0.1.0)	Responses were downloaded and saved in Microsoft Excel and SPSS format. Files were imported into each of these programmes. Descriptive statistics (including measures of central tendency and measures of variability) were used to analyse the data as per the research question.	SPSS was found to be more efficient for statistical analysis in comparison to Microsoft Excel.	SPSS will be utilised for data analysis. e
To evaluate if data from open-ended questions could be categorised and quantitatively analysed using Microsoft Excel and/or SPSS	Responses from open-ended questions Microsoft Excel (Version 16.66.1) and SPSS (Version 28.0.1.0)	Responses from open text boxes will be categorised using a codebook (Boettger & Palmer, 2010) and the frequency of various codes will be noted using an Excel spreadsheet.	Not all participants used open text boxes. Only 2 participants used a text box to elaborate on Q3.23. Answers provided did not belong to the same categories and therefore frequency of codes could not be calculated.	No recommendations for main study other than development of codebook as more data is collected.

2.6 Main study

2.6.1 Procedures for data collection

Both OTASA and SASP utilised their member databases to distribute the electronic information (see Appendix B) letter to their members via email. The researcher also distributed the information letter to participate via the Facebook group Allied Health South Africa. The information letter contained a link to the Qualtrics survey. The questionnaire was available for completion for a period of eight weeks. Two reminders to participate were put on Facebook by the primary researcher. Respondents who agreed to participate in the study gave consent via the electronic consent form (see Appendix C) prior to completing the questionnaire on Qualtrics^{XM}. Qualtrics^{XM} was used to record the number of responses collected.

2.6.2 Procedures for data analysis

Raw data from Qualtrics^{XM} was downloaded and exported in SPSS format. The programme was used to analyse all data from closed-ended questions quantitatively using descriptive statistics, including measures of central tendency (mean, median, mode) and measures of variability as are consistent with a descriptive research design (Leedy & Ormrod, 2010). The aim of the study was to describe perceptions of professionals, therefore inferential statistics were not applied to data collected, as the investigation of causal relationships was not an aim of the study (Boettger & Palmer, 2010).

Responses to open-ended questions were recorded as provided. Where similar responses were provided, they were categorised together. A deeper level of analysis was not needed as open-ended responses were typically single words or phrases.

2.6.3 Validity and reliability

As a new data collection instrument was developed for this study, the researcher aimed to ensure the validity of the questionnaire. The questionnaire was partly based on a previous instrument created by Brown et al. (2022) as well as on themes identified from the literature during the systematised search. The literature was also utilised to ensure that the construct of communication being investigated was appropriately operationalised (McMillan & Schumacher, 2014). In this way, construct validity was addressed. The face validity of the instrument was ensured by having an expert panel review the questionnaire and incorporating their suggestions for changes. A pilot study was also conducted (including one cognitive

interview) to ensure that the instrument was easy to understand and would enable participants to provide information relevant to the research questions.

Reliability was not addressed in this survey, as the survey was not re-administered to any of the participants. As the survey was descriptive and did not purport to evaluate one construct through one scale, the determination of internal consistency (e.g. through Cronbach's alpha) was not appropriate.

Threats to internal validity such as participants providing socially desirable responses was addressed by ensuring that the length of the questionnaire was appropriate, and that no identifying data was collected from participants to ensure anonymity. Although the researcher used various methods to recruit participants, sampling was neither comprehensive nor random – only OTs and PTs that belonged to the respective organisations and/or Facebook groups had a chance to be included. Therefore, external validity was limited. The sample of PTs recruited was small.

3. RESULTS

This section will report on the results of the questionnaire. The number of responses received will be reported on first. This will be followed by results pertaining to the sub-aims, namely (1) participants' perceptions of the importance of communication with PWA, of their confidence in communicating with PWA, and of the efficacy of communication with PWA, (2) the communication strategies that they reported implementing to enhance understanding of PWAs, (3) the communication strategies they reported implementing to facilitate expression by PWAs, (4) the challenges to communicating with PWA that they reported, (5) the assets to communication that they reported, and (6) training that participants reportedly received regarding communication support strategies.

3.1.1 Responses

In this study, professional bodies, a closed Facebook group for South African Health professionals and a database of professionals working within the AAC field were used to recruit participants. Since there is no requirement to belong to any of these groups or professional bodies to practise as an OT or PT in South Africa, the researcher could not ensure that every eligible participant had a chance to be selected. Also, not every member of these groups would have met the selection criteria and therefore an accurate response rate (number of persons who responded versus the total of eligible participants to whom the invitation was extended) could not be calculated. In total, five responses were received that did not include biographical data and in which less than three questions were answered. These responses were removed from the final dataset that was analysed. The remaining 42 responses received were mostly complete, although some participants skipped questions. The number of participants answering each of the questions is depicted in Table 10.

Table 10:

Number of respondents per question

Question number	Total (*n* = 24)	OT respondents (*n* = 32)	PT respondents (*n* = 10)
3.1 Importance	37	27	10
3.2 Effectiveness	37	27	10
3.3 Confidence	37	27	10
3.4 Strategies for understanding	42	32	10
3.5 Strategies for expression	42	32	10
3.6- 3.8 Challenges	42	32	10
3.9 - 3.22 Assets to communication	35	25	10
3.23 Additional assets to communication	42	32	10
3.24 Training	34	24	10
3.25 Training topics	34	24	10
3.26 Future training	34	24	10
3.27 Future training topics	34	24	10

3.1.2 Questionnaire responses according to sub-aims

The responses to the survey are summarised in the next sections. Unless otherwise stated, responses from all 42 participants are summarised and incorporated into the statistical calculations.

3.1.2.1 Importance, effectiveness, and confidence in communication. Participants were asked to rate how important they felt communication with PWA was during rehabilitation. They were also asked to rate how confident they felt in communicating with PWA, and how effective they perceived this process to be. All three aspects were rated on the Likert scale ranging from 1 (lowest level) to 5 (highest level). A total of 27 OTs and all PTs answered these questions. Results are summarised in Table 11.

Table 11

Perceived Importance, Confidence and Effectiveness in Communicating with PWA

	OT[a] ratings			PT[a] rating			Overall ratings		
	M	*SD*	Range	*M*	*SD*	Range	*M*	*SD*	Range
Importance (1=not at all important; 5 = very important)	4.9	0.4	4-5	5	0	0	4.9	0.3	4-5
Effectiveness (1= not at all effective; 5= very effective)	3.2	0.9	1-5	2.8	0.8	3	3.1	0.9	1-5
Confidence (1= not at all confident; 5 = very confident)	3.2	1.1	1-5	3.2	0.8	2	3.2	1.0	1-5

[a] A total of 37 participants answered the question, OT (*n* =27) and PT (*n* = 10).

Regarding importance, the mean rating was 4.89 (*SD* = 1.25, range: 4-5). All participants reported that communication with PWA was either very important (89.2 %; *n* = 33) or quite important (10.8%; *n* = 4). All PTs (*n* = 10) who participated reported that communication was very important. Amongst OTs, 14.3 % (*n* = 4) reported that communication with PWA was quite important during rehabilitation, while 85. 2% (*n* = 23) of OTs reported that communication with PWA was very important during rehabilitation.

The mean rating received for the effectiveness of communication was 3.05 (*SD* =0.88, range: 1-5). On average, therefore, participants perceived communication to be somewhat effective. Most OTs reported that communication was somewhat effective and the mean for the OT data set of 3.15 (*SD*= 0.90). The PTs also mostly rated communication as somewhat effective, however, the mean rating was slightly lower (*M* = 2.8, *SD* = 0.78, range: 1- 4). No PT perceived communication as being very effective.

Regarding their own confidence in communicating with PWA, the mean rating received was 3.22, (*SD* = 1 range: 1-5). Therefore, professionals from both groups felt, on average, that they were somewhat confident during communication with PWA.

3.1.2.2 Implementation of communication strategies to enhance understanding.

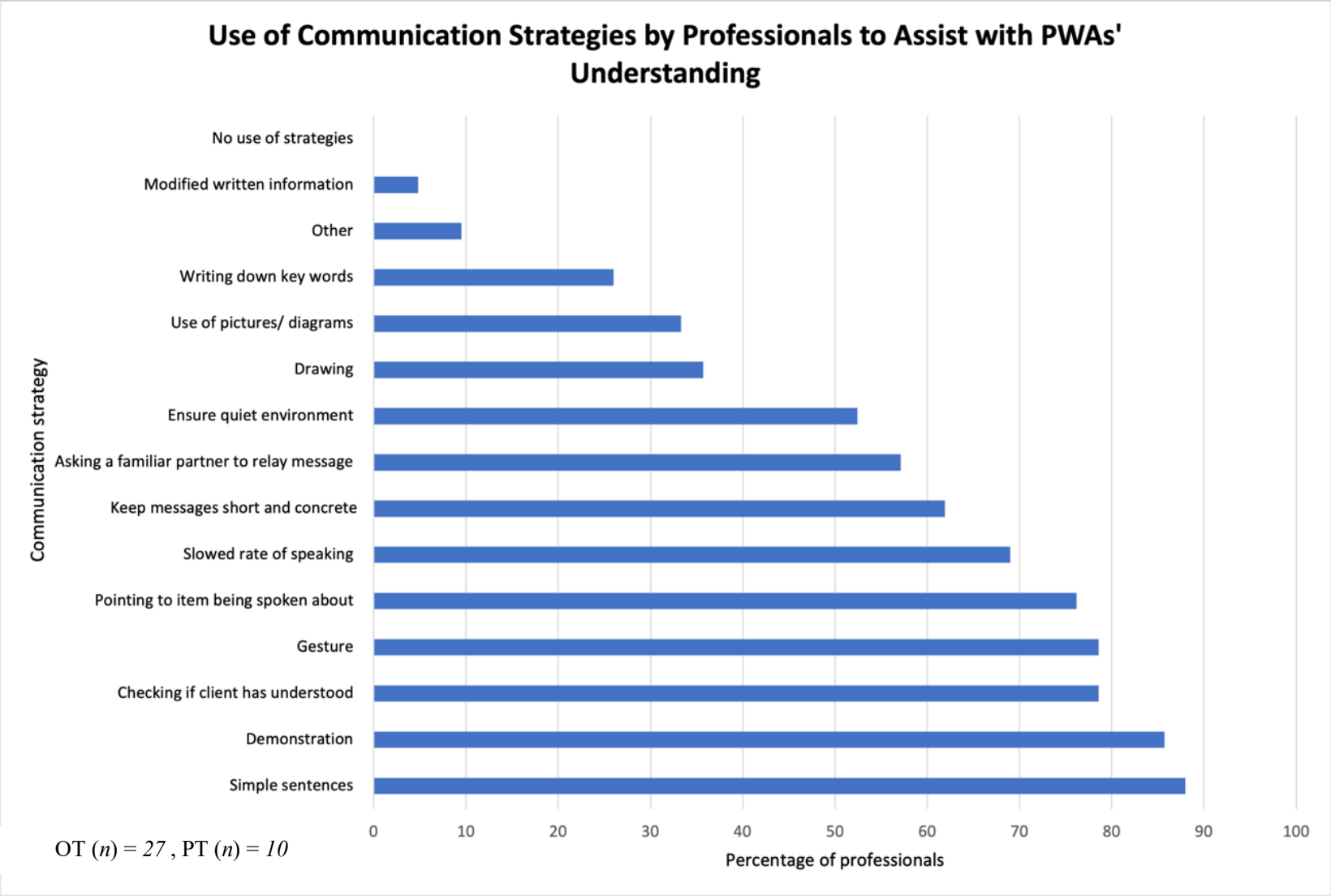
Participants were asked to select the communication strategies that they implement in communication with PWA to assist the client to understand what is being said. All 42

participants answered this question. All professionals implemented at least one strategy with PWA. Participants' use of strategies to enhance understanding is displayed in Figure 2.

