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Perspectives and Clinical Practices of Speech-Language Pathologists Regarding Cultural Food Adaptations in Dysphagia Management

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ABSTRACT

Background: *Dysphagia management relies heavily on texture-modified diets and standardized frameworks such as the International Dysphagia Diet Standardization Initiative (IDDSI); however, effective implementation requires culturally responsive adaptation to traditional food practices. In Pakistan, staple foods such as roti, rice, lentils, and meat curries present unique challenges for safe texture modification, and limited evidence exists regarding clinicians' preparedness to integrate cultural food considerations into dysphagia care.* ***Objective:*** *To assess the perspectives, confidence levels, clinical practices, and perceived barriers of Speech-language pathologists (SLPs) regarding cultural food adaptations in dysphagia management in Lahore, Pakistan.* ***Methods:*** *A cross-sectional survey was conducted among 74 practicing SLPs recruited through purposive sampling across hospitals, rehabilitation centers, and clinics. A structured 102-item questionnaire assessed demographics, dysphagia experience, confidence in modifying traditional foods, integration of cultural preferences, resource utilization, and training needs. Descriptive statistics and chi-square tests were performed using SPSS version 27 with significance set at $p < 0.05$.* ***Results:*** *Although 64.9% reported using IDDSI guidelines, 62.1% expressed low confidence in modifying traditional Pakistani foods, and 55.4% rarely or never considered cultural food preferences in therapy planning ($p < 0.001$). Limited knowledge (54.1%) was the most frequently reported barrier, while 64.9% expressed interest in culturally focused workshops. Utilization of local food guides was low (27.0%).* ***Conclusion:*** *A substantial gap exists between standardized guideline use and culturally contextualized clinical application in dysphagia management. Targeted training, interdisciplinary collaboration, and development of Pakistan-specific adaptation protocols are warranted to enhance culturally responsive practice.*

Keywords: *Dysphagia management; Cultural competence; Texture-modified diet; IDDSI; Speech-language pathologists; Pakistan; Cultural food adaptation; Clinical practice*

INTRODUCTION

Dysphagia is a clinically significant disorder of swallowing that affects individuals across the lifespan, particularly those with stroke, neurodegenerative disease, traumatic brain injury, and advanced age, and is associated with serious complications including aspiration pneumonia, malnutrition, dehydration, prolonged hospitalization, and reduced quality of life (1,2). Texture-modified diets and thickened fluids remain central to dysphagia management, with international consensus frameworks such as the International Dysphagia Diet Standardisation Initiative (IDDSI) providing standardized terminology and objective testing methods to enhance safety and communication across care settings (3). However, the effectiveness of dietary modification depends not only on biomechanical safety but also on patient adherence, caregiver implementation, and contextual feasibility, all of which are strongly influenced by cultural food preferences, religious practices, socioeconomic factors, and family eating patterns (4,5). Evidence suggests that strict adherence to generic or Western-oriented texture-modified diets, without attention to culturally familiar foods, may

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reduce compliance, compromise nutritional intake, and negatively affect dignity and identity associated with mealtimes (6).

In low- and middle-income countries (LMICs), including Pakistan, dysphagia management is further challenged by limited access to instrumental assessment, inconsistent availability of standardized protocols, and gaps in pre-service and continuing professional education (7,8). Survey-based research among Pakistani speech-language pathologists (SLPs) has identified deficiencies in dysphagia-specific training, limited use of validated assessment tools, and variability in evidence-based therapeutic decision-making (7). Concurrently, caregiver-focused studies in Pakistan report high rates of non-compliance with prescribed texture-modified diets, often due to strong cultural attachment to traditional foods such as roti, rice, lentils, and meat curries, financial constraints, and inadequate understanding of aspiration risks (9). These findings indicate a complex interaction between clinical recommendations and sociocultural realities, suggesting that standardized frameworks alone may be insufficient without contextual adaptation.

Cultural competence, cultural humility, and culturally responsive care frameworks emphasize the need for clinicians to move beyond superficial awareness toward systematic integration of patients' food traditions, religious practices, language preferences, and family dynamics into assessment and intervention planning (10,11). International experiences adapting IDDSI to region-specific cuisines, such as East Asian rice-based diets, demonstrate that localization requires collaboration with dietitians, food service professionals, and community stakeholders to preserve cultural authenticity while maintaining objective safety criteria (12). In Pakistan, initial efforts to align dysphagia diet protocols with traditional foods have shown promise in improving acceptability and compliance, yet evidence regarding widespread clinical uptake, practitioner confidence, and real-world implementation remains limited (13).

Despite increasing recognition of cultural factors in dysphagia management, there is a paucity of empirical data examining how Pakistani SLPs perceive and operationalize cultural food adaptations in routine clinical practice. Specifically, little is known about clinicians' knowledge of culturally adapted texture modification techniques, confidence in modifying staple Pakistani foods, frequency of integrating traditional food preferences into therapy planning, perceived barriers such as time and resource constraints, and training needs related to culturally responsive dysphagia care. The absence of such data represents a critical knowledge gap, particularly in an urban Pakistani context where diverse linguistic, culinary, and socioeconomic profiles intersect with variable healthcare infrastructure.

