

**AWARENESS OF THE PROMOTING APHASIA COMMUNICATION EFFECTIVENESS
TECHNIQUE AMONG PRACTICING SPEECH LANGUAGE PATHOLOGISTS IN
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Article Received: 17 May 2026

Article Revised: 06 June 2026

Article Published: 01 July 2026

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ABSTRACT

Aphasia is an acquired language disorder that affects an individual's ability to communicate effectively due to nervous system damage most commonly caused by stroke or traumatic brain injury. Promoting Aphasics' Communicative Effectiveness (PACE) is a widely used functional and pragmatic communication approach in aphasia rehabilitation that encourages the use of multimodal communication methods such as speech, gestures, writing and drawing. The present study aimed to assess the awareness of the PACE technique among practicing speech language pathologists in Kerala. A total of 90 practicing speech language pathologists working in hospitals, rehabilitation centres, educational institutions and private clinics participated in the study. questionnaire was validated by Qualified speech language pathologists with an experience of over 10 years to ensure content validity and clinical relevance. Data was analysed using descriptive statistics including frequency and percentage analysis. The findings revealed that the majority of participants demonstrated positive awareness regarding the PACE technique and its clinical application in aphasia rehabilitation. Most respondents were aware of the importance of equal participation, natural conversational feedback, multimodal communication strategies and real life communication practice in PACE therapy. The study concluded that practicing speech language pathologists in Kerala possess considerable awareness regarding the PACE technique, highlighting the importance of continuing professional education and evidence-based functional communication approaches in aphasia rehabilitation.

INTRODUCTION

Aphasia is an acquired language disorder caused by damage to the language centres of the brain most commonly due to stroke, traumatic brain injury or neurological diseases. Individuals with aphasia may experience difficulties in speaking, understanding, reading and writing, which can significantly affect their daily communication and social participation. Aphasia does not affect intelligence rather it interferes with the ability to process and express language. Goodglass and Kaplan (1972) defined aphasia as an impairment of language processing resulting from brain damage affecting expressive and receptive communication abilities. Aphasia rehabilitation therefore focuses on

improving functional communication and quality of life through structured therapeutic approaches.

PACE is one of the important functional approaches used in aphasia rehabilitation. The PACE approach was developed by Davis and Wilcox during in 1970s and was formally described in 1985 and they defined PACE as a pragmatic communication therapy approach that encourages individuals with aphasia to exchange information using any available communication modality such as speech, gestures, drawing, writing or facial expressions. The primary goal of PACE is to improve successful communication rather than focusing only on grammatical accuracy or speech production.

PACE technique is widely used by Speech Language Pathologist because it creates a natural conversational environment between the clinician and the patient. In PACE therapy both participants and clinician alternately function as sender and receiver of messages which promotes equal participation and spontaneous interaction. The approach is particularly beneficial for both fluent and non fluent aphasia as it encourages multimodal communication and reduces pressure on verbal expression alone. Studies have shown that PACE improves communicative confidence, conversational participation and functional communication skills among individuals with aphasia making it one of the most significant pragmatic approaches in aphasia management.

Collins (1986) discussed functional communication treatment approaches for individuals with severe aphasia and emphasized the importance of communication effectiveness rather than grammatical accuracy. The study supported the use of multimodal communication methods during therapy. These principles were closely related to the theoretical foundation of PACE.

Glindemann, Willmes, Huber and Springer (1991) investigated the role of modelling in PACE therapy among individuals with aphasia. The study reported that communicative modelling improved interaction and message exchange during therapy and highlighted the importance of natural conversational feedback in rehabilitation. The findings supported the effectiveness of pragmatic communication approaches.

Davis (2005) revisited the PACE approach and discussed its relevance in contemporary aphasia rehabilitation. The author explained both the strengths and limitations of the technique in clinical practice. The study emphasized communicative participation and patient-centered therapy and concluded that PACE remains influential in functional aphasia management.

Maher (2006) explored the role of functional communication approaches in chronic aphasia rehabilitation. This study demonstrated improvement in communication abilities following pragmatic intervention methods. The findings supported the clinical relevance of functional therapy approaches such as PACE.