The most frequently mentioned strategy to assist with clients' understanding was the use of simple sentences reported by 88% of participants (n = 37). Demonstration during activities was reported to be used by 86% (n = 36) of professionals. Writing down of key words, reported by 26% of professionals (n = 11) and use of modified written information, reported by 5% (n = 2) professionals were least frequently mentioned. A total of four professionals indicated that they used other strategies. These included the use of repetition of what has been said (n = 1), not asking questions when the client was trying to complete another activity at the same time (n = 1), use of a communication board (n = 1), and translation of what was being said into the client's home language (n = 1).

Figure 5

OTs and PTs Use of Communication Strategies to Assist with PWAs' Understanding



The use of strategies to enhance understanding by the two respondent groups is displayed in Table 12.

Table 12

OTs' and PTs' Use of Communication Strategies to Assist with PWAs' Understanding.

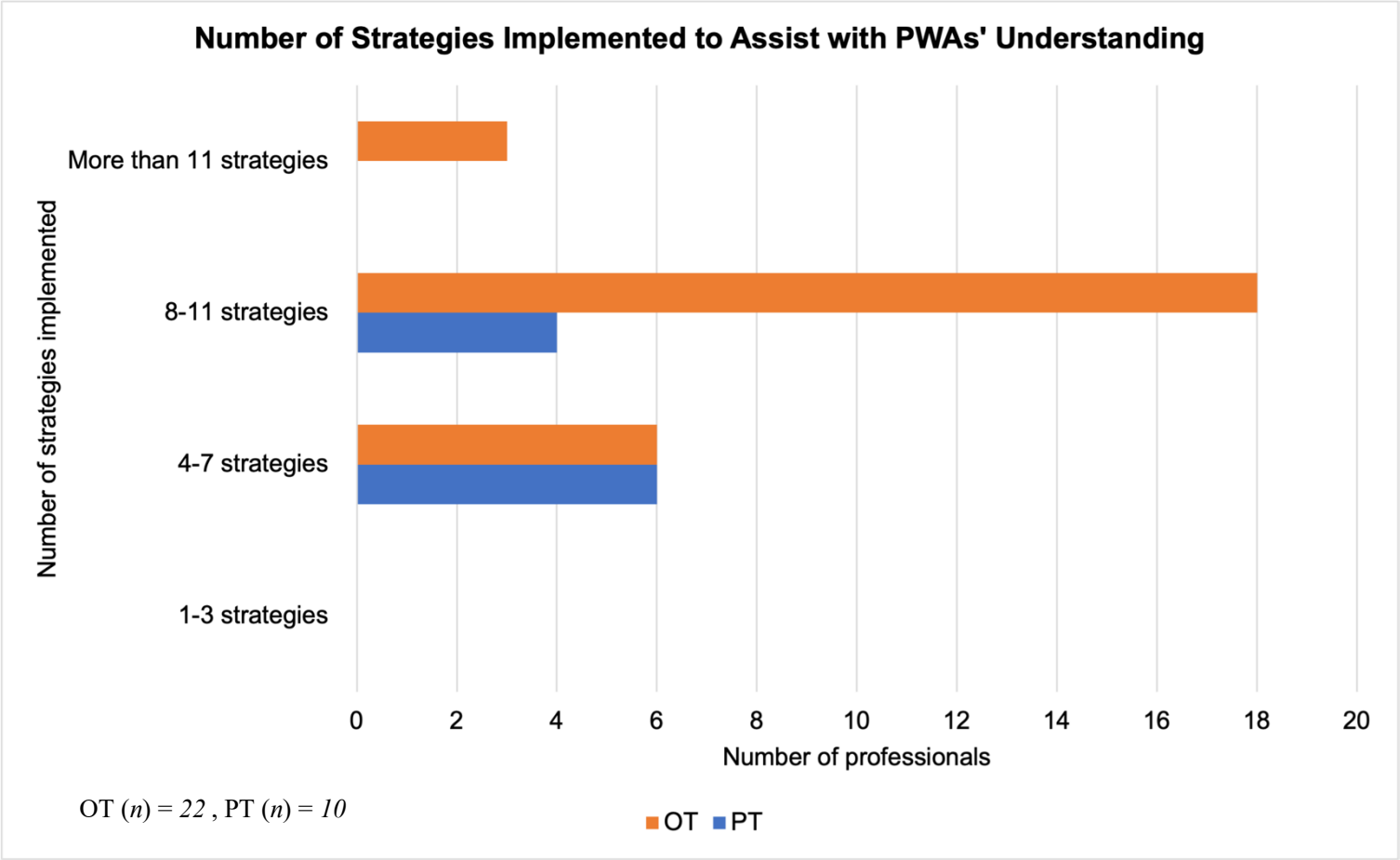
Communication strategy	OTs[a]		PTs[a]	
	n	%	*n*	%
Simple sentences	27	84	10	100
Demonstration	27	84	9	90
Checking if client has understood what has been said	24	75	9	90
Gesture	24	75	9	90
Pointing to item being spoken about	24	75	8	80
Slowed rate of speaking	22	69	7	70
Keeping messages short and concrete	21	66	5	50
Asking a familiar communication partner to relay the message	20	63	4	40
Ensuring environment is quiet	20	63	2	20
Drawing	13	41	2	20
Use of pictures/ diagrams	12	38	2	20
Writing down key words	10	31	1	10
Other	2	6	0	0
Modified written information	2	6	2	20
No use of strategies	0	0	0	0

[a] A total of 42 participants answered this question, OT (*n = 32)* and PT (*n = 10)*

Amongst both groups, use of simple sentences, demonstration, checking understanding, and use of gesture were reported to be used most frequently to assist with clients' understanding. Both groups also frequently made use of a slowed rate of speaking, pointing to the item being spoken about, and involvement of a familiar communication partner as strategies to assist with understanding. More OTs than PTs made use of strategies that required additional materials. These strategies included the use of drawing (OT: 41%, PT: 20%), writing down key words during conversation (OT: 31%, PT: 10%), use of pictures and or diagrams (OT: 38%, PT: 20%). The number of strategies used by individual OTs and PTs to support PWAs' understanding is displayed in Figure 6.

Figure 6:

Number of Strategies Implemented by OTs and PTs to Assist with PWAs' Understanding.



OT (*n*) = *22* , PT (*n*) = *10*

Most OTs used between 8-11 strategies to support understanding amongst PWAs, whereas most PTs only used between 4-7 strategies to support understanding.

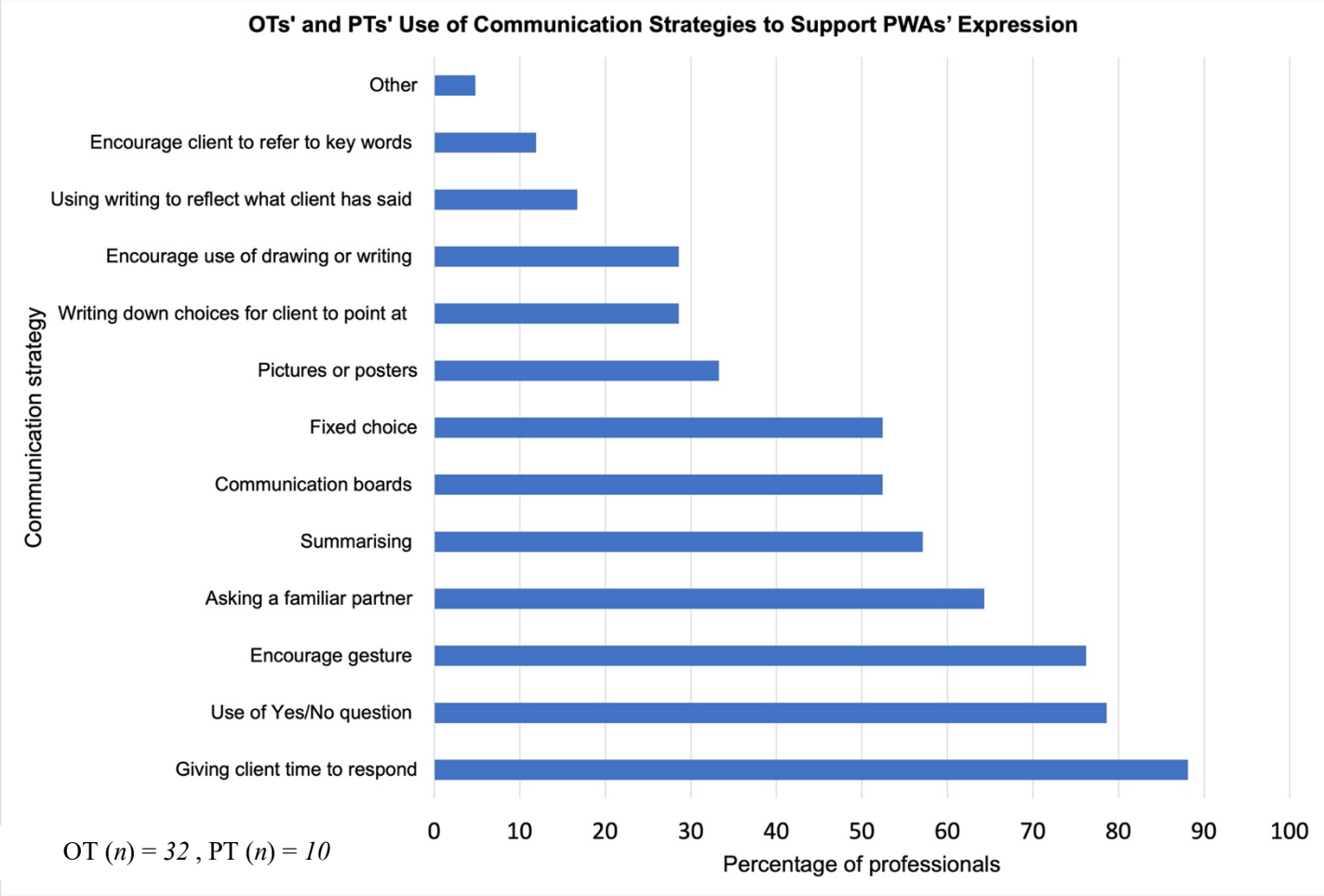
3.1.2.3 Implementation of communication strategies to facilitate expression.

Participants were also asked to select the communication strategies that they implement to support expression by PWA. All 42 participants answered this question. Again, all professionals implemented at least one strategy with PWA. Participants' use of strategies to support expression is displayed in Figure 4.

The most commonly implemented strategy to support clients' expression was allowing the client time to respond which was used by 88% (n = 37) of participants. Use of yes/no questions was used by 79% (n = 33) of participants, while encouraging the client to use gesture was used by 76% (n = 32) of participants to support expression. Encouraging the client to use writing or drawing and writing down choices were amongst the least frequently used strategies. Both these strategies were only used by 29% (n = 12) of participants. The least used strategy was encouraging the client to refer to key words written previously, used by 12% (n = 5) of participants. Additionally, 5% of professionals (n = 2) reported using other strategies such as digital communication applications (n = 1) and encouraging answers while the client is relaxed and seated (n = 1).

