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Semantic Feature Analysis in Patients with Anomic Aphasia: Knowledge, Attitude and Practice Study in Speech-Language Pathologists

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Abstract: Anomic aphasia presents clinically as predominant difficulty in lexical retrieval against a background of largely intact fluency, comprehension, and repetition. Naming remediation is therefore central to its rehabilitation. Semantic Feature Analysis (SFA) is an evidence-based word retrieval intervention. However, its uptake into routine clinical practice depends on the knowledge, attitude, and practice (KAP) patterns of the practicing speech-language pathologists (SLPs), which exists sparsely in the Indian context. The present study aimed to assess KAP pattern in practicing SLPs in India regarding the use of SFA in patients with anomic aphasia, to examine the relationships among the three KAP domains, and to compare the KAP scores based on clinical experience. A cross-sectional online survey was conducted using a structured questionnaire in 60 practicing SLPs recruited via convenience sampling. Chi-square and Pearson product-moment correlation analysis revealed that knowledge of SFA was broad at the procedural level but weaker on items concerning the underlying activation mechanism and generalization to untrained items. Attitudes were favorable overall, although 36.7% of respondents reported under-utilization of SFA, with lack of training identified as the dominant barrier (59.6%). Knowledge and practice were significantly correlated ($r = .357$, $p = .005$). Stratification by clinical experience revealed that all three inter-domain correlations were significant among clinicians with less than four years of experience, but none reached significance in more experienced clinicians highlighting that mechanism-based curricular content and experience differentiated continuing education are required.

Keywords: semantic feature analysis; anomic aphasia; knowledge, attitudes, and practice; speech-language pathology; India; evidence-based practice.

INTRODUCTION

Aphasia is an acquired language disorder, most commonly resulting from cerebrovascular accident (CVA) and traumatic brain injury (TBI), that affects the comprehension and production of language across spoken, written, and gestural modalities (Engelter et al., 2006). Although estimates vary across populations, between 21% and 38% of stroke survivors are reported to develop aphasia in the acute phase (Engelter et al., 2006; Pauranik et al., 2019). In India, the cumulative incidence of stroke has been documented at 105 to 152 per 100,000 persons per year and the crude prevalence at 44.29 to 559 per 100,000, exceeding rates reported in many high-income countries (Kamalakannan et al., 2017). With an estimated two million persons living with aphasia in India, the need for evidence-based language rehabilitation in this population is substantial (Pauranik et al., 2019).

Anomia, the impairment of word retrieval is the most prevalent and persistent symptom of aphasia, occurring across all aphasia types and frequently remaining as the residual deficit during recovery (Boyle, 2010). It is the defining feature of anomic aphasia, in which word-finding difficulty predominates against largely intact fluency, comprehension, and repetition. Anomia constrains conversational fluency, contributes

to circumlocution and empty speech, and is associated with diminished social interaction and reduced quality of life. Word-retrieval intervention is therefore a central focus of aphasia rehabilitation, and the identification of techniques that produce both item-specific gains and generalization to untrained words has been a longstanding priority.

SFA is one such technique. Originally developed by Boyle and Coelho (1995), SFA is grounded in the spreading activation model of semantic processing (Collins & Loftus, 1975), which proposes that activation of features associated with a target concept facilitates retrieval through increased activation across the semantic network. In clinical application, the technique requires the person with aphasia to generate semantic features of a target item typically, its category, function, location, properties, action, and personal association, thereby strengthening the lexical semantic connections supporting retrieval of both treated and semantically related untreated items (Boyle, 2010). Although SFA targets word-retrieval impairment broadly and has been applied across a range of aphasia syndromes, its evidence base is most extensively developed in anomic aphasia and in other profiles in which lexical retrieval impairment is the prominent feature (Efstratiadou et al., 2018; Quique et al., 2019).

Contemporary frameworks for specifying rehabilitation interventions emphasize that the mechanism of action underlying a technique critically shapes how it is applied and adapted in clinical practice (Hart et al., 2014; Van Stan et al., 2021), making clinician understanding of SFA's theoretical basis as relevant as procedural familiarity with the technique itself.

Maddy et al. (2014) and Efstratiadou et al. (2018) reported positive outcomes for confrontation naming across a range of aphasia profiles, and Quique et al. (2019) provided meta-analytic evidence for the efficacy of SFA in improving naming of both trained and untrained stimuli, with treatment dosage emerging as a significant predictor of outcomes. Despite this consolidated evidence base, generalization to connected speech and the variability of response across individual profiles remain areas of continued investigation. The translation of such evidence into routine clinical practice, however, is not automatic.