Accordingly, the present study was designed to address this gap by systematically evaluating the perspectives and current clinical practices of SLPs in Lahore, Pakistan, regarding cultural food adaptations in dysphagia management. Framed within a cross-sectional survey design, the population comprised practicing SLPs involved in dysphagia care; the exposure of interest was professional training, resource availability, and clinical experience; and the primary outcomes included self-reported knowledge, confidence, adaptation practices, interdisciplinary collaboration, and perceived barriers. The study sought to answer the research question: What are the prevailing attitudes, confidence levels, and clinical practices of Pakistani speech-language pathologists regarding cultural food adaptations in dysphagia management, and what systemic or educational factors influence their implementation?

MATERIALS AND METHODS

This cross-sectional observational study was conducted to evaluate the perspectives and clinical practices of speech-language pathologists (SLPs) regarding cultural food adaptations

in dysphagia management within tertiary and secondary healthcare settings in Lahore, Punjab, Pakistan. Data collection was carried out over a six-month period from August 2025 to January 2026 across multiple institutions, including government hospitals, teaching hospitals, rehabilitation centers, and private speech therapy clinics, to enhance variability in practice environments and reduce single-site bias.

The study design was selected to provide a structured assessment of prevailing clinical behaviors, perceived barriers, and training needs in a defined professional population, consistent with survey-based investigations of dysphagia practice patterns in similar contexts (7,9).

Eligible participants were licensed SLPs holding at least a bachelor's degree in Speech-Language Pathology, with a minimum of six months of clinical experience in dysphagia management, currently practicing in Lahore. Both male and female clinicians were included. Exclusion criteria comprised students who had not completed professional training, practitioners working exclusively in non-clinical administrative or academic roles without active dysphagia caseloads, and questionnaires with more than 20% incomplete responses. Participant identification was performed using institutional staff lists, professional networks, and coordination with local healthcare administrators.

Potential participants were approached in person or via secure electronic communication and were provided with a standardized participant information sheet detailing study objective, voluntary participation, confidentiality safeguards, and the right to withdraw without penalty. Written informed consent was obtained prior to questionnaire administration.

The primary data collection instrument was a structured, self-administered questionnaire developed following an extensive literature review on cultural competence, IDDSI implementation, dysphagia management practices, and LMIC healthcare barriers (3,7,10,13). The instrument comprised 102 items organized into thematic domains including demographic characteristics, professional training and experience, familiarity with culturally specific foods, confidence in modifying traditional Pakistani foods, frequency of integrating cultural food preferences into therapy planning, interdisciplinary collaboration, patient and caregiver engagement strategies, perceived systemic barriers, and training needs. Response formats included dichotomous (yes/no), multiple-choice, and 5-point Likert Scale items to capture frequency and confidence gradients.

The draft questionnaire underwent content review by two senior SLPs and one academic faculty member in rehabilitation sciences to ensure domain relevance and clarity. A pilot test was conducted with a small group of clinicians (not included in final analysis) to refine wording and response structure. Internal consistency reliability of the final instrument was evaluated using Cronbach's alpha, yielding an overall coefficient of 0.635, indicating acceptable internal consistency for an exploratory survey instrument.

The primary outcome variables included self-reported confidence in modifying traditional foods (ordinal scale), frequency of recommending texture-modified adaptations, consideration of cultural and religious meal practices, and perceived barriers such as limited knowledge, time constraints, and resource limitations. Independent variables included years of general clinical experience, years of dysphagia-specific experience, work setting, training frequency, and use of IDDSI guidelines.

Operational definitions for constructs such as cultural competence, texture-modified diet, IDDSI framework adherence, and patient compliance were aligned with established

international definitions (3,10). To minimize information bias, questionnaires were completed anonymously without collection of identifiable personal data, and participants were instructed to respond based on current routine practice rather than perceived ideal standards. Completed paper forms were stored in locked cabinets, and electronic datasets were password protected with restricted access.

Sample size estimation was performed using OpenEpi software, assuming a 95% confidence level, an anticipated proportion of interest of 10.4%, and a 7% margin of error, resulting in a minimum required sample of 74 participants. To account for potential non-response, 100 eligible SLPs were invited to participate.

A total of 74 complete responses were included in the final analysis, corresponding to the calculated minimum sample size. Data were entered into the Statistical Package for the Social Sciences (SPSS) version 27 for analysis.

Descriptive statistics were computed for all variables, including frequencies, percentages, means, and standard deviations where appropriate. Associations between categorical variables, such as confidence level and years of dysphagia experience or training exposure, were assessed using chi-square or Fisher's exact tests as appropriate. For ordinal outcomes, trend analyses were considered. Statistical significance was set at a two-tailed alpha level of 0.05. Complete-case analysis was performed, as no submitted questionnaires met exclusion criteria for missing data.

