Facilitators of and Barriers to Providing Access to Community-Based Exercise Programmes for Adults with Post-Stroke Aphasia from the Perspective of Programme Representatives

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ABSTRACT

Purpose: Individuals with post-stroke aphasia (PSA) engage in inadequate levels of physical activity (PA), hindering physical and psychosocial recovery. The purpose of this study was to identify the extent to which community-based exercise programmes (CBEPs) in the Greater Toronto Area (GTA) are accessible to adults living with PSA and the characteristics of such programmes from the perspective of CBEP representatives. **Methods:** A cross-sectional, Web-based survey was administered to representatives of CBEPs open to adults post-stroke in the GTA to identify the CBEPs' relevant characteristics and perceived facilitators of and barriers to accessibility. **Results:** A total of 17 eligible CBEP representatives completed the survey, for a response rate of 32%. The most commonly used exercise instructors were personal trainers (8; 47%). Of the 17 eligible CBEP representatives, 10 (59%) identified a lack of qualified personnel as the main barrier to providing access to adults with PSA. Verbal strategies were among the most commonly used methods of communication with adults with PSA (16; 94%), and written material was the least used (5; 29%). **Conclusion:** Understanding the common facilitators of and barriers to providing adults with PSA access to CBEPs will assist programme developers to improve the accessibility of CBEPs and facilitate PA in this population.

Key Words: aphasia; community participation; exercise; health services accessibility; stroke.

RÉSUMÉ

Objectif: les personnes souffrant d'aphasie après un accident vasculaire cérébral (AAVC) ne font pas assez d'activité physique (AP), ce qui nuit à leur rétablissement physique et psychosocial. La présente étude visait à déterminer l'accessibilité des programmes d'exercices communautaires (PEC) du Grand Toronto (GT) pour les adultes atteints d'un AAVC, ainsi que les caractéristiques de ces programmes selon des représentants de PEC. **Méthodologie:** les représentants des PEC ouverts aux adultes après un AVC du GT ont reçu un sondage transversal en ligne pour connaître les caractéristiques des PEC ainsi que les incitatifs et les obstacles perçus à l'accessibilité. **Résultats:** au total, 17 représentants des PEC admissibles ont rempli le sondage, ce qui constitue un taux de réponse de 32 %. Les moniteurs d'exercices les plus sollicités étaient des entraîneurs personnels (8, 47 %). Parmi les 17 représentants des PEC admissibles, dix (59 %) soulignaient la pénurie de personnel qualifié comme le principal obstacle à l'accès pour les adultes atteints d'AAVC. Les stratégies verbales étaient les modes de communication les plus utilisés auprès des adultes atteints d'AAVC (16, 94 %), et les documents écrits étaient les moins utilisés (5, 29 %). **Conclusion:** s'ils comprennent les incitatifs et les obstacles courants à l'accès aux PEC pour les adultes atteints d'AAVC, les développeurs de programmes seront mieux en mesure d'améliorer l'accessibilité des PEC et de favoriser l'AP au sein de cette population.

In Canada, approximately 40,000–50,000 strokes occur each year,¹ with aphasia being diagnosed in one-third of cases.² Aphasia is a language impairment that affects one's ability to produce or comprehend written language, spoken language, or both.³ These communication challenges make it difficult for individuals to access informa-

tion and services. Being involved in long-term physical activity (PA), which is known to improve mobility, function, and fitness levels in adults post-stroke,⁴ is very important for this population. However, the level of participation in PA among adults with post-stroke aphasia (PSA) is substantially lower than that in the general

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stroke population.^{4,5} Although community-based exercise programmes (CBEPs) are an appropriate service to mitigate this situation, research has found that personal and environmental barriers limit accessibility for adults with PSA.^{6,7}

Although evidence exists of the lack of CBEPs for stroke survivors,⁸ little research has been conducted specifically on adults with PSA.⁹ Exploring this topic further can provide information about the barriers associated with adapting CBEPs to individuals with PSA, and it can inform strategies for increasing the accessibility of these programmes. To obtain an understanding of this issue in the Greater Toronto Area (GTA), we surveyed representatives of CBEPs that are open to individuals post-stroke.⁹