Kurland, Baldwin and Tauer (2010) studied treatment-induced improvements in naming and communication among individuals with aphasia. The study highlighted the usefulness of intensive and functional communication-based interventions. They reported improvement in communicative participation after therapy. The findings contributed to evidence supporting pragmatic aphasia rehabilitation approaches.

Kiran and Thompson (2019) discussed evidence-based approaches for aphasia rehabilitation that are widely

referred to in Indian academic and clinical settings. Their work highlighted the importance of patient-centered intervention strategies. The study supported the integration of pragmatic therapy methods into aphasia rehabilitation.

Need of the study

The present study aims to determine the level of awareness of the PACE technique among practicing Speech language pathologists in Kerala. Assessing clinicians' knowledge of this functional communication approach is essential for understanding its implementation in aphasia rehabilitation. The present study may help identify areas requiring further training and support the promotion of evidence-based clinical practices in aphasia management.

METHODOLOGY

Aim

To assess the level of awareness of the PACE technique among practicing Speech language pathologists in Kerala.

Subjects

A total of 90 practicing speech-language pathologists from Kerala working in hospitals, rehabilitation centres, educational institutions and private clinics participated in the study.

Inclusion Criteria

- Practicing Speech language pathologists in Kerala with minimum of 5 years experience.
- Professionals working in hospitals, clinics, rehabilitation centres or educational institutions.

Exclusion Criteria

- Speech language pathologist with less than 1 year of experience.
- Speech language pathologist practicing outside Kerala.
- Speech language pathologist working only paediatric setting.

Procedure

Phase 1: Questionnaire Development and Validation

A questionnaire consisting of 20 close ended questions was developed to assess the awareness and knowledge of the PACE technique among practicing speech language pathologist in Kerala. The questions covered various aspects of PACE including its principles, communication modalities, therapeutic procedures, clinical applications and role in aphasia rehabilitation. To establish content validity and clinical relevance, the questionnaire was reviewed and validated by five speech language pathologists with expertise in aphasia management and rehabilitation. Based on their feedback and suggestions, necessary modifications were incorporated into the final questionnaire.

Phase 2: Questionnaire Administration

The validated questionnaire comprising of 20 Yes/No questions was administered to practicing speech language pathologists in Kerala. Participants were asked to complete the questionnaire based on their knowledge and understanding of the PACE technique. The responses obtained from the subjects were collected and analysed to determine their level of awareness and knowledge regarding the principles and clinical application of PACE therapy in aphasia rehabilitation.

Statistical Analysis

The collected data were entered and analysed using descriptive statistical methods. Frequency and

percentage analyses were used to summarize the responses obtained from the participants. The analysed data were presented in the form of tables and figures for interpretation of awareness levels regarding the PACE technique.

RESULTS AND DISCUSSION

To assess the level of awareness of the PACE technique among practicing speech language pathologists in Kerala.

Table 1: Shows the frequency and percentage of question 1.

		Frequency	Percentage (%)
1. Is PACE a technique used to improve communication in people with aphasia?	No	2	2.2
	Yes	88	97.8
	Total	90	100.0

Table 1 showed that 97.8% (n = 88) of the respondents

correctly identified PACE as a technique used to improve communication in individuals with aphasia.

Table 2: Shows the frequency and percentage of question 2.

		Frequency	Percentage (%)
2. Does PACE focus only on spoken words, not gestures or drawing?	No	10	11.1
	Yes	80	88.9
	Total	90	100.0

Table 2 showed that 88.9% (n = 80) of the respondents answered "Yes," indicating that they believed PACE

focuses only on spoken words and not on gestures or drawing.

Table 3: Shows the frequency and percentage of question 3.

		Frequency	Percentage (%)
3. In PACE therapy, does the person with aphasia ever take the role of the listener (receiver of a message)?	No	8	8.9
	Yes	82	91.1
	Total	90	100.0

Table 3 showed that 91.1% (n = 82) of the respondents answered "Yes," indicating awareness that individuals

with aphasia can take the role of the listener in PACE therapy.