A practice gap has been documented within speech-language pathology, with clinicians citing limited time, restricted access to current literature, and gaps in pre-service or continuing education as common barriers to the uptake of empirically supported techniques (Campbell & Douglas, 2017; O'Connor & Pettigrew, 2009; Zipoli & Kennedy, 2005). Aphasia rehabilitation presents additional barriers; beliefs about treatment consequences, organizational influences, and access to therapy materials have been identified as factors shaping whether guideline recommended practices are implemented in clinical settings (Shrubsole et al., 2019).

Beyond contextual and resource related barriers, the integration of evidence into clinical practice is also shaped by clinician level factors, including the level of clinical expertise itself. Established models of skill acquisition in the health professions propose that as clinicians transition from novice through competent to expert levels, decision making shifts from explicit, rule-based reasoning towards intuitive, pattern-based judgement drawn from accumulated experience (Benner, 1984; Dreyfus & Dreyfus, 1986), with implications for how clinicians integrate propositional knowledge and articulated attitudes into routine clinical actions.

KAP framework has been widely adopted in health professions research as a means of characterizing this gap, as it permits the separate examination of what clinicians know about an intervention, how they evaluate it, and whether they actually use it in their caseload. Misalignment between any two of these three domains for example, favorable attitudes coexisting with low utilization is informative for both clinical educators and professional bodies seeking to support evidence-based practice.

The available literature in Indian context, on aphasia rehabilitation indicates broader challenges of resource access, training, and language appropriate materials (Tiwari & Krishnan, 2011), and recent survey work has begun to map clinician perceived competence with various aphasia treatment approaches (Ravi et al., 2026). Given the prevalence of anomia within the Indian aphasia population, the established evidence base for SFA, and the documented research to practice gap in the profession, the present study was undertaken to characterize this domain and to inform future training, curricular, and continuing education priorities for SLPs working in this clinical area. The aim of the present study was to assess the KAP patterns of practicing SLPs in India regarding the use of SFA in patients with anomic aphasia.

METHODOLOGY

Aim

The aim of the present study was to assess the KAP patterns in practicing SLPs regarding the use of SFA in patients with anomic aphasia with the following objectives:

- To evaluate and quantify the current levels of KAP regarding SFA among SLPs working with anomic aphasia.
- To determine if there is a statistically significant difference in KAP scores between SLPs with less clinical experience (< 4 years) versus those with more clinical experience (> 4 years).
- To identify if there is a significant positive correlation between an SLP's Knowledge of SFA, their Attitude towards its efficacy, and their actual clinical Practice.

Ethical Considerations

Study protocol was reviewed and approved by the institutional review board and ethics committee. All participants were provided with a written description of the study aims, procedures, and intended use of the data, and electronic informed consent was obtained prior to questionnaire access.

Participants and Recruitment

Sixty practicing SLPs were recruited through convenience sampling. Recruitment was conducted via professional networks on social media platforms accessed by SLP practitioners. The achieved sample reflected an even distribution across experience strata (Table 1)

Table 1: Distribution of Participants by Years of Clinical Experience (N = 60)

		Frequency (n)	%
Years of clinical experience	< 4 years	30	50
	> 4 years	30	50

Survey Instrument

Structured questionnaire was developed by the investigators for the purposes of the present study, based on the existing SFA literature and the theoretical underpinnings of the technique within models of lexical-semantic processing. The questionnaire was reviewed and validated by practicing SLPs with expertise in adult neurogenic communication disorders prior to administration. The instrument comprised four sections: (a) participant demographics, restricted to years of clinical experience; (b) Knowledge: eight items addressing the theoretical rationale, target population, procedural components, and evidence base for SFA; (c) Attitude: six items examining perceived clinical utility, willingness to use, and perceived barriers to implementation; and (d) Practice: five items concerning actual use of SFA in clinical caseloads. Knowledge items were scored as Correct = 1, Incorrect = 0, and Not Sure = 2. Attitude items were rated on a five-point Likert scale, and Practice items were scored as Regularly-4, Occasionally-3, Rarely-2, Never- 1 for frequency of SFA use and as 4- very confident, 3-moderately confident, 2-slightly confident, 1-not confident for assessing confidence level.

Procedure

Data collection was done using a Google Form survey link through the professional networks accompanied by a brief participant information statement. Prior to answering the survey questions, respondents were asked to give their consent. Data collected was recorded using Microsoft Excel and organized in two groups: Group I (n=30, 50.0%) reporting 0–5 years of clinical experience and Group II (n=30, 50.0%) reporting more than 5 years of clinical experience.