Figure 7

OTs' and PTs' Use of Communication Strategies to Support PWAs' Expression.



The use of strategies to support expression by the two respondent groups is displayed in Table 13.

Table 13

OTs' and PTs' Use of Communication Strategies to Support PWAs' Expression.

	OTs[a]		PTs[a]	
Communication strategy	***n***	**%**	***n***	**%**
Giving the client time to respond	27	84	10	100
Encourage use of gesture	25	78	7	70
Use of Yes/No questions	24	75	9	90
Asking familiar partner to relay what the client has said	22	69	5	50
Summarising what the client has said	19	59	5	50
Asking the client to choose between a fixed number of choices	17	53	5	50
Use of communication boards	16	50	6	60
Use of pictures or posters	12	38	2	20
Encourage client to use writing or drawing	12	38	0	0
Writing down choices for the client to point at	11	34	1	10
Using writing to reflect what the client has said	6	19	1	10
Encourage the client to refer to key words which were written earlier	4	13	1	10
Other	0	0	2	20
No use of strategies to assist with expression	0	0	0	0

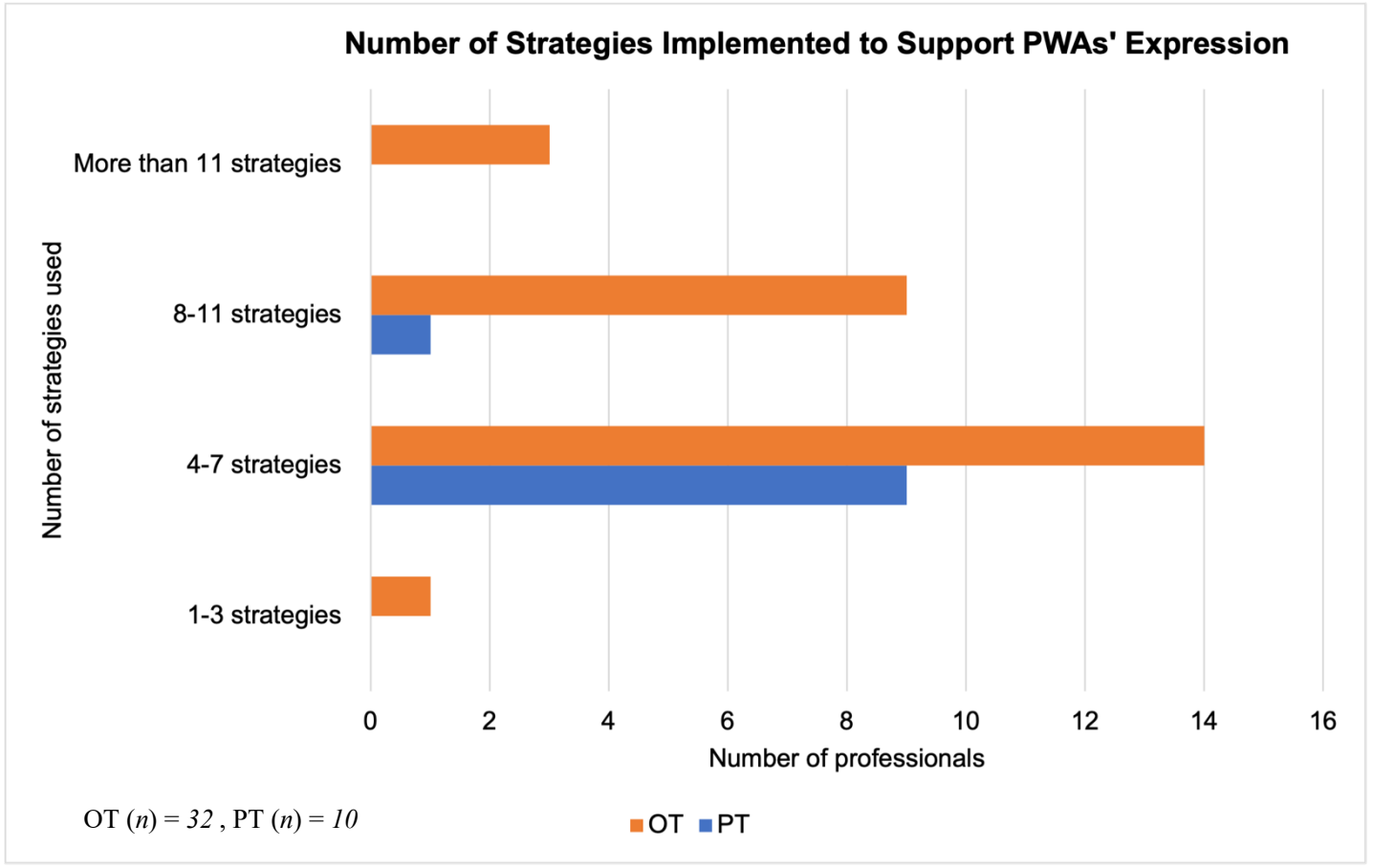
[a] A total of 42 participants answered this question, OT (n = 32) and PT (n = 10)

Amongst both OT and PT groups, strategies such as allowing the client time to respond, use of yes/no questions, and encouraging the use of gesture were frequently used to support expression amongst PWA. In addition, similar numbers of professionals in both groups made use of summarising what the client had said, fixed choice, and involvement of a familiar communication partner to relay what the client had said. Strategies such as use of writing to reflect what the client had said, writing down choices, and reference to key words were used less frequently by both groups. More OTs (n = *12*) encouraged clients to use

writing or drawing to support expression, while none of the PT participants reported use of this strategy. The number of strategies used by OTs and PTs to support PWAs' expression is displayed in Figure 8. Both OTs and PTs mostly implemented between 4-7 communication strategies to support expression amongst PWA.

Figure 8:

Number of Strategies Implemented to Support PWAs Expression.



OT (*n*) = *32* , PT (*n*) = *10*

3.1.2.4. Challenges to communication with PWA. Participants were asked to rate potential challenges to communication with PWA on the Likert scale ranging from 1 (not at all a challenge) to 5 (significant challenge). A total of 27 OTS and all PTs answered this question. Results are displayed in Table 14.

Table 14

Challenges to Communication with PWA

Challenge	OT[a] ratings			PT[a] rating			Overall ratings		
	M	*SD*	Range	*M*	*SD*	Range	*M*	*SD*	Range
Severity of clients' communication difficulty	3.7	1.3	1-5	3.7	1.9	1-5	3.6	1.4	1-5
Not enough time in therapy to implement strategies/ repair communication breakdown	3.0	1.4	1-6	4.1	1.5	1-6	3.3	1.5	1-6
Environment is too noisy or distracting	2.7	1.3	1-5	3.4	1.6	1-5	2.9	1.8	1-6
No access to resources (communication boards, pictures, accessible information)	2.7	1.5	1-6	3.5	2.0	1-6	2.9	1.4	1-6
Lack of knowledge of communication strategies	2.9	1.2	1-5	2.7	1.4	1-5	2.8	1.2	1-5
Lack of input from other professionals (e.g. SLT)	2.7	1.7	1-6	3.0	1.7	1-5	2.8	1.7	1-6

[a] A total of 37 participants answered the question, OT (n = 27) and PT (n = 10).

Most factors were rated as somewhat of a challenge (average rating close to 3) by the respondents. However, the mean rating received for the severity of clients' communication difficulty was 3.7 (SD = 1.4, range: 4). On average, therefore, participants perceived the severity of the client's communication difficulty to be quite a challenge to communication. However, the standard deviation of 1.4 and the range of 4 indicate that there was a wide range of ratings to this challenge both above and below the average rating.

The mean rating received for a lack of time to implement strategies or repair breakdowns was 3.3 (*SD* = 1.5, range: 5). This indicates the professionals perceived this factor as somewhat of a challenge to communication. In comparison to this average rating, the PT reported a higher mean rating of 4.1 indicating that this factor was perceived as quite a challenge to communication.

The remaining factors received average ratings of 2.9 (*Environment too noisy or disruptive, Access to resources)* and 2.8 (*Lack of input from other professionals, Lack of knowledge on communication strategies*). Once again, standard deviations and ranges were relatively large, indicating that opinions and experiences differed amongst participants.

Overall, PTs rated the factors suggested as more challenging than OTs. For example, the average rating received for the environment being too noisy or distracting was 2.7 for OTs (*SD* = 1.7, range: 1-6), but within the PT group the average rating received was 3.4 (*SD* = 1.6, range: 1-5). This indicates that the PT group felt that distractions within the communication environment were somewhat more of a challenge in comparison to the OT groups. This pattern was also noted for other challenges such as lack of input from professionals and lack of access to resources, in which the average rating from the PT group was higher than that of the average rating of the OT group. PTs perceived these factors as more challenging than OT participants.

In addition to the challenges to communication included within the questionnaire, 42% of professionals (*n* = 15) reported additional challenges to communication with PWA. These included a language mismatch between the client and professional (27%), additional fallouts (motor, cognitive, hearing) making communication or implementation of strategies difficult (27%), communication breakdown that was not resolved, thereby causing frustration/emotion (7%), and professionals' lack of exposure on how to utilise communication strategies (7%).

3.1.2.5 Assets for communication with PWA. Participants were asked to comment on whether they made use of various assets in their communication with PWA. If participants indicated they had made use of a particular asset, they were then asked to rate how helpful this asset had been in their clinical practice on a Likert scale ranging from 1 (not at all helpful) to 5 (very helpful). A total of 25 OTs and all PTs answered this question. Results are displayed in Table 15

Table 15

Assets Used by OTs and PTs in Communication With PWA.

Asset	No. of participants drawing on this resource						Rating of helpfulness of this resource (1 = not at all helpful, 5 = very helpful)								
	OTs[a]		PTs[a]		Total		OTs			PTs			Overall		
	n	%	*n*	%	*n*	%	*M*	*SD*	Range	*M*	*SD*	Range	*M*	*SD*	Range
Involvement of the clients' family	25	78	8	80	33	94	4.3	0.9	3-5	4.2	0.9	3-5	4.3	1.0	3-5
Own knowledge and skills on how to communicate with PWA	23	72	9	90	32	91	4.3	0.7	3-5	4.3	0.7	3-5	4.3	0.7	3-5
Mentoring from colleagues (of own profession)	25	78	6	60	31	89	3.2	1.0	2-5	3.1	1.0	2-5	3.5	1.9	1-6
Input from a speech language therapist	26	72	7	70	30	86	5.0	0	0	5.0	0	0	5.0	0	0
Enough time to implement communication strategies/ resolve breakdowns	19	59	8	80	27	77	3.9	1.1	2-5	3.9	1.1	2-5	4.0	1.1	2-5
Access to visual support material	18	56	6	60	24	69	4.2	1.0	3-5	4.2	1.0	3-5	4.2	1.0	3-5

[a] A total of 35 participants answered this question, OT (*n* = 25) and PT (*n* = 10).