Various physical impairments¹ related to walking, balance, and cardiovascular capabilities may be the sequelae of stroke.¹⁰ Compared with stroke survivors without aphasia, those with PSA experience additional communication barriers, which have been associated with diminished functional recovery and quality of life (QOL).^{9,11–14} Engaging in PA is an important strategy for mitigating post-stroke-related complications such as impaired gait and balance.^{9,15} In addition, PA has been found to positively influence psychosocial outcomes, including self-efficacy, social interaction, and QOL.¹⁶ Inadequate long-term PA has been linked to accelerated functional decline in individuals with stroke^{17,18} and has subsequently reduced successful reintegration into the community.^{19,20} Despite these well-established findings, adults with PSA do not participate in adequate levels of PA.^{5,21,22}

A CBEP, specifically structured to maintain or improve physical functioning and promote health and well-being using various physical activities, is an effective strategy for promoting PA for adults with PSA.⁴ Although giving individuals the opportunity to engage in PA, CBEPs also create an opportunity for social interaction and increased self-efficacy,²² both of which may facilitate community reintegration for those with aphasia.^{14,23,24} The GTA is significantly lacking in CBEPs that offer fitness programmes for adults post-stroke,⁸ however, and whether any aphasia-accessible CBEPs exist there remains unknown. To ameliorate health outcomes in this population, it is imperative to determine the accessibility of CBEPs for adults with PSA.

Myriad barriers to engaging in PA have been identified for adults with PSA,^{9,14,25} and they have been categorized as personal,^{6,7} communicative, procedural, and environmental issues.⁹ For example, most existing educational and promotional material developed for this population appears to be inaccessible because the level of language and readability is too high, making it difficult for these individuals to understand that CBEPs exist and how important they are.^{13,26} Environmental barriers include transportation, programme cost, and policies such as the inability to attend a CBEP without support per-

sonnel.²⁷ Programme-specific barriers include a lack of trained personnel,^{4,28} conversation at an inappropriate level of complexity, and limited strategies for ensuring participants' comprehension.²⁸ These factors have not been evaluated from the perspective of CBEP representatives.

Strategies for improving participation in PA have been identified from the perspective of those affected by PSA; these include appropriately trained staff, public awareness of CBEPs, active advertising, and exercise programmes tailored to people with both physical and communicative disabilities.⁹ Although some CBEPs have put these strategies in place, barriers to accessibility remain. To better inform the development of future interventions at a programme level, evidence is needed regarding CBEPs' current level of accessibility, as well as the strategies and barriers perceived by CBEP representatives, because these may be contributing to inadequate levels of PA in adults with PSA.

The purpose of this study was to identify the extent to which CBEPs in the GTA are accessible to adults living with PSA, as well as the characteristics of such programmes. Our specific objectives were to identify the existence and characteristics of CBEPs that are open to adults with PSA in the GTA, evaluate the extent to which relevant information is collected on their participants, and identify the perceived facilitators of, strategies for, and barriers to promoting access to their services for adults with PSA. This information will fill the current gaps in the literature about the availability and nature of existing CBEPs for adults with PSA, and it may inform CBEP representatives who are setting up future programmes to increase the access to and frequency of PA in this typically sedentary population.⁴

METHODS

Study design

We administered a cross-sectional, Web-based survey to representatives of CBEPs in the GTA that are open to adults post-stroke. We used a modified Dillman approach, which uses personalized and repeated follow-up reminders by telephone and subsequent e-mail at set intervals²⁹ to maximize the response rate. The University of Toronto Research Ethics Board approved the study protocol. We used the Checklist for Reporting Results of Internet E-Surveys checklist³⁰ for quality reporting of the results of the study.

Recruitment

Representatives of CBEPs in the GTA that are open to adults post-stroke, including administrative staff and programme instructors, were eligible to participate in the study. Sites included hospitals, rehabilitation centres, community centres, and not-for-profit and private programmes. Participation in the survey was voluntary, and consent was implied by submitting a completed questionnaire.

Commencing in September 2015, we identified CBEPs by means of a Web-based search, using the search terms *community, exercise, stroke, rehab, aphasia, GTA, and network* in varying combinations. We identified other potential participants by sending e-mails to staff in different stroke networks in the GTA as well as to those involved in stroke programming or research.