Table 4: Shows the frequency and percentage of question 4.

		Frequency	Percentage (%)
4. Does PACE encourage the use of writing and drawing as communication tools?	No	15	16.7
	Yes	75	83.3
	Total	90	100.0

Table 4 showed that 83.3% (n = 75) of the respondents answered "Yes," indicating awareness that PACE

encourages the use of writing and drawing as communication tools.

Table 5: Shows the frequency and percentage of question 5.

		Frequency	Percentage (%)
5. Is the goal of PACE mainly to practice correct grammar rather than get the message across?	No	17	18.9
	Yes	73	81.1
	Total	90	100.0

Table 5 showed that 81.1% (n = 73) of the respondents answered "Yes," indicating that they believed the main

goal of PACE is to practice correct grammar rather than facilitate message exchange.

Table 6: Shows the frequency and percentage of question 6.

		Frequency	Percentage (%)
6.Does PACE therapy usually involve a picture or message card that the speaker must describe without showing it?	No	12	13.3
	Yes	78	86.7
	Total	90	100.0

Table 6 showed that 86.7% (n = 78) of the respondents answered "Yes," indicating awareness that PACE therapy commonly involves the use of picture or

message cards that must be described without being shown to the listener.

Table 7: Shows the frequency and percentage of question 7.

		Frequency	Percentage (%)
7.In PACE, is the speech-language pathologist always the dominant speaker?	No	7	7.8
	Yes	83	92.2
	Total	90	100.0

Table 7 showed that 92.2% (n = 83) of the respondents answered "Yes," indicating that they believed the speech-

language pathologist is always the dominant speaker in PACE therapy, while 7.8% (n = 7) answered "No."

Table 8: Shows the frequency and percentage of question 8.

		Frequency	Percentage (%)
8.Does PACE try to make communication feel like a conversation or game rather than a drill?	No	8	8.9
	Yes	82	91.1
	Total	90	100.0

Table 8 showed that 91.1% (n = 82) of the respondents answered "Yes," indicating awareness that PACE aims to make communication feel like a natural conversation or

game rather than a repetitive drill, while 8.9% (n = 8) answered "No."

Table 9: Shows the frequency and percentage of question 9.

		Frequency	Percentage (%)
9. Is PACE appropriate only for people with mild aphasia, not severe aphasia?	No	10	11.1
	Yes	80	88.9
	Total	90	100.0

Table 9 showed that 88.9% (n = 80) of the respondents answered "Yes," indicating that they believed PACE is

appropriate only for individuals with mild aphasia and not for those with severe aphasia.

Table 10: Shows the frequency and percentage of question 10.

		Frequency	Percentage (%)
10.Does PACE allow the person with aphasia to choose which communication mode (speech, gesture, drawing, writing) feels easiest?	No	11	12.2
	Yes	79	87.8
	Total	90	100.0

Table 10 showed that 87.8% (n = 79) of the respondents answered "Yes," indicating awareness that PACE allows

individuals with aphasia to choose the communication mode that feels easiest.

Table 11: Shows the frequency and percentage of question 11.

		Frequency	Percentage (%)
11. Is PACE a monomodal approach, meaning only one type of communication can be used at a time?	No	9	10.0
	Yes	81	90.0
	Total	90	100.0

Table 11 showed that 90.0% (n = 81) of the respondents answered "Yes," indicating that they believed PACE is a

monomodal approach in which only one type of communication can be used at a time.

Table 12: Shows the frequency and percentage of question 12.

		Frequency	Percentage (%)
12. Does PACE aim to simulate real-life conversational situations?	No	6	6.7
	Yes	84	93.3
	Total	90	100.0

Table 12 showed that 93.3% (n = 84) of the respondents answered "Yes," indicating awareness that PACE aims to simulate real-life conversational situations.

Table 13: Shows the frequency and percentage of question 13.