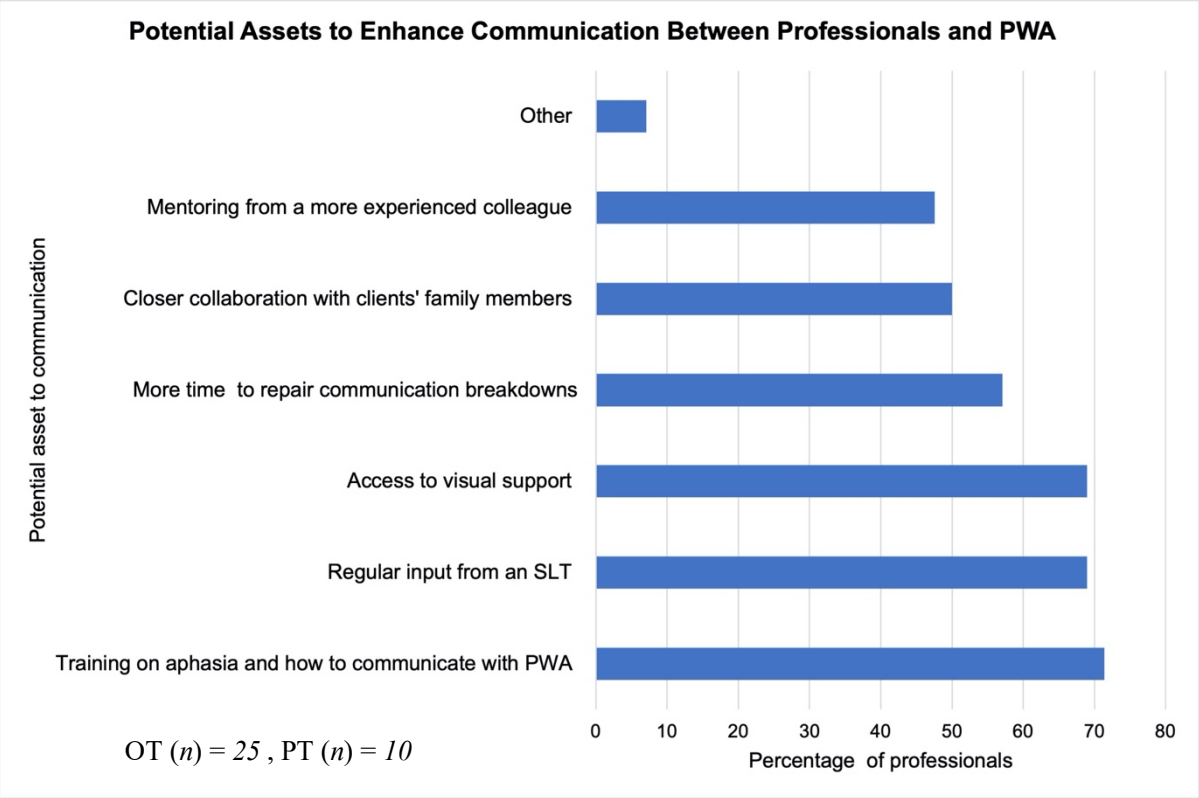
The assets to communication that participants reportedly drew on most frequently were involvement of the clients' family (94%), professionals' own knowledge and skills on communication with PWA (91%), input from other professionals (83%), and enough time to implement communication strategies or repair breakdowns (77%). Additional resources were listed by 20% (n = 7) of professionals. These included the use of high-technology AAC devices and professionals' attitudes towards aphasia.

The average ratings of helpfulness of each of the assets used ranged from 3.5 (*Mentoring from colleagues of the same profession*) to 5 (*Input from SLT*). These assets were therefore perceived to be quite helpful to very helpful. The involvement of a clients' family was reported to have an average rating of 4.25 (SD = 0.88, range: 2). This indicates that, on average, professionals perceived this asset to communication to be quite helpful. The average rating received for the asset of input from SLTs was 5 (SD = 0, range: 0). All professionals making use of this asset therefore perceived it to be very helpful in communicating with PWA. Involvement of the client's family was rated at 4.25 on average (SD = 1.0, range: 3-5) appearing to be quite helpful to the participants. Mentoring from a colleagues received the lowest average usefulness rating (M = 3.5, SD = 1.9), indicating that the asset was perceived to be the least useful.

In addition to being asked whether various resources were used by professionals, professionals were also asked which resources they felt could potentially help them to communicate better with PWA. Forty-two professionals answered this question. The percentage of professionals who nominated a certain resource as potentially helpful is displayed in Figure 9.

Figure 9

Potential Assets to Enhance Communication Between Professionals and PWA.



Seventy-one percent (n = 30) of professionals reported that training on aphasia and communication strategies would help with enhancing communication with PWA. Regular input from SLTs and access to visual support materials were both assets to communication which 69% (n = 29) of professionals reported would potentially help them to communicate better with PWA. More time to overcome communication barriers during therapy was reported to be an asset that would be useful for 57% (n = 24) of professionals, while closer collaboration was an asset which 50% (n = 21) of professionals noted would be helpful. Forty-seven percent (n = 20) of professionals felt that mentoring from a more experienced colleague from their own profession would assist in their communication with PWA during rehabilitation. Nine percent of professionals (n = 3) reported additional measures that they felt would help them to communicate with PWA including utilising technology (n = 1), resources to produce AAC resources (n = 1) and a shift in their own attitude towards working with PWA (n =1).

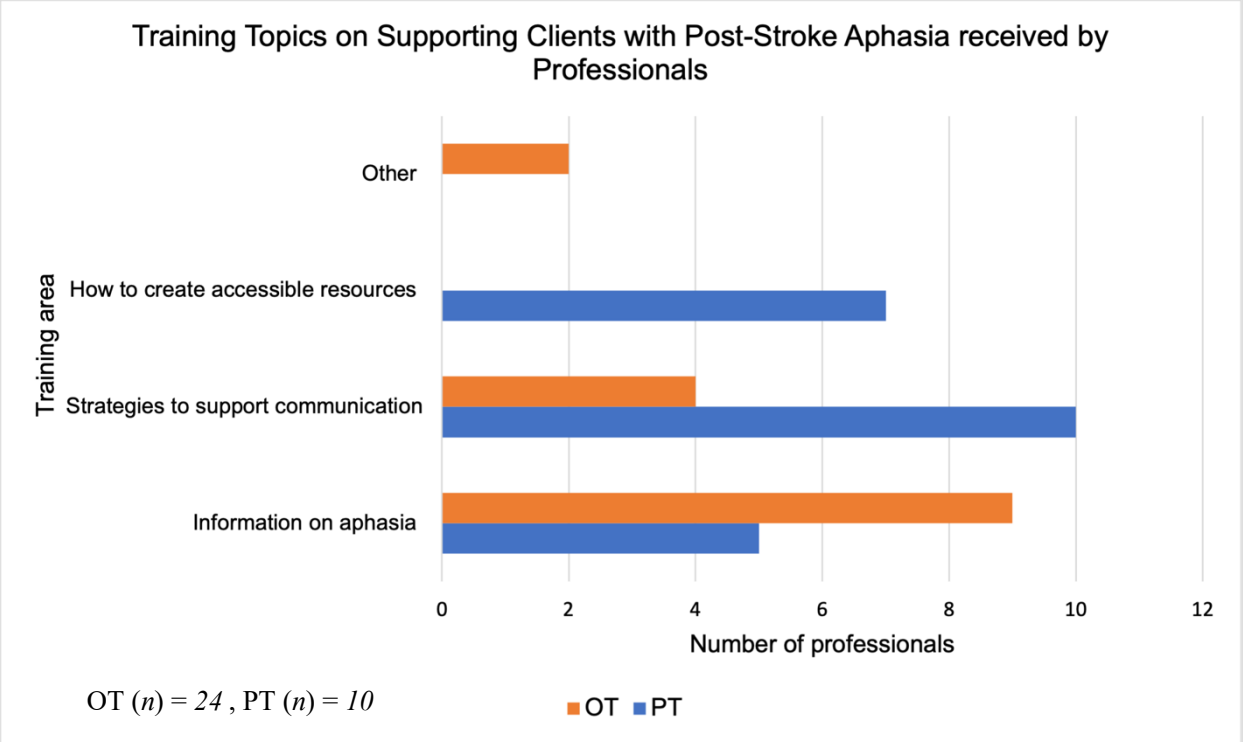
3.1.2.6 Training on communication support strategies. Participants were asked to indicate if they had received prior training or education on communication strategies to

support clients with post-stroke aphasia. If participants indicated prior training had been attended, follow-up questions required participants to indicate what topics were covered. All participants were also asked if they would like to receive further training. Those who indicated *yes* were asked follow-up questions on the topics participants would want training to cover. Twenty-four OTs and all PTs answered this question.

Fifty-three percent (n = 18) of professionals who answered this question (n = 34) indicated that they had received training or education on communication strategies to support clients with post-stroke aphasia. Of the OTs who answered this question, 50% (n = 12) reported that they had previously received education or training. In comparison, of the 10 PTs who answered this question, 60% (n = 6) had received training. It was reported by professionals that training received covered information about aphasia and what impact this diagnosis had on communication (38%), strategies for communication to support clients with aphasia (38%), information on how to create communication resources (19%), and other topics (5%). The differences between training topics received by the OT and PT groups are highlighted in Figure 10.

Figure 10

Training Topics on Supporting Clients with Post-Stroke Aphasia received by Professionals.



OT (n) = *24* , PT (n) = *10*

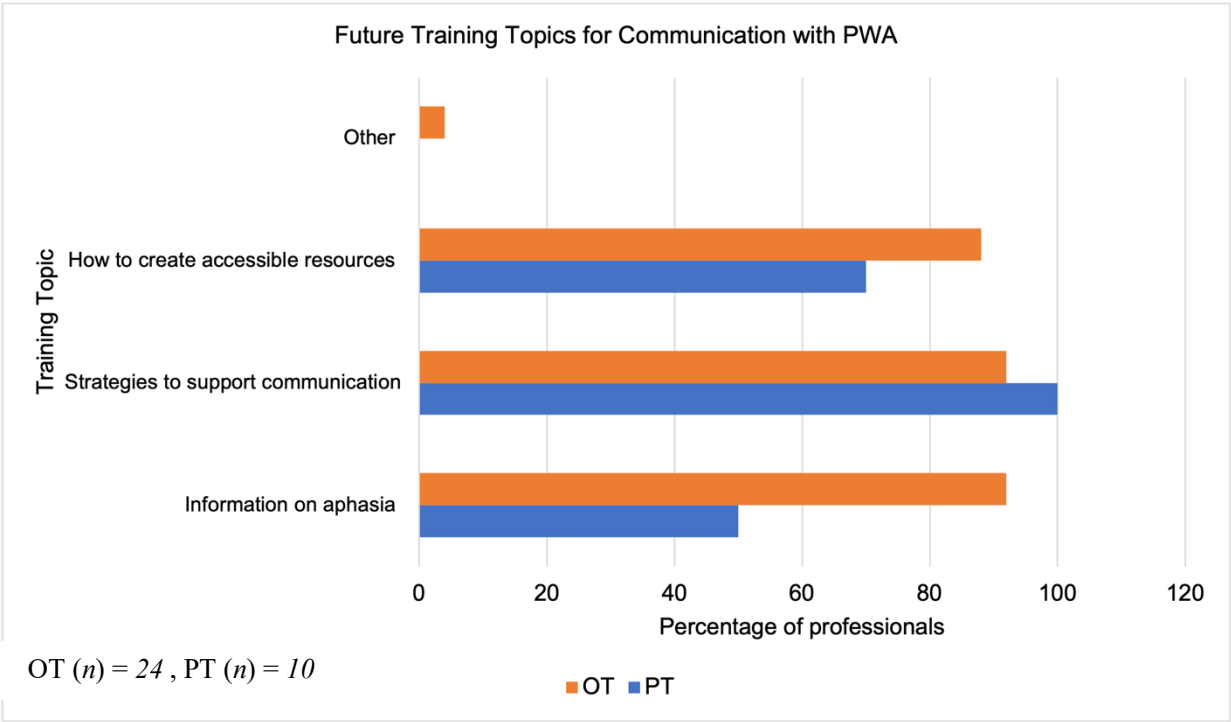
Of the professionals who had received training before, information on aphasia and how it affected communication or strategies to support communication was provided most

often. Sixty percent (n = 9) of OTs who had received training reported that they received information on how aphasia affected communication, while only 23% of PTs (n = 5) received this as a training topic. PTs most commonly were given strategies to support communication during training, with 45% reporting they received training on this topic.