In January 2016, we contacted possible eligible participants, using a scripted telephone call to ensure standardization, requesting that they provide a valid e-mail address and participate in the Web-based questionnaire. Within 1 day of receiving consent, we sent participants a follow-up e-mail detailing the purpose of the study and including a link to the questionnaire. We subsequently sent two reminder telephone calls and follow-up e-mails, with a link to the questionnaire, at weekly intervals. Within a week of the submission deadline, we sent final thank you e-mails.

Survey instrument

We used Fluid Surveys (Fluidware, Ottawa, ON) to create a Web-based questionnaire. The final 51-item questionnaire (reproduced in the online Appendix) included domains pertaining to eligibility, programme setting, and programme representative and programme participant characteristics. The questionnaire was pilot tested by two physical therapists using convenience sampling to obtain feedback. Both physical therapists were registered with the College of Physiotherapists of Ontario and had a comprehensive understanding of working with the neurological population. Additional pilot testing by one CBEP representative, recruited through a co-investigator, evaluated the ease of use and readability of the questionnaire, resulting in minor modifications. We used a combination of nominal, ordinal, and ratio scales to collect the data. If a participant answered “no” to any of the four eligibility questions, the survey was terminated.

Data analysis

We exported data from Fluid Surveys into a file in MS Excel 2013 (Microsoft Corp., Redmond, WA) and imported the data into the IBM SPSS Statistics, version 19.0 (IBM Corporation, Armonk, NY) and produced descriptive statistics. For all items with categorical response scales, we summarized the data using frequencies and percentages. For enhanced clarity and ease of reporting, we used a 5-point Likert scale, but we collapsed the response options *strongly agree* and *agree* into *agree* and the response options *strongly disagree* and *disagree* into *disagree*; a final response option was *neutral*. Similarly, we collapsed the response options of *all of the time*, *most of the time*, and *some of the time* into *used* and the response option *none of the time* into *not used*. For items with ratio response scales, we summarized the data using means, standard deviations, and ranges, where appropriate, as well as medians and interquartile ranges for

non-normally distributed data. We categorized the responses that were entered into text boxes by content analysis. We used the code 999 to account for missing data and the code 1111 for questions that were not applicable to particular respondents.

RESULTS

Response rates and participants

Of the 53 CBEP representatives contacted by telephone, we were unable to reach 13, 6 declined to participate, and 3 were ineligible to participate. This left 31 eligible representatives who agreed to participate in this study and to whom we sent the Web-based questionnaire. Eight possible participants refused at our follow-up, and six did not respond at all, resulting in 17 completed surveys, for a final response rate of 32% (see Figure 1). We identified all 17 participating CBEPs as being open to adults with PSA.

Characteristics of CBEPs and information collected on characteristics of exercise participants

Of the 17 CBEP representatives who completed the questionnaire, the majority were with community centres (11; 65%; see Table 1). Of these, 9 (53%) required a referral, with 7 of the 9 (78%) requiring referral by a physician; 13 (77%) CBEPs required a fee for participation. Various activities were provided by the CBEPs; balance activities were reported most frequently (16; 94%; see Table 1). Personal trainers (8; 47%) were the most commonly employed programme providers, and the least commonly employed were physical therapists (1; 6%; see Figure 2). The average number of staff employed, in an entire facility, was 4 (SD 2), and the average number of exercise participants throughout the entire cycle of a programme was 20 (SD 16; see Table 1). The estimated average number of participants with PSA, however, was only 4 (SD 3).

The CBEPs gathered information from participants on aphasia-related (14; 82%), hearing (12; 71%), memory (10; 59%), and visual (12; 71%) difficulties. On-site physical assessment data on balance (8; 47%), strength (6; 35%), endurance (7; 41%), and functional activities (4; 24%) were also collected, as were the type (5; 29%) and severity (8; 47%) of the PSA.

Extent of openness to adults living with post-stroke aphasia

Of the 17 CBEPs, 6 (35%) reported being targeted to adults post-stroke, and all the CBEPs reported being open to adults with PSA. Only 4 (24%) publicly advertised their openness to adults with PSA. A total of 14 (82%) CBEPs incorporated general exclusion criteria into their admission process (e.g., physical, communicative, or cognitive ability; age or financial requirements), and 4 (24%) required specific inclusion criteria for people with PSA:

Figure 1 Recruitment flow diagram.
CBEP = community-based exercise programmes.