		Frequency	Percentage (%)
13. In PACE, is feedback given mainly in the form of natural reactions (e.g., nodding, facial expressions), not explicit grammar correction?	No	5	5.6
	Yes	85	94.4
	Total	90	100.0

Table 13 showed that 94.4% (n = 85) of the respondents answered "Yes," indicating awareness that feedback in PACE is primarily provided through natural communicative reactions rather than explicit grammar correction.

Table 14: Shows the frequency and percentage of question 14.

		Frequency	Percentage (%)
14. Does PACE require the person with aphasia to always get the message exactly right on the first attempt?	No	9	10.0
	Yes	81	90.0
	Total	90	100.0

Table 14 showed that 90.0% (n = 81) of the respondents answered "Yes," indicating that they believed a person with aphasia must get the message exactly right on the first attempt in PACE therapy.

Table 15: Shows the frequency and percentage of question 15.

		Frequency	Percentage (%)
15. Does PACE therapy structured so that both partners take roughly equal turns being the speaker?	No	3	3.3
	Yes	87	96.7
	Total	90	100.0

Table 15 shows that the majority of clinicians (96.7%, n = 87) were aware that PACE therapy is structured so that both communication partners take roughly equal turns as the speaker. Only 3.3% (n = 3) responded "No," indicating high awareness of this principle.

Table 16: Shows the frequency and percentage of question 16.

		Frequency	Percentage (%)
16. Is PACE considered a functional-communication approach rather than a purely linguistic one?	No	12	13.3
	Yes	78	86.7
	Total	90	100.0

Table 16 showed that 86.7% (n = 78) of the respondents answered "Yes," indicating awareness that PACE is a functional-communication approach rather than a purely linguistic intervention.

Table 17: Shows the frequency and percentage of question 17.

		Frequency	Percentage (%)
17. Can PACE be adapted for different severity levels of aphasia?	No	7	7.8
	Yes	83	92.2
	Total	90	100.0

Table 17 showed that 92.2% (n = 83) of the respondents answered "Yes," indicating awareness that PACE can be adapted for individuals with different severity levels of aphasia.

Table 18: Shows the frequency and percentage of question 18.

		Frequency	Percentage (%)
18. Does PACE intentionally avoid using any visual or gestural supports?	No	5	5.6
	Yes	85	94.4
	Total	90	100.0

Table 18 showed that 94.4% (n = 85) of the respondents answered "Yes," indicating that they believed PACE

intentionally avoids the use of visual or gestural supports.

Table 19: Shows the frequency and percentage of question 19.

		Frequency	Percentage (%)
19. Does PACE help reduce frustration by focusing on successful message exchange, not perfect language?	No	8	8.9
	Yes	82	91.1
	Total	90	100.0

Table 19 showed that 91.1% (n = 82) of the respondents answered "Yes," indicating awareness that PACE helps

reduce frustration by emphasizing successful message exchange rather than perfect language production.

Table 20: Shows the frequency and percentage of question 20.

		Frequency	Percentage (%)
20. Is PACE an internationally recognized pragmatic approach used in aphasia rehabilitation?	No	4	4.4
	Yes	86	95.6
	Total	90	100.0

Table 20 showed that 95.6% (n = 86) of the respondents answered "Yes," indicating awareness that PACE is an internationally recognized pragmatic approach used in aphasia rehabilitation.

Table 21: Shows the overall percentage and frequency of awareness of PACE.