Although some professionals had received training previously, 100% (n = 34; i.e., 24 OTs and 10 PTs) indicated that they would like to receive more training on communication strategies to support clients with post-stroke aphasia. Ninety-four percent of professionals *(n* = 32) indicated that they wanted to be trained on strategies for communication to support clients, 82% (n = 28) reported they would like training on how to create accessible communication resources for education, or providing information, and 62% (n = 21) of professionals indicated that they would like more information about aphasia and how it affects communication. In addition, one participant commented that they would like more training on the use of technology or assistive devices to support communication. The different future training topics listed by PTs and OTs are displayed in Figure 11.

Figure 11

Future Training Topics to Support Communication with PWA.



In comparison to PTs, 92% (n = 22) of OTs indicated that they would like to receive training on information about aphasia and how it affects communication, while 50% (n = 5) of PTs indicated interest in this training topic. Most commonly, PTs indicated a need for

training on strategies that could be used to support communication as this was selected by 100% (n = 10) of PTs, while 92% (n = 21) of OTs indicated interest in this training topic. More OTs (88%) indicated that they would like to receive training on how to create accessible resources to support communication with PWA.

3.2 Summary

This section reported the results of the questionnaire pertaining to each sub-aim. Overall, participants reported communication with PWA to be very important during rehabilitation, but only perceived this communication to be somewhat effective. Participants perceived themselves to be somewhat confident in communication with PWA. Various strategies were highlighted to support understanding and expression. Most commonly, use of simple sentences, demonstration, checking understanding, and use of gesture were reported to be used most frequently to assist with clients' understanding, while strategies such as allowing the client time to respond, use of yes/no questions, and encouraging the use of gestures were frequently used to support expression amongst PWA.

With regards to challenges and assets to communication, the severity of the clients' communication difficulty was rated as the most significant challenge to communication. Although the asset of input from other professionals, such as SLTs was not the most frequently used asset by OTs and PTs, it was the asset that was rated on average as the most helpful to communication with PWA. While many professionals had previously attended training on communication support strategies for PWA, all participants indicated that they would like more training in this area. Professionals in both groups indicated that they would like to receive training on communication support strategies for PWA.

4. Discussion

The main aim of the study was to investigate the perceptions of occupational therapists and physiotherapists on their communication during rehabilitation with clients with post-stroke aphasia. In this section, the results of the study will be discussed in line with each sub-aim and in conjunction with relevant literature.

4.1 Importance, effectiveness, and confidence of communication

Participants reported that in the context of rehabilitation, communication with PWA was rated as very important or quite important. This is consistent with the results of studies conducted by Clancy et al. (2020) and Burns et al. (2015) in which healthcare workers perceived communication as valuable and important, but not without added challenges. Within the healthcare context, communication needs to occur effectively in a bi-directional manner between healthcare workers and clients (Ratna, 2019). During a healthcare encounter, information needs to be shared from a client's perspective as to the main areas of difficulty or complaint, and healthcare workers need to understand and synthesise the information presented into a treatment plan that is then disseminated to the client and caregivers (Ratna, 2019; Schyve, 2007). Improved communication can increase clients' investment in their care and understanding of their diagnosis (Morris et al., 2013). Ineffective communication between these two groups can compromise client satisfaction with the care provided, as well as potentially increase negative patient outcomes and risks to safety (Ratna, 2019; Schyve, 2007).

The findings of the systematic search conducted indicated that communication with PWA was perceived as difficult by healthcare workers across various disciplines (Carragher et al.,2021; Van Rijssen et al.,2021). Reduced effectiveness of communication as reported by both the OT and PT groups within this study is therefore an expected finding. Since aphasia affects an individual's language abilities across modalities (Power et al., 2015), clients with post-stroke aphasia may appear more passive and unresponsive in communication interactions (Knight et al., 2006). This, in turn, could contribute to increased effort for communication on the part of both the client and the professional, making the interaction time negative and less effective (Carragher et al.,2021). Overall, professionals felt that during communication with PWA they were somewhat confident. This was true amongst both the OT and PT groups. As noted by Bandura (1977), a component of self-efficacy, known as efficacy expectation, is a person's belief that they are able to appropriately produce a

behaviour to result in the desired outcome. In the context of this study this would be successful communication with a PWA. In situations viewed as threatening, where demand is perceived to exceed capacity, the strength of efficacy expectation may have an impact on how likely it is that a person would engage in that situation and how long they might persevere in it (Bandura, 1977). In a study conducted by Burns et al. (2015) among doctors, participants noted that they were unsure of how to ensure clients had a reliable means of communication during encounters. Similarly in a study by Carragher et al. (2018), various healthcare workers reported that, although they were aware of support strategies for PWA, they did not feel confident enough to implement them in conversational exchanges. Since communication with PWA can be less effective than communication interactions with clients who do not have a diagnosis of post-stroke aphasia, professionals may not feel that their capacity to support PWA matches the demands of the communication exchange, thereby leading to a lack of confidence during communication interactions.

Together, these findings indicate that training may be indicated to increase effectiveness of communication between PTs and OTs and their clients with post-stroke aphasia, and to increase professionals' confidence during these interactions.

4.2 Implementation of communication strategies with PWA

All participants reported that they implemented communication strategies in interactions with PWA to enhance understanding and to facilitate expression. This was an unexpected finding - although communication with clients is an integral part of the provision of healthcare services (Ratna, 2019), communication is not specifically in the scope of practice of OTs or PTs. The implementation of communication strategies could be linked to professionals' understanding of aphasia as a language-based difficulty that requires the implementation of different forms of communication. Professionals may intuitively attempt to communicate differently with PWA without the knowledge that these forms of communication are recognised communication support strategies as first formalised in a seminal work by Kagan (1998).

To enhance understanding in interactions with PWA, professionals reported making use of simple sentences, demonstration, checking understanding, and gesture most frequently. Both groups also frequently made use of a slowed rate of speaking, pointing to the item being spoken about, and involvement of a familiar communication partner. Strategies such as verbal adaptations, including simple sentences and slowed rate of speaking, as well as strategies to

make the focus of the conversation clear, like the use of gesture (Legg et al., 2005; Rowland & McDonald, 2009) may have been used more frequently, because they are easily implemented and do not require additional materials. In comparison, strategies to enhance understanding that required additional materials, such as the use of pictures/diagrams, the use of writing or drawing and the use of modified written information were used less frequently by both groups, but were particularly used less frequently by PTs than OTs.

The lack of use of strategies requiring additional materials could be linked to the role that the PT plays within the stroke rehabilitation team. The role of the PT within the stroke rehabilitation team is one of positioning and mobilisation of the client (Whitehead & Baalbergen, 2019), and this would indicate that the PT is required to actively move and work with the client's body in such a way that additional materials may be difficult to incorporate into treatment sessions. This may also be true of strategies to support expression, such as the use of writing or drawing, which were used minimally, or not at all, by PTs in comparison to OTs.

Overall, OTs consistently implemented more strategies to enhance understanding and support expression for PWAs in comparison to PTs who participated. Implementation of communication support strategies with PWA has the potential to enhance clients' influence on the rehabilitation process by creating communicative access (Hansen et al., 2022; Kagan, 1998). More frequent application of these strategies by OTs in comparison to PTs could be linked to the underlying models that influence practice in both professions as well as the content of curricula that prepares professionals for practice.

The practice of occupational therapy is built on the foundation of 'client-centred practice' which is broadly committed to the provision of intervention that is meaningful and related to the lives of clients (McCormack & Collins, 2010; Rodriguez-Bailon et al., 2022). As a vital part of client-centred practice, a partnership is formed between the professional and client to work together to determine the focus of the intervention (Rodriguez-Bailon et al., 2022). Additional aspects of this practice include listening and communication to incorporate clients' experiences and beliefs of their difficulties with body structures and functioning, and incorporation of joint decision-making (McCormack & Collins, 2010). Establishing a partnership with a focus on joint decision-making would necessitate a greater need for communication participation of the client themselves, even a client with post-stroke aphasia,

thereby indicating a need for adaptions to communication in the form of supportive communication strategies.

In contrast to the ideals of client-centred practice proposed within occupational therapy, the practice of physiotherapy may be informed more pertinently by a biomechanical discourse (Mudge et al., 2014; Nicholls & Gibson, 2010). Mudge et al. (2014), for example, reports on the results of an auto-ethnographic investigation to understand physiotherapists' perceptions of person-centred care. They found that the biomechanical discourse of physiotherapy that separates mind and body tended to limit professionals' ability to view the client holistically and hindered the practice of person-centred care such as the incorporation of client preferences and building a therapeutic relationship (Mudge et al., 2014). As such, the perceived need for communication support strategies may be reduced. However, this interpretation should be viewed as tentative, as there may be numerous other factors that caused PTs to use less communication support strategies. As indicated before, some strategies may not have been feasible within the activities they needed to engage in or within the environments where they served their clients (e.g. noisy hospital setting).

Additional literature has also linked staff attitudes to whether they aimed to support communication with PWA in their practice or not (D'Souza et al., 2021). If staff felt that supporting communication was within their scope of duties, they were more likely to be flexible with their time to incorporate communication support strategies in rehabilitation interactions (D'Souza et al., 2021). Some physiotherapy professionals may not feel that supporting communication forms a part of their scope of practice and therefore may be less inclined to attempt to incorporate these strategies into interactions.

4.3 Challenges to communication with PWA

It was interesting to note that the challenge that participants rated as the most significant was the severity of PWAs' communication impairment. This could be related to the underlying views of illness and disability held by participants, namely that of a traditional medical model rather than a biopsychosocial focus as put forth by the ICF framework (Elman, 2016). Within the medical model, illness and disability are located within the client rather than illness or disability being due to the interaction between factors including personal, physical, environmental, and institutional factors (Elman, 2016). Challenges to communication with PWA should be viewed from a biopsychosocial perspective as being caused by the clients' impairment at a body structure and function level, as well as by factors

within the environment itself including availability of products/technology and skills and attitudes of communication partners (Simmons-Mackie & Kagan, 2007).

Challenges to communication with PWA that were noted within literature from high-income countries are also experienced by professionals practising within a South African context. Specifically, institutional challenges such as insufficient time in therapy to implement strategies, environmental factors, and lack of access to input from other professionals and resources were also rated as impacting professionals' communication with PWA. Time constraints could be a challenge in both the public and private healthcare settings, but could be linked to different factors. In the public setting, human resource challenges and increased client caseloads could create time pressures (Coovadia et al., 2009). However, most professionals worked within private healthcare settings. In the private sector, time constraints could be linked to billing pressure, for example where time constraints may determine length of appointments.