Three (75%) required a caregiver to be present if an individual with PSA was not deemed physically independent, and 1 (25%) required a caregiver to be present at all times. In addition, 7 (41%) CBEPs reported having specific requirements, depending on the severity of aphasia; 2 (12%) and 5 (29%) required a caregiver to be present for adults with moderate and severe aphasia, respectively.

Strategies for facilitating accessibility for adults with post-stroke aphasia

The strategies used by the CBEPs to facilitate accessibility for adults with PSA included using various available services, methods of advertising, aphasia-specific training, and exercise implementation strategies (see Table 2). Transportation was identified as the most frequent service available (14; 82%). More important, only 1 CBEP (6%) reported publicly promoting its openness to adults with PSA specifically using written and electronic means as well as using its affiliations with other organizations. Also, staff at 7 CBEPs (41%) had received aphasia-specific training; communication-based training was identified as the type of training most frequently received (5; 71%). Of the communication-related exercise implementation

strategies, verbal communication was the method used most often (16; 94%), and pictures was the method used least often (5; 29%). A total of 16 (94%) CBEPs used verbal communication; simplified instructions; provided extra time; used repetition, rephrasing, or both; and demonstrated exercises as instructional methods (see Figure 3).

Perceived barriers to providing access to CBEPs to adults with post-stroke aphasia

Of the barriers to programme accessibility that were identified, a lack of qualified personnel with aphasia-specific training was reported most consistently (10; 59%), followed by a lack of appropriate equipment (e.g., exercise equipment or other adaptive communication aids; 8; 47%; see Table 3). Other important barriers included cost, lack of human resources, lack of knowledge about how to improve communicative accessibility (7; 41%), and low demand for programme services from adults with PSA.

Although the majority (15; 88%) of the CBEP representatives said that the accessibility of CBEPs to adults with PSA was important, 2 (12%) did not agree. Similarly, 14 (82%) participants reported that they were confident in

Table 1 Characteristics of CBEPs Open to People Post-Stroke ($n = 17$)

Characteristic	No. (%) of participants*
Area in GTA	
Toronto	10 (58.8)
Outside Toronto	7 (41.2)
Type	
Community centre	11 (64.7)
Not-for-profit	2 (11.8)
Outpatient	2 (11.8)
Private	1 (5.9)
Registered charity	1 (5.9)
Activity	
Balance	16 (94.1)
Resistance training	15 (88.2)
Aquatics	9 (52.9)
Treadmill	8 (47.1)
Cycling	6 (35.3)
Yoga	4 (23.5)
No. of participants and staff, mean (SD)	
Participants	19.5 (16.3)
Participants with PSA	3.71 (3.14)
Administrative and programme staff	4.35 (2.45)
Time, median (IQR)	
No. of years programme has existed	8 (10)
Sessions per cycle	20 (16)
Session duration, min	60 (10)

Note: Percentages may not total 100 because of rounding.

*Unless otherwise indicated.

CBEP = community-based exercise programme; GTA = Greater Toronto Area; PSA = post-stroke aphasia; IQR = interquartile range.

their communication with adults with PSA; the remainder were either neutral (2; 12%) or disagreed (1; 6%).

DISCUSSION AND FUTURE DIRECTIONS

We conducted this study to describe the openness of CBEPs in the GTA to accepting adults with PSA and to explore CBEP representatives' perceptions of facilitators of and barriers to providing these services. Although the influence of these determinants has been assessed from the perspective of adults with PSA,⁹ our study is the first to examine them from the perspective of programme representatives. Our findings indicate that all the CBEPs surveyed were open to adults with PSA and that the majority used personal trainers as exercise instructors. Interestingly enough, we found that the main perceived barrier to providing access was the lack of health care professionals with training in communicating with adults with PSA. The majority of CBEP representatives stated that providing transportation services to exercise participants was a strategy for enhancing access. Although this strategy helped mitigate the physical barriers, it did not at all target the communicative accessibility necessary for people with PSA. To address this, verbal communication was among the most commonly used communication strategies; however, it was not reported to be the most effective.^{9,31,32} Conversely, written material and

pictures were the least used methods. This highlights a gap between what is believed to be an effective strategy and evidence-based practice.