	Frequency	Percentage%
Aware	1632	90.6
Not Aware	168	9.3

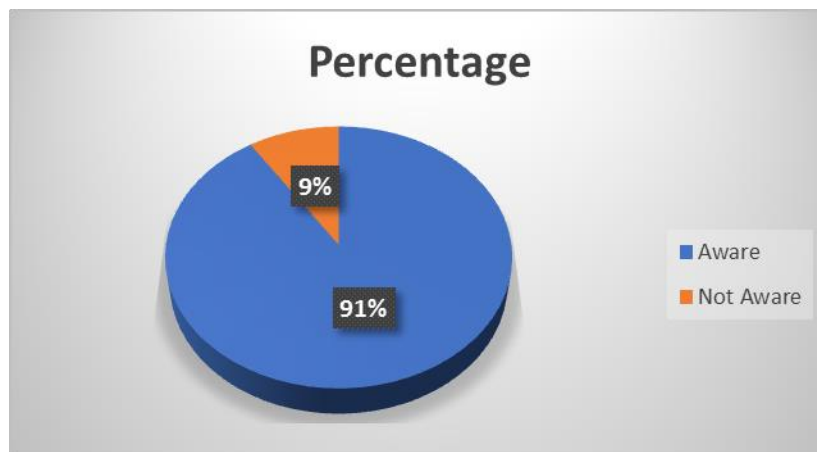


Figure 1: Shows the overall percentage of awareness of PACE.

Table 21 and figure 1 shows the overall awareness of the PACE approach among the participants. The results indicate that a majority of respondents were aware of PACE (90.6%, n = 1632), whereas only 9.3% (n = 168) reported being unaware of the approach.

DISCUSSION

The present study aimed to assess the level of awareness of the PACE technique among practicing speech language pathologists in Kerala. The findings revealed that the majority of participants demonstrated High awareness regarding the principles and clinical application of PACE in aphasia rehabilitation. Most

participants correctly identified that PACE is a functional communication approach used to improve communication in individuals with aphasia. A high percentage of respondents also recognised that the technique encourages the use of multimodal communication methods such as gestures, writing and drawing rather than relying only on spoken language. The results further showed that clinicians were aware of the interactive nature of PACE including equal participation between clinician and client and the use of natural conversational feedback. Most respondents understood that PACE aims to simulate real-life communication situations and focuses on successful

message exchange rather than grammatical perfection. Participants also demonstrated awareness that PACE can be adapted for different severity levels of aphasia and helps reduce frustration during communication. The findings of the present study are consistent with the work of Davis and Wilcox (1985) who introduced PACE as a pragmatic and functional communication approach in aphasia rehabilitation. Similarly, Davis (2005) in PACE Revisited emphasized the importance of communicative participation and natural interaction in therapy. The present findings also agree with Glindemann et al. (1991), who reported that natural feedback and conversational interaction improve communication effectiveness in individuals with aphasia. Overall, the High awareness levels observed in the study indicated increasing knowledge regarding evidence based functional communication approaches among speech-language pathologists in Kerala.

Summary and Conclusion

Aphasia is an acquired language disorder caused by damage to the brain most commonly due to stroke or head injury which affects speaking, understanding, reading and writing while intelligence remains intact. The present study aimed to assess the level of awareness of the PACE technique among 90 practicing Speech-Language Pathologists in Kerala. A questionnaire consisting of 20 closed-ended Yes/No questions was developed and administered to clinicians working in hospitals, rehabilitation centres, educational institutions and private clinics. The results revealed a high overall awareness level (90.6%) with most participants demonstrating good knowledge of PACE as a functional, pragmatic and multimodal communication approach in aphasia rehabilitation. The respondents showed strong understanding of its key principles including the use of multiple communication modes (speech, gesture, writing, drawing), equal turn-taking between clinician and client, natural conversational interaction and focus on meaningful message exchange rather than grammatical accuracy. They also recognized its adaptability across different severity levels of aphasia and its role in reducing communication related frustration. In conclusion the study indicates that Speech-Language Pathologists in Kerala have a high level of awareness regarding the PACE technique and its clinical application. This reflects strong familiarity with functional communication approaches in aphasia rehabilitation. However continued professional training and refresher programs are recommended to further strengthen accurate implementation in clinical practice.

Limitations of the Study

- The study included a limited sample size of practicing speech-language pathologists.
- The study was restricted only to clinicians practicing in Kerala.
- Data were collected using self-reported questionnaires, which may include response bias.

Future Directions

- Future studies can include a larger sample size from different states of India.
- Research can be conducted to evaluate the practical implementation of PACE therapy in clinical settings.
- Comparative studies can be carried out between experienced and newly practicing clinicians regarding PACE awareness.
- Training programs and workshops on functional communication approaches can be developed and evaluated for effectiveness.

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