Overall, PTs who participated, rated factors listed as more challenging than OTs. For example, OTs indicated that not having enough time in therapy to implement strategies or repair communication breakdowns was somewhat of a challenge to communication, while PTs reported this as quite a challenge to communication. This pattern was also noted for other potential challenges listed, such as lack of input from professionals and lack of access to resources, in which the average rating from the PT group was higher than that of the average rating of the OT group.

The higher ratings received from PTs could potentially be linked to the participants' work environment. Within the PT group, most professionals provided services to hospital inpatients. In a study conducted by Simmons-Mackie et al. (2007), communication access projects implemented across different environments including acute, rehabilitation and long-term care settings differed in success according to institutional factors. Projects to promote communicative access through the use of supportive communicative strategies worked best in settings with increased time and managerial support in comparison to settings with time pressures, increased staff turnover, rapid pace of work, high caseload, and short length of patient stay (Simmons-Mackie et al., 2007). PTs working with an inpatient caseload in acute settings may face some of these challenges, especially increased time pressure, more frequently than professionals working in other settings such as leading to higher ratings received.

Despite OT participants having a lower mean number of years of experience in working with PWAs, they reported seeing an increased number of clients with post-stroke aphasia compared to PTs. Perseverance in a situation that is perceived as threatening or difficult can lead to an increased sense of self-efficacy once success is experienced (Bandura, 1977). In this way, more experience in engaging in communication with clients with post-stroke aphasia could partially account for differences in potential challenges being perceived as having a greater impact on communication by PTs than OTs in the current study.

Several participants also reported an additional challenge to communication with PWA that is unique to the multilingual context of South Africa, namely a language mismatch between the professional and the client. This is unsurprising in a multilingual context such as South Africa, which is both culturally and linguistically diverse, with 11 official languages (Tönsing & Soto, 2020), making a language mismatch highly likely.

4.4 Assets to communication with PWA

Participants made use of use of various assets to communicate with PWA, however, the most frequently used assets were the involvement of the client's family, professionals' own knowledge and skills in communication, input from SLTs, and enough time to implement communication strategies or repair breakdowns.

Participants noted that having increased time to implement strategies or repair communication breakdowns was an asset to communication with PWA which was reported to be quite helpful during communicative interactions. The incorporation of communication strategies into rehabilitation routines has been noted to take time - interactions take longer as professionals need to facilitate communication and ensure time is available to respond to what the PWA has to say (Horton et al., 2016). Staff members within this study also reported that increased time was also needed to use communicative support strategies responsively to the client's needs and to lean on teamwork with other professionals to facilitate communication effectively. Overall, more time is required to incorporate strategies into rehabilitation, and therefore successful communication with PWA also requires effective use of time on the part of professionals and a change in organisational culture to facilitate communicative access for PWA (Horton et al., 2016; Simmons-Mackie et al., 2007). Professionals indicated that increased time would be an asset to communication that would be helpful to communication with PWA.

Collaboration with PWAs' support network was an asset that professionals within this study utilised frequently. Family members and PWA may work together as a team to facilitate successful communication with healthcare professionals (Burns et al., 2015) with the involvement and support of family members being seen as an important factor in living successfully with aphasia (Brown et al., 2011). While some PWA may not enjoy being spoken for by family members, other PWA may choose to rely on family members as communication brokers to correct an unclear communicative attempt by stepping in when needed (Gillespie et al., 2010). Since aphasia affects family interactions and roles, families of PWA in a study by Worrall et al. (2010) indicated that management of aphasia should involve family members as crucial members of the team. Use of this potential asset may have been frequently used to overcome the challenge of a language mismatch between the client and professional should a family member speak the same language as the professional. Family members may also serve as advocates for PWA by ensuring that the PWAs' communication attempts are understood by the professionals, or that what is said by the professional is understood by the PWA (Burns et al., 2015).

In terms of assets that were helpful to communication with PWA, the asset rated as most helpful was input from a speech and language therapist. This asset, however, was not the most frequently used asset for communication with PWA. The speech and language therapist plays an important role in understanding the features of a client's post-stroke aphasia, and is in a unique position to assume the role of advocacy for the PWA by helping other team members understand how best to support the client in communication using various strategies (Van Rijssen et al., 2021; Whitehead & Baalbergen, 2019). This resource, although rated as very helpful to communication with PWA, may not have been used the most frequently due to the distribution of speech and language therapists within the South African healthcare context and across various provinces. As noted by Pillay et al. (2020), an estimated supply-to-demand gap of 2800 professionals (including speech therapists and audiologists) will continue to exist by 2030 if the workforce of these professions is not increased. Therefore, professionals may not be able to make use of this asset to communicate with PWA depending on their context. In addition to a lack of access to speech therapy input according to the context of service provision, there may also be a continued tendency to provide rehabilitation services without effective interdisciplinary collaboration. A lack of interdisciplinary collaboration reduces the overall efficacy of stroke care (Baatiema et al., 2017). This may still be highly prevalent within a South African context with a lack of

interprofessional knowledge contributing to an overall culture of professional individualism in which services are provided in isolation (Ellapen et al., 2018). This culture of service provision may have contributed to speech therapy input not being used most frequently by participants although it was listed as a highly helpful resource.

4.5 Training on communication support strategies

More than half of the professionals who participated reported that they had received training with the most common training topics differing amongst professionals. Within the OT group, professionals received information on aphasia and how it affects communication most frequently, while PTs received information on strategies to support communication with PWA more often.

All professionals who participated indicated that they would like to receive further training on how to support PWA during communication. Most professionals indicated that they would prefer to be trained in the use of strategies to support clients, however, there was still interest in training in how to create accessible resources, as well as the provision of information about aphasia, and how it affects communication. Most OTs indicated they would like to receive training about aphasia, while most PTs indicated a need for training on strategies that could be used to support communication. More OTs than PTs indicated that they would like to receive training on how to create accessible resources to support communication with PWA.

Although PTs who had received training previously reported that they received information on support strategies most frequently, a need for more training on this topic was still indicated. There are many possible reasons for this. For example, not all training is equally effective in increasing practical skills. Opportunities to practise supportive communication strategies and receive feedback from PWA on the use of strategies were reported to be a very valuable part of training for participants in a study conducted by Cameron, Hudson, et al. (2018) with various undergraduate healthcare professionals. The request for additional training on supportive communication strategies by PTs could be linked to training not providing an opportunity to practise what was trained in simulated conversations or with PWA. To facilitate adult learning, it is vital to ensure that learners are able to be active participants in the learning situation and are given the chance to reflect during learning and afterwards (Clapper, 2010). Therefore, the provision of information cannot be the core part of training, but rather, active involvement and critical reflection

should be viewed as fundamental to effective adult learning (Clapper, 2010). Training provided to OTs and PTs as communication partners should take into account the instructional modes suggested in communication partner training by Kent-Walsh and Binger (2013) namely, demonstration, role play, verbal rehearsal and practice with feedback in addition to information provision.

Overall, the desire for training in supporting PWA in communication by both groups of professionals aligns with the findings of both Burns et al. (2015) and M. Carragher et al. (2021). Both studies noted that various health professionals. including allied healthcare workers and doctors, were aware of the need for alternative forms of communication and wanted to know how to best support PWA during communicative exchanges in the healthcare context. One factor necessary to best support PWA in communication is the skills and knowledge of professionals on communication support strategies, as well as an understanding of the impact that aphasia has on communication. Communication partner training of various professionals in both of these areas has been shown to have positive effects on the perception towards the use of support strategies and to change perceptions on the need to involve PWA actively in their care (Armour et al., 2021; Cameron, Hudson, et al., 2018; Hansen et al., 2022). Training has also been shown to be valuable in improving not only the intention to use strategies, but also leads to increased confidence levels of staff (Horton et al., 2016) and improved communication during interactions through the implementation of supportive communication strategies (Shrubsole et al., 2021).

4.6 Summary

While communication with PWA was not perceived to be very effective, professionals in this study still felt that it was important and reported feeling somewhat confident during interactions. All participants reported that they implemented communication strategies in interactions with PWA to enhance understanding and facilitate expression, with PTs reportedly using fewer strategies than OTs. Despite the implementation of strategies, communication with PWA was not without its challenges. The participants perceived that these were related to the client's severity of communication difficulty, professionals' skills and knowledge, and contextual factors, such as time and client caseload. Overall, PTs in this study reported these challenges as having a greater impact on communication than OT participants. Participants made use of various assets to communicate with PWA, however, the most frequently used assets were the involvement of the client's family, professionals' own

knowledge and skills in communication, input from other professionals such as SLTs and enough time to implement communication strategies or repair breakdowns. In terms of training, both professional groups indicated a desire for further training in the implementation of communication support strategies.

5. CONCLUSIONS AND RECOMMENDATIONS

In this study, the researcher aimed to investigate the perceptions of occupational and physiotherapists on their communication with clients with post-stroke aphasia during rehabilitation. To accomplish this, specific focus was placed on describing OTs' and PTs' perceptions of (i) the importance of communication with PWA during rehabilitation, (ii) the effectiveness of communication with PWA during rehabilitation, (iii) their own confidence in communicating with PWA during rehabilitation, (iv) communication strategies they implement during rehabilitation with PWA, and well as (v) challenges and assets/resources to communication with PWA. The research was completed by surveying 42 participants (32 OTs and 10 PTs) on the topic of the current study. In the following section, a summary of the main findings is presented.

5.1 Summary of main findings

Professionals were aware of the importance of communication with the post-stroke aphasia population, but they experienced limitations in the effectiveness of communication with this population. Perceived confidence in communicating with this population varied widely amongst professionals, but was also somewhat limited overall.

Interestingly, all professionals who participated reported that they implemented supportive communication strategies with PWA to enhance understanding or to support expression. The types of strategies utilised did differ amongst the two professional groups with OTs making use of more strategies (both to enhance understanding or support expression) that required additional materials than PTs did. OTs were also noted to make use of a greater number of strategies in comparison to PTs.

Challenges to communication with PWA that were noted within literature from high-income countries are also experienced by professionals practising within a South African context. Specifically, institutional challenges, such as not enough time in therapy to implement strategies, environmental factors (level of noise/ distraction), and a lack of access to input from other professionals and resources were also rated as having an impact on professionals' communication with PWA. PTs rated factors listed as more challenging than OTs. Participants made use of various assets to communicate with PWA, however, the most frequently used assets were the involvement of the client's family, professionals' own

knowledge and skills on communication, input from other professionals such as SLTs and enough time to implement communication strategies or repair breakdowns.

Finally, all professionals indicated a need for training on how to support PWA in communication- in particular, training in communication support strategies was requested most frequently.

5.2 Implications for practice

Overall, the results of this study demonstrate that professionals do want to know how best to support PWA in communication within healthcare settings and that they would value training on how to do this. Professionals within the South African context seem to see the need for implementation of adapted communication, such as communication support strategies in interactions with PWA, with value being placed on communication with clients who have post-stroke language difficulties. However, professionals' perceived confidence in communication with PWA was reported to be average, indicating that professionals may not feel entirely equipped to support communication within this population.