There is a lack of information regarding available and accessible CBEPs for adults with disabilities.³³ Blonski and colleagues⁹ obtained suggestions from adults with PSA for improving access to CBEPs, and they found that actively advertising the openness of CBEPs was an important aspect of accessibility that should be addressed. Despite this result, we found that four (24%) CBEPs surveyed publicly advertised openness to adults with PSA and only one (6%) publicly advertised such openness using written or electronic means. This is an important consideration for people with PSA, but it is also important from the perspective of meeting the legal requirements defined in the *Accessibility for Ontarians with Disabilities Act*, which set out to develop, implement, and enforce accessibility standards by identifying and removing physical, architectural, informational or communicational, attitudinal, technological, and procedural barriers.³⁴ Moreover, this finding appears to identify a lack of understanding of communicative accessibility and the critical role that accessible marketing and promotion play in enhancing access and participation rates for those with communication impairments. Using nonverbal forms of advertising,⁹ such as electronic or paper-based strategies, should be considered because persons with PSA have been found to be more receptive to information they see in written media.^{34,35}

Furthermore, adults with PSA have reported that they cannot attend CBEPs if support personnel are not available to accompany them.⁸ Similarly, we found that seven (41%) CBEPs required some form of caregiver accompaniment, depending on the severity of the aphasia, a result that demonstrates a substantial barrier that adults with PSA face when accessing CBEPs. To mitigate the requirement for accompaniment, CBEPs should consider increasing the number of aphasia-trained staff to provide guidance, including support personnel or trained volunteers, one-on-one attention, and modifying the exercises they provide; all of these suggestions would enable adults with PSA of all severities to participate unaccompanied in their programmes.

The qualifications of the CBEP instructors varied across the programmes surveyed. We found that the most commonly employed instructors were personal trainers, and the least commonly employed were physical therapists. Similarly, Fullerton and colleagues⁸ found that fitness facilities that were open to adults post-stroke predominantly employed personal trainers. The evidence shows that fitness instructors do not have adequate knowledge about how to effectively adapt and deliver exercise programmes to individuals with disabilities.^{7,8,33} Salbach and colleagues³⁶ suggested that fitness certification programmes were typically short and did not provide the expertise necessary to instruct adults with neurological

Figure 2 Distribution of health care professionals involved in delivering exercise at the community-based exercise programmes.

Table 2 Strategies Used by the CBEPs to Increase Accessibility for Adults with PSA ($n = 17$)

Strategy	No. (%) of respondents
Transportation	14 (82.4)
Free parking	8 (47.1)
Reminder calls or e-mails	4 (23.5)
Web-based services	2 (11.8)
Flexible scheduling	2 (11.8)
Other (child care, volunteers, rural satellite programmes)	3 (17.6)

CBEP = community-based exercise programme; PSA = post-stroke aphasia.

conditions. Therefore, although personal trainers may have a wide variation of training and certifications, they may not have the appropriate depth of knowledge to effectively serve the needs of adults post-stroke. In support of the *Canadian Best Practice Recommendations for Stroke Care*,³² all health care providers in a community-based setting should be trained and capable of interacting with adults with communicative impairments such as aphasia. A possible strategy for delivering the best possible exercise programme to participants with neurological and communicative conditions would be for health care providers with expertise in both exercise delivery and communication strategies to give regular training, in the form of seminars or workshops, to fitness instructors in the appropriate exercise and communication adaptations.³⁶

Of the CBEP representatives surveyed, 88% agreed that it was important that CBEPs be accessible to adults

with PSA; however, 41% reported not knowing how to improve their programme's accessibility. This finding suggests that the accessibility of CBEPs to adults with PSA might be improved if their representatives were more aware of what strategies could be implemented to promote accessibility. Thus, further education and collaboration among health care professionals is needed to create programmes that will provide education for individuals running CBEPs.

The literature consistently encourages the use of supported conversation for adults with PSA, including the use of pictographs,^{9,35,37} as a method of facilitating communication and promoting accessibility in social and community exercise contexts. However, the current study found that 94% of the CBEPs used verbal methods as the most frequent communication strategy and written material and pictures as the least frequent (29%). Increasing awareness of the importance of nonverbal and alternative methods of communication, and integrating these methods into CBEPs, could promote the accessibility of these programmes to adults with PSA.^{34,35} Aphasia-friendly materials, assistive technologies, and staff trained in conversing with adults with PSA may also help to eliminate barriers and facilitate access to CBEPs.