Statistical Analysis

Data were analyzed using IBM SPSS Statistics version 29.0.10 (IBM Corp., Armonk, NY). Descriptive statistics (frequencies, percentages, means, and standard deviations) summarized demographic and item-level responses. Differences across years of clinical experience were examined using Chi-square with the Likelihood Ratio statistic applied where expected cell frequencies were low. Associations among cumulative KAP scores were examined using Pearson's product-moment correlation coefficient (r). Statistical significance was set at $p < .05$ (two-tailed).

RESULTS

The aim of the present study was to assess the KAP patterns in practicing SLPs regarding the use of SFA in patients with anomic aphasia and results are discussed below.

Knowledge of SFA

Prior to the substantive Knowledge items, participants were asked whether they were familiar with the concept of SFA, 50 participants (83.3%) reported being familiar with the concept and 10 (16.6%) reported being unsure; no participant reported being unfamiliar. The high baseline familiarity supports the relevance of the substantive knowledge analysis presented in Table 2 and Figure 1.

Table 2:Item-wise Distribution of Knowledge Responses (N = 60)

Item No.	Knowledge	Correct		Incorrect		Not sure	
		n	%	n	%	n	%
1.	SFA is primarily used for:	49	81.7	2	3.3	9	15.0
2.	SFA is most commonly applied in:	48	80.0	0	0	12	20.0
3.	Which of the following is a key component of SFA?	43	71.7	14	23.3	3	5.0
4.	SFA aims to improve:	40	66.7	17	28.3	3	5.0
5.	SFA involves activation of:	38	63.3	19	31.7	3	5.0
6.	Do you believe SFA has evidence supporting its effectiveness in aphasia rehabilitation?	42	70.0	4	6.7	14	23.3
7.	SFA can generalize to untrained items:	31	51.7	3	5.0	26	43.3

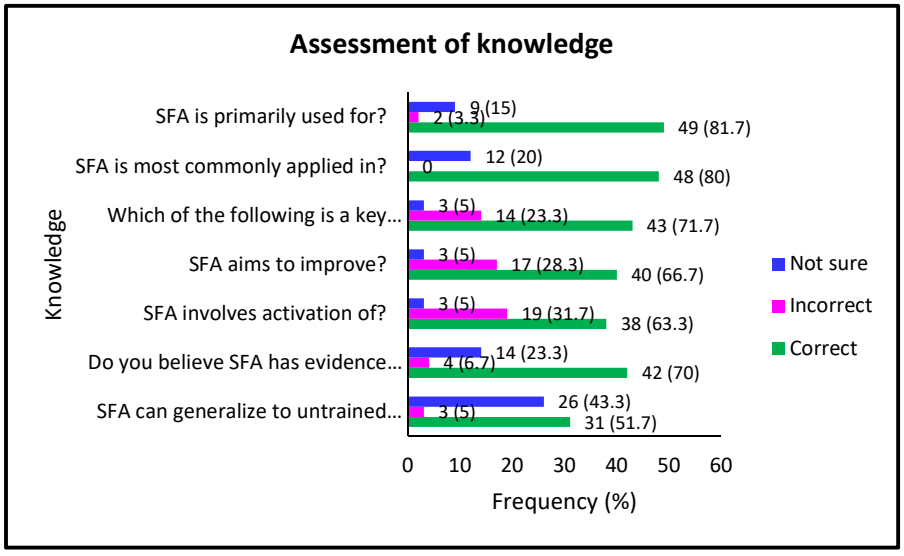

Fig 1: Item-wise Distribution of Knowledge Responses (N = 60)

Correct responses ranged from 51.7% to 81.7% across the seven Knowledge items. The highest accuracy was observed for item 1 and 2 concerning the general purpose and population for SFA, indicating that broad procedural awareness was well established within the sample. Accuracy was lower for item 3 addressing the theoretical mechanism underlying SFA (63.3% correct) and item 7 exploring the principle of generalization to untrained items (51.7% correct), with the latter item also producing the highest proportion of "Not Sure" responses (43.3%), suggesting that the theoretical and generalization aspects of SFA are the least securely held areas of knowledge in the sample.

Comparison by years of clinical experience using the Likelihood Ratio test indicated that only one Knowledge item differed significantly across experience strata: item 2; "SFA is most commonly applied in" (LR = 3.89, p = .049), while item 1 approached significance; "SFA is primarily used for" (LR = 5.90, p = .052). The remaining five Knowledge items showed no significant difference by experience (all p > .35; Table 3).