Training programmes for healthcare professionals such as OTs and PTs should therefore be planned and should address topics such as communication support strategies, the creation of accessible resources for information provision and information about aphasia and its impact on communication. Training on supportive conversation strategies has the potential to improve professionals' perspectives on communication with PWA as well as perceived levels of confidence (Hansen et al., 2022). More importantly, communication partner training has the potential to improve communicative access within the post-stroke aphasia population (Simmons-Mackie et al., 2007). From a practical standpoint, it would be appropriate for the provision of training to occur amongst professionals already practising, as well as among undergraduate students. This was the trend noted in the systematic search that located studies completed on training on supportive communication amongst both groups. Ideally, training could be provided by SLTs who have a definite role to play in coaching other professionals in the use of supportive conversation strategies (Van Rijssen et al., 2021). The frequency and format of training may be dependent on institutional factors such as space available and time for staff members to attend training. Training could also be included at an undergraduate level within educational training modules for future professionals.

Broader organisational barriers may also need to be mitigated to promote long-term change in communication practices amongst healthcare workers. Since increased time pressure and high patient turnover may cause professionals to deprioritise communication access in the post-stroke aphasia population (Shrubsole et al., 2021), models of rehabilitation currently used in South Africa may need to be reconsidered. Ensuring that there is enough time within rehabilitation sessions to implement supportive communication strategies should be incorporated into models of care. Interprofessional education should also be encouraged by institutions and professional bodies to facilitate better interprofessional collaboration (Ellapen et al., 2018).

Although communication with PWA may be seen as valuable, the creation of communicative access may not be a priority for all healthcare workers. To facilitate a shift towards current standards of person-centred care outlined both internationally and within the South African healthcare context (Jardien-Baboo et al., 2019; World Health Organization, 2007), education on standards of person-centred care may need to be incorporated into the training of healthcare professionals.

5.3 Critical evaluation of the study

5.3.1 Strengths

This study incorporated the perspectives of a range of OTs and PTs working in different settings in South Africa. Previous studies investigating perspectives on communication with PWA and healthcare workers were all conducted within higher-income countries. Therefore, this study made an initial contribution to understanding the perspectives of these professionals within the South African context. The development of the questionnaire can be seen as a strength. The questionnaire used in this study was developed rigorously by utilising multiple sources of information including conducting a systematic search of the literature. The questionnaire was also user-friendly and easy to complete, as it was online, rather than paper-based. In terms of participants, the study was able to recruit a total of forty-two professionals from a variety of work settings.

5.3.2 Limitations

A definite limitation of the study was linked to sample size. The two groups of professionals were not equal in size, with the PT group being much smaller than the OT

group. This limited the comparisons that could be made between the two groups statistically. In addition, the overall sample size was relatively small, and sampling was non-random.

Due to a programming error during the creation of the questionnaire, participants were able to skip some questions when a forced answer was preprogramed. This resulted in varying number of professionals completing each question, and while typically incomplete responses would have been discarded, due to the smaller than anticipated sample size of this study, these responses were still included.

5.3.3 Recommendations for further studies

The primary recommendation for this study would be to repeat it with a larger sample size, particularly with a larger number of PTs. Due to the use of an online questionnaire in this study, responses provided by professionals could not be probed further or clarified. Future studies which aim to investigate the perceptions on communication amongst PWA and healthcare workers may benefit from using methods such as focus groups or one-on-one interviews to allow for more in-depth responses than those collected using a survey. Since severity of aphasia was found to have an impact on communication between professionals and PWA, future research should also consider inclusion of data related to severity which may differ from one practice setting to another. Additionally, in a subsequent study, inferential statistics could be used to conduct comparisons between the two groups of professionals. Correlations could also be investigated between certain perceptions and biographic factors, such as years of experience, or number of clients seen who have a diagnosis of post-stroke aphasia. Based on this group's responses, there seems to be a need for training of healthcare workers on supportive communication strategies, as well as topics such as creation of accessible resources, and information on aphasia and its impact on communication. Future studies could be undertaken to co-develop such training with the input of PWA, their families, and healthcare practitioners. The effectiveness of such training could then also be evaluated by means of, for example, pre- and post-training measures of professionals' knowledge on communication strategies, perceived levels of confidence and views on efficacy of communication. Likewise, it would be important to measure if training could improve healthcare interactions between PWA and healthcare professionals in the long term.

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Appendix A

Ethical Approval

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho

Humanities 100. Since 1919

10 May 2023

Dear Miss JP Slater,

Project Title:	Perceptions of occupational and physiotherapists on their communication with clients with post stroke aphasia during routine activities of care
Researcher:	Miss JP Slater
Supervisor(s):	Prof KM Tönsing
Department:	Centre for Augmentative and Alternative Communication
Reference number:	22960580 (HUM032/0922 Line 1) (Amendment)
Degree:	Masters

Thank you for the application to amend the existing protocol that was previously approved by the Committee.

The revised / additional documents were reviewed and **approved** on 10 May 2023 along these guidelines, further data collection may therefore commence (where necessary).

Please note that this approval is based on the assumption that the research will be carried out along the lines laid out in the amended proposal. Should your actual research depart significantly from the proposed research, it will be necessary to apply for a new research approval and ethical clearance.

We wish you success with the project.

Sincerely,

Prof Karen Harris
Chair: Research Ethics Committee
Faculty of Humanities
UNIVERSITY OF PRETORIA
e-mail: tracey.andrew@up.ac.za

Room 7-27, Humanities Building, University of Pretoria, Private Bag X20, Hatfield 0028, South Africa
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Appendix B

Information letter

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Humanities
Fakulteit Geesteswetenskappe
Lefapha la Bomotho

Centre for Augmentative and
Alternative Communication

Humanities 100. Since 1919

April 2023

Dear Colleague

Re: Participation in a survey on communication with clients with post-stroke aphasia

My name is Jessica Slater, and I am currently enrolled for a Master's degree in augmentative and alternative communication (AAC) at the University of Pretoria. I would like to invite you, as an occupational therapist (OT) or physiotherapist (PT) with experience in working with persons with aphasia in a rehabilitation setting, to participate in a research project as part of the requirements for my degree. The title of my study is:
Communication practices of occupational and physiotherapists during routine activities of care with clients with post-stroke aphasia.

The aim of my study is to investigate the communication practices of South African OTs and PTs during routine activities of care with adults who have post-stroke aphasia. Aphasia describes the language impairments that may occur as a result of a neurological incident like stroke.

I have been granted approval by the Research Ethics Committee of Humanities, University of Pretoria. ethics review board of the Faculty of Humanities, University of Pretoria to conduct this study.

Who can participate?
The study is aimed at clinicians who:
- Are currently practicing as either an OT or PT in South Africa;
- Have at least one adult with post-stroke aphasia on their current caseload or have provided therapy to at least one adult with post-stroke aphasia in the last 24 months.

Rationale for the study:
Communication occurs between persons with aphasia and therapists in the rehabilitation setting during routine activities of care. The communication challenges experienced by persons with aphasia may make it difficult for professionals to interact with them. By describing the views and practices of OTs and PTs regarding communication of persons with aphasia, possible barriers and facilitators to this process can be described, and any support needs can be identified. This information may be helpful to identify practices to enhance communication between rehabilitation service providers and persons with aphasia in the future.

Should I participate, what is required of me?
Should you consent to participate in this study, you would be required to provide consent electronically prior to completing a short biographical questionnaire online. Once this is completed, you will proceed to completing the online survey. This survey should take no longer than 10-20 minutes to complete. You will not be asked to provide me with any identifying biographical information such as your name, age or gender.

What are my rights as a participant?
Participation in this study is voluntary. If you decide not to take part, there will be no negative consequences to you. If you complete a survey and would like to withdraw from the study for any reason, you are free to do so and your survey responses with be discarded. You do not need to provide a reason for withdrawing. The responses to survey questions will be kept confidential and

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no identifying information (name, age, gender, IP address) will be collected. Upon completion of the survey, a summary of your responses will be displayed which may be downloaded as a PDF document or printed if you wish to do so.

Who will have access to the results of the study?
In this study all data will be collected electronically. After completion of the study, all responses from the consent form, biographical questionnaire and survey will be downloaded from the survey platform and stored on a password protected USB stick. This USB will be stored in a locked cabinet at the Centre for AAC at the University of Pretoria for a minimum of 15 years. The data collected from this study will be used to write a master's dissertation and may also be used for writing a scientific article and for presentation at conferences. The data may also be used for future analysis. The survey data (without biographical details) will be made publicly available on the University of Pretoria's online database. Other researchers may access this database and reuse the data for analysis. No personal data will be collected in this study. The thesis and any other publications from the study will be made available to any participating clinician who expresses interest.

What are the risks and the benefits?
Please note that the survey used in this study does not contain any personal or sensitive questions. The study is not aimed at testing your knowledge but aims to describe the practices and views of professionals. The study does not pose any potential harm or threat to you. Due to the shift in healthcare towards person-centred care there is an increasing need to ensure that people with aphasia are active participants in their healthcare, including their rehabilitation. With a dearth of information on how South African OTs and PTs support communication amongst this population, your contributions will assist in broadening the knowledge base in this area to make healthcare accessible for all including people with communication difficulties.

I appreciate your consideration of this request. If you know of a colleague who may also be interested in participating, please feel free to email him/her this letter.

Should you be willing to participate in this study, please complete the online consent form and biographical questionnaire by clicking here:
https://pretoria.eu.qualtrics.com/jfe/form/SV_d7jGKGLyspDxH9k

You will then automatically be directed further to the survey.

Please note that should you wish to begin the survey and resume later, your survey responses will be automatically recorded using website cookies. However, your responses will only be accessible again if you use the same browser/computer and will remain saved for one week. Thereafter, your incomplete form will be submitted automatically.

Kindest regards,

_____
Jessica Slater
jessicapaigeslater@gmail.com
0820946118

01/04/2023
Date

_____
Professor Kerstin Tönsing
Kerstin.tonsing@up.ac.za
(082) 661-6007
Centre for Augmentative and Alternative communication

01/04/2023
Date

Appendix C

Informed consent

&

Biographical questionnaire

Start of Block: Biographical questionnaire

Q1.1 **Project title:** Perceptions of occupational and physiotherapists on their communication with clients with post-stroke aphasia during routine activities of care

Thank you for considering this study. The questionnaire consists of **39 questions** and should take no longer than 15-20 minutes to complete.

You may click on the 'back' button if you would like to revise an answer for a previous question.

Your responses will automatically submit at the end of the questionnaire, and you will be able to download a copy of your responses if needed.

Researcher: Jessica Slater
Master's student Centre for AAC,
Email: jessicapaigeslater@gmail.com
Cell: 082 094 6118

Supervisor: Kerstin Tönsing
Associate Professor
University of Pretoria Centre for AAC, University of Pretoria
Email: kerstin.tonsing@up.ac.za
Cell: 082 661 6007

Q1.2 Do you confirm that you have read the information letter for this study?

- ○ Yes (1)
- ○ No (2)

Q1.3 Please read the information letter provided via email or on the research invitation before restarting the survey.

Q1.4 I confirm that I am eligible to participate in the study and fit the inclusion criteria.

- ○ Yes (1)
- ○ No (2)

Q1.5 By providing consent, you acknowledge the following:

That consent is voluntary, and that you understand you may withdraw from the study at any time with no consequences to you.

That the data will be used to write a Master's dissertation and scientific articles, as well as for conference presentations.