Our study had several limitations. First, although we made rigorous attempts to develop a comprehensive list of CBEPs in the GTA, we cannot guarantee that those that participated were representative. Second, we were unable to reach all 53 CBEPs. Of the 31 we successfully contacted, we received responses from only 17. Although this response rate (32%) appears to be significantly higher than other studies of similar design,³⁸ it is based

Figure 3 Communication strategies used by CBEPs to facilitate participation by adults with PSA.

CBEPs = community-based exercise programmes; PSA = post-stroke aphasia; AAC = augmentative and alternative communication.

Table 3 CBEP Representatives' Perceived Barriers to Providing Access to Adults with PSA ($n = 17$)

Barrier or limitation	No. (%) of respondents		
	Agree	Neutral	Disagree
Lack of qualified personnel	10 (58.8)	1 (5.9)	6 (35.3)
Lack of appropriate equipment	8 (47.1)	3 (17.6)	6 (35.3)
Cost	7 (41.2)	3 (17.6)	7 (41.2)
Lack of human resources	7 (41.2)	4 (23.5)	4 (23.5)
Lack of knowledge of how to improve accessibility	7 (41.2)	3 (17.6)	7 (41.2)
Low demand	7 (41.2)	2 (11.8)	8 (47.1)
Exercise-related time limitation			
Implementation	6 (35.3)	4 (23.5)	7 (41.2)
Prescription	4 (23.5)	4 (23.5)	9 (53.0)

CBEP = community-based exercise programme; PSA = post-stroke aphasia.

only on the 31 CBEPs. It is imperative to consider that these findings may not be generalizable to the CBEPs that did not complete our questionnaire or to all CBEPs located in the GTA. For example, all 17 respondents reported being open to people with aphasia; it is possible that those who did not respond are not open to people with aphasia and should be further investigated. Last, although these findings demonstrate the extent to which CBEPs in the GTA are accessible to adults with PSA, as well as the characteristics of such programmes, they do not evaluate the effectiveness or quality of these programmes.

Because this study examined only CBEPs in the GTA, a wider examination of CBEPs across Canada may further advance strategies for improving accessibility for adults with PSA. Future research should explore ways to increase awareness of the availability of CBEPs that are aphasia-

friendly early after stroke. Future studies should also explore the best staff complement and training needed to deliver effective CBEPs to adults with PSA as well as the best possible marketing strategies.

CONCLUSION

All the CBEPs surveyed were open to admitting adults with PSA, and they generally employed personal trainers as exercise instructors. However, the lack of qualified personnel to work and communicate with adults with PSA was frequently identified as a barrier to providing access. Furthermore, the majority of CBEPs reported not knowing how to implement appropriate strategies to improve accessibility. Providing transportation services was the most common strategy used to provide access to adults with PSA, but it did not address the unique communication-related accessibility issues of those with PSA. Contrary to the literature that suggests that written material is the most effective method of communication,^{9,35,37} we found that verbal strategies were reported most often. This demonstrates a discrepancy between suggested best practices and the actual strategies used at the programme level. Understanding the common barriers to and facilitators of providing access to adults with PSA may help inform programme procedures and attempts to improve the accessibility for and participation of adults with PSA in CBEPs, ultimately facilitating their involvement in adequate levels of PA.

KEY MESSAGES

What is already known on this topic

Individuals with post-stroke aphasia (PSA) face multiple barriers when attempting to participate in community-based exercise programmes (CBEPs). These barriers have

been categorized as personal, communicative, procedural, and environmental.⁹ Adults with aphasia report that communicative inaccessibility is a significant barrier to their engaging in CBEPs²⁷ and that initiating and arranging participation opportunities are themselves a challenge.²⁸

What this study adds

This study examined the underlying determinants of CBEP accessibility for adults with PSA from the perspective of the programme representatives. The findings identified a gap between the strategies commonly used by CBEPs and those recommended in the literature. Understanding the accessibility barriers faced by adults with PSA will provide guidance to CBEP developers and organizers in developing appropriate strategies for promoting accessibility to those with PSA. Employing physical therapists or other personnel with dedicated aphasia-specific training may mitigate the prevalent communication and movement barriers, thereby facilitating this typically sedentary population's participation in physical activity through participation in CBEPs. Augmenting awareness of the importance of non-verbal and alternative methods of communication, and integrating these methods into CBEPs, could further promote accessibility to adults with PSA.

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