Table 3:Comparison of knowledge according to years of clinical experience

Item No.	Knowledge		Years of clinical experience:				Likelihood ratio	p value	Significance
			< 4 years		> 4 years				
			n	%	n	%			
1.	SFA is primarily used for:	Correct	26	86.7	23	76.7	5.90	0.052	NS
		Incorrect	2	6.7	0	0.0			
		Not sure	2	6.7	7	23.3			
2.	SFA is most commonly applied in	Correct	27	90.0	21	70.0	3.89	0.049	S
		Not sure	3	10.0	9	30.0			
3.	Which of the following is a key component of SFA?	Correct	21	70.0	22	73.3	0.36	0.834	NS
		Incorrect	7	23.3	7	23.3			
		Not sure	2	6.7	1	3.3			
4.	SFA aims to improve:	Correct	18	60.0	22	73.3	1.27	0.529	NS
		Incorrect	10	33.3	7	23.3			
		Not sure	2	6.7	1	3.3			
5.	SFA involves activation of:	Correct	21	70.0	17	56.7	2.09	0.351	NS
		Incorrect	7	23.3	12	40.0			
		Not sure	2	6.7	1	3.3			
6.	Do you believe SFA has evidence supporting its effectiveness in aphasia rehabilitation?	Correct	22	73.3	20	66.7	0.38	0.826	NS
		Incorrect	2	6.7	2	6.7			
		Not sure	6	20.0	8	26.7			
7.	SFA can generalize to untrained items:	Correct	15	50.0	16	53.3	0.53	0.769	NS
		Incorrect	1	3.3	2	6.7			
		Not sure	14	46.7	12	40.0			

Attitudes Towards SFA

Attitudes towards SFA were broadly favorable across the sample (Table 4 & Figure 2). The combined "Agree" and "Strongly Agree" categories endorsed the effectiveness of SFA for word-finding difficulties (70.0%), the routine inclusion of SFA in aphasia therapy (63.4%), the applicability of SFA across severity levels (85.0%), and most strongly, the inclusion of SFA training within MASLP / M.Sc. SLP curricula (90.0%). Notably, despite generally positive attitudes, only 45.0% of participants expressed agreement with being interested in receiving *further* training in SFA, with 23.3% expressing disagreement and 31.7% remaining neutral, a pattern that contrasts with the strong endorsement of pre-service training.

Table 4:Item-wise Distribution of Attitude Responses (N = 60)

Item No.	Attitude	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
		n	%	n	%	n	%	n	%	n	%
1.	SFA is an effective approach for treating word-finding difficulties in aphasia.	0	0	3	5	15	25	15	25	27	45

2.	I feel confident in my understanding of SFA principles.	0	0	0	0	24	40	17	28.3	19	31.7
3.	SFA should be routinely included in aphasia therapy.	4	6.7	3	5	15	25	16	26.7	22	36.7
4.	SFA is easy to implement in clinical settings.	0	0	0	0	21	35	31	51.7	8	13.3
5.	Training in SFA should be emphasized during MASLP/M. Sc SLP education.	2	3.3	2	3.3	2	3.3	22	36.7	32	53.3
6.	SFA is applicable across different severity levels of aphasia.	0	0	2	3.3	5	8.3	26	43.3	25	41.7
7.	I am interested in receiving further training in SFA.	2	3.3	12	20	19	31.7	18	30	9	15