That all data will be stored for 15 years at the CAAC and that all data will be treated confidentially.

That the data from the survey (without biographical details) will be made publicly available on the University of Pretoria's online database.

That the data may be re-used for analysis

That all biographical details will be treated as confidential.

Q1.6 Please select an option below.

○ I consent to participate in the study; "Perceptions of occupational and physiotherapists on their communication with clients with post-stroke aphasia during routine activities of care. " (1)

○ □ I do not give consent to participate in the above mentioned study. (2)

Q2.1 For the purposes of this study, the term Aphasia is defined in line with the American Speech and Hearing Association (ASHA):

Aphasia refers to an acquired neurogenic language disorder following injury to the brain, including stroke, which affects the functioning of core elements of language including:

Spoken language ability

Written language expression

Spoken language comprehension

Reading comprehension

Q2.2 What is your profession?

○ Occupational therapist (1)

○ Physiotherapist (2)

Q2.3 Please list your home language(s):

_____

_____

_____

_____

_____

Q2.4 What language(s) do you use in clinical practice?

_____

_____

_____

_____

_____

Q2.5 What province of South Africa do you currently practice in?

- ☐ Eastern Cape (1)
- ☐ Free State (2)
- ☐ Gauteng (3)
- ☐ KwaZulu Natal (4)
- ☐ Limpopo (5)
- ☐ Mpumalanga (6)
- ☐ North West (7)
- ☐ Northern Cape (8)
- ☐ Western Cape (9)

Q2.6 In which sector do you currently practice? (You may tick more than one)

☐ Private healthcare (1)

☐ Public healthcare (2)

☐ NGO (3)

☐ Other (please specify): (4) _____

Q2.7 In which settings do you currently see clients? (Please tick all that apply.)

☐ Hospital inpatients (1)

☐ Hospital outpatients (2)

☐ Long term rehabilitation centre (3)

☐ Private practice rooms (8)

☐ Care home/ residential care home (4)

☐ Subacute rehabilitation centre (5)

☐ Visits to clients' home (6)

☐ Other (please specify): (7)

_____

Q2.8 How many years of experience do you have providing rehabilitation to clients with post-stroke aphasia:

_____

_____

_____

_____

_____

Q2.9 How many clients with post-stroke aphasia would you estimate have you seen for therapy in the last 24 months (including current clients)?

_____

_____

_____

_____

_____

Q2.10 What kind of services do you provide to people with post-stroke aphasia?
(Please tick all that apply).

- ☐ Assessment (1)
- ☐ Treatment (2)
- ☐ Goal setting for rehabilitation (3)
- ☐ Provision of home programmes (4)
- ☐ Information provision and counselling on assessment results, diagnosis, prognosis etc. (5)
- ☐ Other (please specify): (6) _____

End of Block: Biographical questionnaire

Appendix

D

Full Questionnaire

Start of Block: Section B: Communication with adults with post-stroke aphasia

Q3.1 In general, **how important** is communication between you and your client(s) with post-stroke aphasia during rehabilitation?

Please rate on a scale of 1 (not at all important) to 5 (very important).

	Not at all important 1	2	3	4	**Very important** 5
Importance of communication	○	○	○	○	○

Q3.2 In general, **how effective** is communication between you and your client(s) with post-stroke aphasia during rehabilitation?

Please rate on a scale of 1 (not at all effective) to 5 (very effective).

	Not at all effective	2	3	4	**Very effective**
	1				5
Effectiveness of communication	○	○	○	○	○

Q3.3 How **confident** do you feel in communicating with clients with post-stroke aphasia?

Please rate on a scale of 1 (not at all confident) to 5 (very confident).

	Not at all confident	2	3	4	**Very confident**
	1				5
Confidence in communication	○	○	○	○	○

Q3.4 Do you use any of the following communication strategies during rehabilitation to assist clients with post-stroke aphasia to **understand** what is said?

Please tick all the strategies you use.

- ☐ Short simple sentences (1)
- ☐ Writing down key words during a conversation (2)
- ☐ Slowed rate of speaking (3)
- ☐ Drawing (4)
- ☐ Checking/confirming if client understood (5)
- ☐ Pointing to item being spoken about (6)
- ☐ Gesture (Anything used to communicate meaning without words e.g., thumbs up, waving) (7)
- ☐ Demonstrations (e.g, demonstrating an exercise to the client) (8)
- ☐ Use of pictures or graphics/diagrams (9)
- ☐ Modified written information (increased text size, underlining and bold text for key words) (10)
- ☐ Keep message short and concrete (11)
- ☐ Ensure environment is quiet with as few distractions as possible (12)
- ☐ Asking a familiar partner (e.g., spouse) to relay the message to the client with aphasia (13)
- ☐ Other (please describe): (14)

_____

☐ ⊗ I do not use any communication strategies (15)

Q3.5 Do you use any of the following communication strategies during rehabilitation to assist clients with post-stroke aphasia **to express** themselves?

Please tick all the strategies you use.

☐ Use of yes-no questions (1)

☐ Communication boards (2)

☐ Pictures or posters (3)

☐ Summarising what the client has said back to him/her to check comprehension (4)

☐ Giving the client time to respond (5)

☐ Using writing to reflect what the client has said (6)

☐ Asking a client to choose between a fixed number of choices (7)

☐ Writing down choices for the client to point at (8)

☐ Encourage gesture ('can you show me?') (9)

☐ Encourage client refer to key words related to the topic which you wrote down earlier in the conversation (10)

☐ Encourage client to use drawing or writing (11)

☐ Asking a familiar partner (e.g., spouse) to relay to you what the client is trying to communicate (12)

☐ Other (please describe): (13)

_____

☐ ⊗ I do not use any communication strategies (14)

Q3.6 Please rate to what extent you **experience any of the following challenges** to communication with clients with aphasia.

Please rate on a scale of 1 (not a challenge) to 5 (significant challenge).

	Not at all a challenge 1	2	3	4	**Significant challenge** 5	Not applicable
I do not get input from other professionals (e.g., SLT) on client's communication strengths/needs	○	○	○	○	○	○
The severity of client's communication difficulty	○	○	○	○	○	○
I do not have enough time to implement communication strategies/resolve communication breakdowns	○	○	○	○	○	○
I do not feel I have knowledge about communication strategies to support clients with aphasia	○	○	○	○	○	○

I do not have access to appropriate resources (communication boards/pictures/accessible information)	○	○	○	○	○	○
The environment in which I need to communicate with the client is noisy and or contains distractions	○	○	○	○	○	○

Q3.7 Do you experience any other challenges in relation to communication with clients with post-stroke aphasia?

○ Yes

○ No

Q3.8 Please describe these challenges:

_____

_____

_____

_____

_____

Q3.9 Have you drawn on the **resource/asset** below to assist you in communicating better with clients with post-stroke aphasia:

Input from a speech language therapist (e.g., joint sessions, skill sharing on communication strategies)

- ○ Yes (1)
- ○ No (2)

Q3.10 How helpful has this resource been in your clinical practice?

	Not at all helpful 1	2	3	4	**Very helpful** 5
Input from a speech language therapist	○	○	○	○	○

Q3.11 Have you drawn on the **resource/asset** below to assist you in communicating better with clients with post-stroke aphasia:

Mentoring from colleagues (of my own profession) who are more experienced than I am

- ○ Yes (1)
- ○ No (2)

Q3.12 How helpful has this resource been in your clinical practice?

	Not at all helpful 1	2	3	3	**Very helpful** 5
Mentoring	○	○	○	○	○

Q3.13 Have you drawn on the **resource/asset** below to assist you in communicating better with clients with post-stroke aphasia:

Involvement of the client's family

- ○ Yes (1)
- ○ No (2)

Q3.14 How helpful has this resource been in your clinical practice?

	Not at all helpful 1	2	3	4	**Very helpful** 5
Involvement of client's family	○	○	○	○	○

Q3.15 Have you drawn on the **resource/asset** below to assist you in communicating better with clients with post-stroke aphasia:

Access to visual support material such as information leaflets, picture boards, etc.

○ Yes (2)

○ No (3)

Q3.16 How helpful has this resource been in your clinical practice?

	Not at all helpful 1	2	3	4	**Very helpful** 5
Visual support material	○	○	○	○	○

Q3.17 Have you drawn on the **resource/asset** below to assist you in communicating better with clients with post-stroke aphasia:

Enough time to implement communication strategies/resolve communication breakdowns

- ○ Yes (1)
- ○ No (2)

Q3.18 How helpful has this resource been in your clinical practice?

	Not at all helpful 1	2	3	4	**Very helpful** 5
Enough time to repair breakdowns or use strategies	○	○	○	○	○

Q3.19 Have you drawn on the **resource/asset** below to assist you in communicating better with clients with post-stroke aphasia:

Your own knowledge and skills of how to communicate with a person with post-stroke aphasia

○ Yes (1)

○ No (2)

Q3.20 How helpful has this resource been in your clinical practice?

	Not at all helpful 1	2	3	4	**Very helpful** 5
Your own knowledge and skills of how to communicate with a person with aphasia (1)	○	○	○	○	○

Q3.23 Do you make use of any other resources/assets to assist you to communicate with clients with aphasia?

○ Yes (4)

○ No (6)

Q3.24 Please describe these resources/assets

_____

_____

_____

_____

_____

Q3.25 Which **assets/resources** do you feel may help you in the future to communicate better with clients with post-stroke aphasia?

Tick all that apply.

- ☐ Training on aphasia and how to communicate with persons with aphasia (1)
- ☐ Regular input from a speech-language therapist (e.g. joint sessions) (2)
- ☐ Mentorship from a more experienced colleague (of my own profession) (3)
- ☐ More time during therapy to overcome communication barriers (4)
- ☐ Closer collaboration with the family of the person with aphasia (5)
- ☐ Access to visual support such as picture boards and information leaflets (6)
- ☐ Other (7) _____

Q3.26 Have you ever received training or education on communication strategies to support clients with post-stroke aphasia?

- ○ Yes (1)
- ○ No (2)

Q3.27 What topics did the training cover?

Please tick all that apply.

- ☐ Information about aphasia and how it affects communication (1)
- ☐ Strategies for communication to support clients with aphasia (2)
- ☐ How to create accessible communication resources (e.g., for education/providing information) (3)
- ☐ Other (please describe): (4) _____

Q3.28 Would you like to receive more training on communication strategies to support clients with post-stroke aphasia?

- ○ Yes (1)
- ○ No (2)

Q3.29 What topics would you like the training to cover?

Please tick all that apply.

- ☐ Information about aphasia and how it affects communication (1)
- ☐ Strategies for communication to support clients with aphasia (2)
- ☐ How to create accessible communication resources (e.g., for education/providing information) (3)
- ☐ Other (please describe): (4) _____

End of Block: Section B: Communication with adults with post-stroke aphasia

Appendix

E

Language Editing

Confirmation

55 Stockley Road

Kenwyn

Cape Town

7780

20 October 2023

To whom it may concern

This is to certify that I, Susan Erasmus, have edited the language of Jessica Slater's thesis on "Perceptions of occupational and physiotherapists regarding their communication with clients with post- stroke aphasia during rehabilitation", a mini-dissertation submitted in partial fulfilment of the requirements for the degree Master's in Augmentative and Alternative Communication.

I am a professional language editor. I can be contacted on serasmus@netactive.co.za or 082 924 6425.

Regards

Susan Erasmus