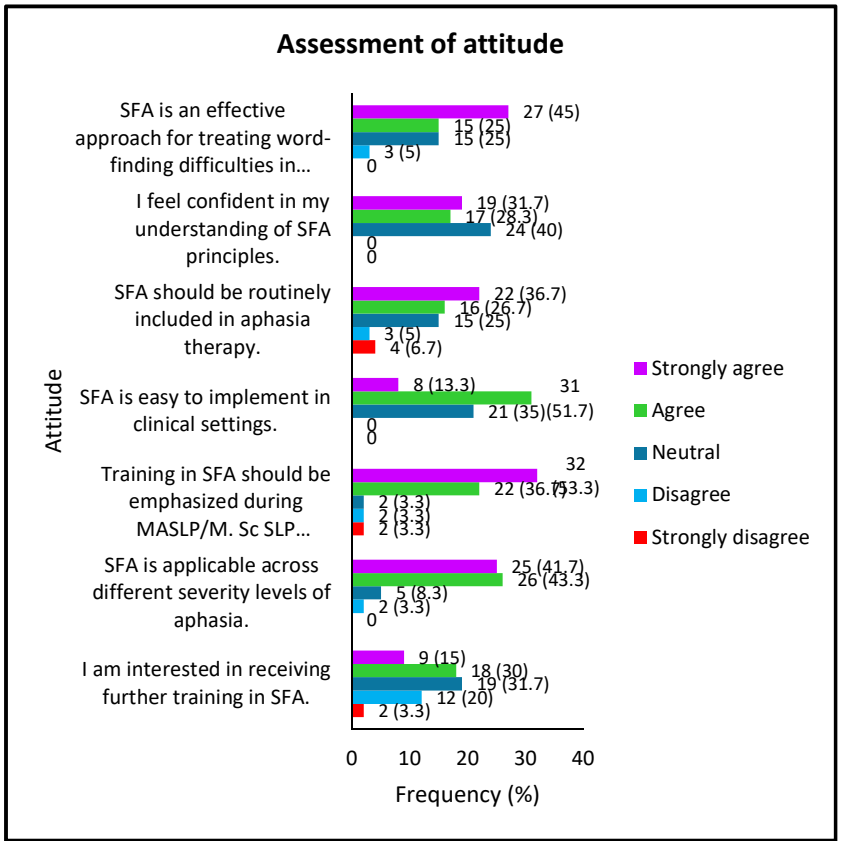

Fig 2: Item-wise Distribution of Attitude Responses

Comparison by years of clinical experience revealed significant differences on six of the seven Attitude items (Table 5): item 1; effectiveness for word-finding difficulties (LR = 14.62, p = .002), item 2; confidence in understanding SFA principles (χ^2 = 14.33, p = .001), item 3; routine inclusion in therapy (χ^2 = 14.33, p = .001), item 4; ease of clinical implementation (LR = 11.25, p = .024), item 6; applicability across severity levels (LR = 10.54, p = .032), and item 7; interest in further training (LR = 9.68, p = .046). Only item 5; concerning curricular emphasis on SFA training showed no significant difference by experience (LR = 0.59, p = .746), reflecting strong agreement across both experience groups.

Table 5: Comparison of attitude according to years of clinical experience

Item No.	Attitude		Years of clinical experience:				Likelihood ratio / Chi square#	p value	Significance
			< 4 years		> 4 years				
			n	%	n	%			
1.	SFA is an effective approach for treating word-finding difficulties in aphasia.	Disagree	3	10.0	0	0	14.62	0.002	S
		Neutral	7	23.3	8	26.7			
		Agree	12	40.0	3	10.0			
		Strongly agree	8	26.7	19	63.3			
2.	I feel confident in my understanding of SFA principles.	Neutral	14	46.7	10	33.3	14.33#	0.001	S
		Agree	13	43.3	4	13.3			
		Strongly agree	3	10.0	16	53.3			
3.	SFA should be routinely included in aphasia therapy.	Strongly disagree	2	6.7	2	6.7	14.326[a]	0.001	S
		Disagree	3	10.0	0	0			
		Neutral	8	26.7	7	23.3			
		Agree	11	36.7	5	16.7			
		Strongly agree	6	20.0	16	53.3			
4.	SFA is easy to implement in clinical settings.	Neutral	11	36.7	10	33.3	11.25	0.024	S
		Agree	16	53.3	15	50.0			
		Strongly agree	3	10.0	5	16.7			
5.	Training in SFA should be emphasized during MASLP/M.Sc. SLP education.	Strongly disagree	2	6.7	0	0	0.59	0.746	NS
		Disagree	0	0	2	6.7			
		Neutral	1	3.3	1	3.3			
		Agree	15	50.0	7	23.3			
		Strongly agree	12	40.0	20	66.7			
6.	SFA is applicable across different severity levels of aphasia.	Strongly disagree	2	6.7	0	0	10.54	0.032	S
		Disagree	3	10.0	2	6.7			
		Neutral	15	50.0	11	36.7			
		Agree	8	26.7	17	56.7			
		Strongly agree	2	6.7	0	0			
7.	I am interested in receiving further training in SFA.	Strongly disagree	2	6.7	0	0	9.68	0.046	S
		Disagree	3	10.0	9	30.0			
		Neutral	9	30.0	10	33.3			
		Agree	8	26.7	10	33.3			
		Strongly agree	8	26.7	1	3.3			

Practice of SFA

Clinical use of SFA was uneven across the sample (Table 6, Figure 3). While 63.4% of participants reported using SFA at least occasionally in their clinical practice, 36.7% reported never or rarely using the technique, indicating substantial under-utilization despite the favorable attitudes documented in the current study. Self-reported confidence in administering SFA followed a similar pattern, with 63.3% rating themselves as moderately or very confident and 36.7% reporting low confidence.

Table 6:Item-wise Distribution of Practice Responses (N = 60)

Item No.	Practice		Frequency	%
1.	Do you use SFA in your clinical practice?	Never	13	21.7
		Rarely	9	15.0
		Occasionally	22	36.7
		Regularly	16	26.7
2.	How confident are you in administering SFA?	Not confident	13	21.7
		Slightly confident	9	15.0
		Moderately confident	24	40.0
		Very confident	14	23.3

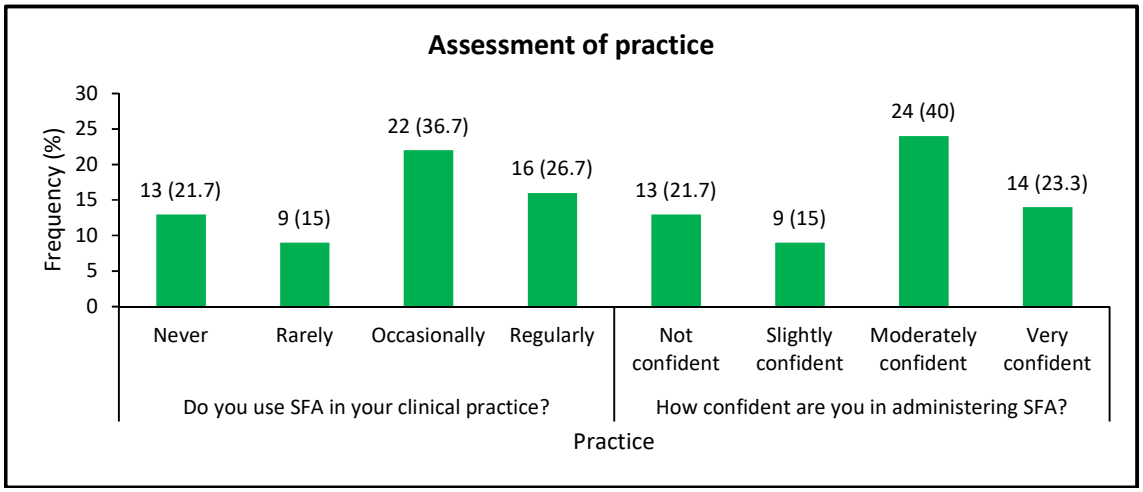

Fig 3: Item-wise Distribution of Practice Responses (N = 60)

Both Practice items differed significantly by years of clinical experience (Table 7): item 1; use of SFA in clinical practice (LR = 9.48, p = .024) and item 2; confidence in administering SFA (LR = 9.35, p = .025), with Group II (>4-year experience) showing markedly higher proportions of regular use (40.0% vs. 13.3%) and very high confidence (36.7% vs. 10.0%).

Table 7:Comparison of practice according to years of clinical experience

Item No.	Practice		Years of clinical experience:				Likelihood ratio	p value	Significance
			< 4 years		> 4 years				
			n	%	n	%			
1.	Do you use SFA in your clinical practice?	Never	5	16.7	8	26.7	9.484	0.024	S
		Rarely	7	23.3	2	6.7			
		Occasionally	14	46.7	8	26.7			
		Regularly	4	13.3	12	40.0			

2.	How confident are you in administering SFA?	Not confident	6	20.0	7	23.3	9.345	0.025	S
		Slightly confident	4	13.3	5	16.7			
		Moderately confident	17	56.7	7	23.3			
		Very confident	3	10.0	11	36.7			

Most frequently endorsed barrier was lack of training (n = 35, 58.3%), followed by patient-related factors (n = 14, 23.3%), time constraints (n = 8, 13.3%), and lack of resources (n = 3, 5%). The predominance of lack of training as the principal perceived barrier is consistent with the strong endorsement of curricular emphasis on SFA training observed in the Attitude domain.

Cumulative Scores and Inter-Domain Associations

Cumulative scores for each KAP domain and the corresponding Pearson product-moment correlations are summarized in Table 8.

Table 8:Cumulative Knowledge, Attitude, and Practice Scores and Inter-Domain Correlations (N = 60)

Domain	Observed range	*M*	*SD*	Correlation	*r*	*p*
Knowledge	4 – 13	7.18	1.79	Knowledge – Attitude	.205	.116
Attitude	13 – 33	26.62	4.90	Attitude – Practice	.254	.050*
Practice	2 – 8	5.33	2.08	Knowledge – Practice	.357	.005**

Note. * $p \leq .05$; ** $p \leq .01$.

As shown in Table 8, at the cumulative level, Knowledge and Practice were significantly and positively correlated ($r = .357$, $p = .005$), as were Attitude and Practice ($r = .254$, $p = .050$), although the latter association reached only borderline significance. The correlation between Knowledge and Attitude did not reach statistical significance ($r = .205$, $p = .116$). The pattern indicates that Practice is the domain most consistently associated with the other two KAP components in the present sample, whereas Knowledge and Attitude appear to operate relatively independently of one another at the aggregate level.

Inter-Domain Associations Stratified by Years of Clinical Experience

Stratification of the inter-domain correlations by years of clinical experience produced a notably divergent pattern across the two experience groups, as shown in Table 9.

Table 9:Inter-Domain Correlations Stratified by Years of Clinical Experience

Correlation	< 4 years ($n = 30$) *r*	< 4 years ($n = 30$) *p*	> 4 years ($n = 30$) *r*	> 4 years ($n = 30$) *p*
Knowledge – Attitude	.374	.042*	−042*	.505
Knowledge – Practice	.435	.016*	.313	.092
Attitude – Practice	.639	< .001***	− .00	.620

Note. * $p \leq .05$; *** $p \leq .001$.

Among clinicians with less than four years of experience, all three inter-domain correlations were statistically significant and positive, with the Attitude–Practice association reaching a moderate-to-strong magnitude ($r = .639$, $p < .001$). In contrast, none of the three correlations reached statistical significance among clinicians with more than four years of experience, and both the Knowledge–Attitude and Attitude–Practice correlations in this group were negative in direction, although the magnitudes were small and the associations non-significant. The contrast indicates that the alignment between knowing about SFA, valuing SFA, and using SFA observed at the cumulative level is driven predominantly by the less-experienced subgroup, whereas the three domains appear to operate more independently among more experienced clinicians.

DISCUSSION

The present study examined the KAP patterns of practicing SLPs in India regarding the use of SFA, broad at the level of procedural awareness but markedly weaker on items addressing the underlying activation mechanism and the principle of generalization to untrained items. Attitudes towards SFA were favorable overall, yet a substantial proportion of respondents reported underutilization of the technique in their clinical caseloads, with lack of training identified as the dominant self-reported barrier. Although KAP were positively associated at the aggregate level, this integration was driven almost entirely by clinicians with less than four years of experience, with the three domains operating largely independently among more experienced clinicians.

Knowledge profile observed in the present sample is consistent with the consolidation of SFA into the procedural vocabulary of contemporary aphasia rehabilitation, while indicating an area of specific concern. Over 80% of respondents correctly identified the purpose and target population for SFA, but accuracy fell to 51.7% on the item concerning generalization to untrained items, with a further 43.3% reporting uncertainty. This pattern mirrors a genuine empirical uncertainty in the SFA literature itself, in which item-specific naming gains are robustly demonstrated but generalization to untrained items and to connected speech remains variable across studies (Efstratiadou et al., 2018; Maddy et al., 2014; Quique et al., 2019). The weaker grasp of the activation mechanism underlying SFA is of greater clinical concern, since clinician understanding of the action mechanism of an intervention shapes the selection of targets, the calibration of dose, and the adaptation of the technique for individual patients (Hart et al., 2014; Van Stan et al., 2021). Procedural familiarity without mechanism-based understanding restricts the capacity to adapt SFA to the heterogeneous presentations encountered in clinical aphasia.

Favorable attitudinal profile contrasted with uneven clinical use, with 36.7% of respondents reporting that they never or rarely used SFA in their caseload. The principal self-reported barrier was lack of training (59.6%), with time and resource constraints endorsed considerably less frequently. This barrier profile differs from the wider international SLP literature, in which time and workload have most often been identified as the dominant barriers to evidence-based practice (Campbell & Douglas, 2017); O'Connor & Pettigrew, 2009; Shrubsole et al., 2019; Zipoli & Kennedy, 2005), and is more plausibly explained by structural variation in the pre-service curricular coverage of evidence-based aphasia interventions within Indian BASLP and MASLP programs (Tiwari & Krishnan, 2011).

A related disjunction emerged within the attitudinal data itself: 90.0% of respondents endorsed the inclusion of SFA within MASLP / M.Sc. SLP curricula, yet only 45.0% expressed personal interest in receiving further SFA training. This pattern, in which clinicians endorse the systemic importance of training in a domain at higher rates than they endorse personal need, has been documented in the wider continuing-education literature in speech-language pathology (Zipoli & Kennedy, 2005) and suggests that SFA may be regarded by experienced clinicians as a topic for novice education rather than for ongoing professional development. The convergence of these findings supports the broader calls of the Expert Group Meeting on Aphasia for standardized, technique specific training and capacity-building for aphasia rehabilitation across India (Pauranik et al., 2019; Ravi et al., 2026).

At the aggregate level, the inter-domain correlations followed a pattern in which Knowledge and Practice were significantly and positively associated, Attitude and Practice approached significance, and Knowledge and Attitude were not significantly correlated. The absence of Knowledge-Attitude correlation in particular suggests that, in this clinical area, knowledge of SFA translates into behavioral use of the technique somewhat independently of the clinician's attitudinal stance a pattern consistent with the view that mechanism-based knowledge shapes procedural choices more directly than it shape attitudinal evaluation (Hart et al., 2014).

Most substantive finding of the present study, however, emerges from the stratification of the inter-domain correlations by years of clinical experience. Among clinicians with less than four years of experience, all three inter domain correlations were statistically significant and positive, with the Attitude-Practice correlation reaching a moderate to strong magnitude. Among clinicians with more than four years of experience, none of the three correlations reached statistical significance, and both the Knowledge-Attitude and Attitude-Practice correlations were small and negative in direction. This contrast is interpretable through the established literature on clinical expertise and skill acquisition (Benner, 1984; Dreyfus & Dreyfus, 1986), which proposes that as clinicians transition from competent through proficient to expert levels, decision making shifts from explicit, rule-based reasoning towards intuitive, pattern-based judgement.

Integration of knowledge, attitude, and behavior observed in the less experienced subgroup is consistent with the analytic decision-making characteristic of earlier stages of skill acquisition, in which clinical action is constructed from explicit knowledge and articulated attitudinal commitments. Conversely,

the apparent independence of the three domains in the more-experienced subgroup may reflect the tacit, pattern-based decision making of later stages, in which routinised clinical action runs through schemata that have become decoupled from the propositional knowledge and articulated attitudes that a questionnaire is able to elicit. The implication is methodological as well as substantive: KAP surveys may systematically underestimate the integration of knowledge into practice among experienced clinicians, because the integration has become tacit rather than because it has weakened.

This interpretation should be regarded as suggestive rather than definitive, since with 30 clinicians per subgroup the absence of significant correlations in the more-experienced group could also be attributable to reduced statistical power or restricted range on the KAP variables. Replication with larger and more stratified samples, ideally combined with qualitative methods capable of eliciting tacit clinical reasoning, would help to adjudicate between these possibilities.

SUMMARY AND CONCLUSION

The present study examined the KAP patterns of 60 practicing SLPs in India regarding the use of SFA in patients with anomic aphasia, using a self-developed, expert-reviewed questionnaire administered online. Knowledge of SFA was broad at the level of procedural awareness but was weaker for items addressing the underlying activation mechanism and the principle of generalization to untrained items. Attitudes towards SFA were favorable across the sample, particularly with respect to the inclusion of SFA within MASLP / M.Sc. SLP curricula, although a smaller proportion of respondents expressed personal interest in further training. Clinical use of the technique was uneven, with over a third of respondents reporting that they never or rarely used SFA in their caseload, and the principal self-reported barrier to use was lack of training. KAP were positively associated at the aggregate level, with knowledge most consistently linked to practice; however, stratification by years of clinical experience revealed that this integration was driven predominantly by clinicians with less than four years of experience, with the three domains operating largely independently among more experienced clinicians. Taken together, the findings indicate that the principal challenge to wider clinical uptake of SFA in the Indian context is not one of awareness or attitude but of structured, mechanism-based training, and that the relationship between what clinicians know, what they believe, and what they do shifts in a meaningful way over the course of professional development.

CLINICAL IMPLICATIONS

The present study yields three concrete implications. First, the SFA component of Indian BASLP and MASLP curricula can be revised so that the spreading-activation mechanism and the conditions governing generalization to untrained items are taught as core assessable content, rather than as background context to the procedural steps. Second, continuing education offerings on SFA for clinicians beyond four years of experience should be delivered as short, case specific modules. For example, applying SFA to fluent versus non-fluent profiles, or to bilingual presentations common in Indian practice rather than as general introductory training, since experienced clinicians in the present sample endorsed curricular SFA training (90.0%) at twice the rate they endorsed personal interest in further training (45.0%). Third, given the experience stratified pattern of inter-domain associations, peer case discussion and structured supervision are more appropriate professional development formats for experienced clinicians than didactic instruction.

LIMITATIONS

Few limitations of the present study that should be acknowledged are: recruitment was conducted through convenience sampling via social media. The sample of 60 participants, although appropriate for the planned analysis holds limited statistical power for subgroup comparisons and may partly account for the absence of significant inter-domain correlations among more experienced clinicians. The data are also self-reported, and the practice items in particular relied on respondent recall rather than direct observation. Finally, demographic profiling was restricted to years of clinical experience; additional clinician-level variables such as workplace setting, and aphasia caseload exposure were not analyzed.

FUTURE DIRECTIONS

Building on the current findings, future research with larger and more stratified samples would permit firmer inferences about the experience related pattern of inter-domain associations and would support finer grained subgroup analysis. The inclusion of qualitative methods such as interviews or think aloud protocols would help to elicit the tacit clinical reasoning that a questionnaire is unable to capture, and would enable a fuller test of the skill-acquisition interpretation advanced in the present study. Extension of the same approach to

other evidence-based aphasia interventions would further indicate whether the patterns reported here generalize across the broader landscape of aphasia rehabilitation in India.

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