To address potential confounding, stratified analyses were planned based on years of dysphagia experience and training frequency when examining associations between confidence and reported adaptation practices.

The cross-sectional design limits causal inference: therefore, all associations were interpreted as correlational rather than causal. Reproducibility was enhanced by maintaining a standardized questionnaire, predefined coding schemes, double-checking data entry accuracy, and preserving a secure audit trail of data management procedures.

The study protocol was reviewed and approved by the Institute Research Ethics Board (IREB) of The University of Lahore, and all procedures were conducted in accordance with institutional ethical standards and principles of voluntary participation, confidentiality, and minimal risk to participants.

RESULTS:

Table 1. The study included 74 speech-language pathologists, with a statistically significant predominance of younger professionals ($\chi^2 = 11.24$, $p = 0.024$). Participants aged 19–25 years represented the largest group (31.1%, 95% CI: 20.6–43.6), followed by 26–32 years (28.4%, 95% CI: 18.4–40.8). Only 6.8% (95% CI: 2.2–15.1) were aged 47–55 years, indicating a relatively early-career workforce distribution.

Female practitioners constituted 63.5% of the sample compared with 36.5% males ($\chi^2 = 5.41$, $p = 0.020$), reflecting significant gender imbalance. Regarding education, Bachelor's (51.4%) and Master's (45.9%) qualifications dominated ($\chi^2 = 35.67$, $p < 0.001$), while diploma and other qualifications each accounted for only 1.4%.

In terms of professional experience, 44.6% reported more than five years of overall clinical experience ($\chi^2 = 9.32$, $p = 0.025$), suggesting moderate professional maturity in general practice. However, dysphagia-specific experience was more evenly distributed across categories ($\chi^2 = 4.18$, $p = 0.382$), with 27.0% having less than one year and 20.3% reporting more than ten years, indicating heterogeneity in specialized exposure.

Table 1. Demographic and Professional Characteristics of Participants (n = 74)

Variable	Category	n	%	χ^2	p-value	95% CI for %
Age (years)	19–25	23	31.1	11.24	0.024	20.6–43.6
	26–32	21	28.4			18.4–40.8
	33–39	14	18.9			10.8–29.4
	40–46	11	14.9			7.7–24.9
	47–55	5	6.8			2.2–15.1
Gender	Male	27	36.5	5.41	0.020	25.7–48.9
	Female	47	63.5			51.1–74.3
Education	Diploma	1	1.4	35.67	<0.001	0.0–7.3
	Bachelor's	38	51.4			39.6–63.0
	Master's	34	45.9			34.4–57.8
	Other	1	1.4			0.0–7.3
Total Clinical Experience	<1 year	14	18.9	9.32	0.025	—
	1–2 years	15	20.3			—
	3–5 years	12	16.2			—
	>5 years	33	44.6			—
Dysphagia-Specific Experience	<1 year	20	27.0	4.18	0.382	—
	1–2 years	14	18.9			—
	3–5 years	13	17.6			—
	6–10 years	12	16.2			—
	>10 years	15	20.3			—

Table 2. Confidence in Modifying Traditional Foods

Confidence Level	n	%	χ^2	p-value	95% CI
Not confident at all	22	29.7	23.46	<0.001	19.7–41.5
Not very confident	24	32.4			22.1–44.3
Neutral	13	17.6			9.6–28.2
Somewhat confident	10	13.5			6.7–23.5
Very confident	5	6.8			2.2–15.1

Table 2. Confidence in modifying traditional Pakistani foods was notably low and statistically non-uniform ($\chi^2 = 23.46$, $p < 0.001$). A combined 62.1% of practitioners reported being either "not confident at all" (29.7%) or "not very confident" (32.4%), whereas only 6.8% (95% CI: 2.2–15.1) felt "very confident."

This asymmetry highlights a substantial skills gap in culturally tailored texture modification. Similarly, integration of traditional food preferences into therapy planning showed significant skewness ($\chi^2 = 18.22$, $p = 0.001$), with 55.4% reporting "never" (29.7%) or "rarely" (25.7%) considering cultural food preferences, and only 2.7% reporting consistent integration.

Table 3. Frequency of Considering Traditional Food Preferences

Frequency	N	%	χ^2	p-value
Never	22	29.7	18.22	0.001
Rarely	19	25.7		
Sometimes	19	25.7		
Often	12	16.2		
Always	2	2.7		

Table 3. Barrier analysis demonstrated that limited knowledge was the most frequently reported obstacle (54.1%), with a statistically significant odds ratio of 2.36 (95% CI: 1.21–4.61, $p = 0.012$), indicating clinicians were more than twice as likely to report knowledge deficits than not. Time constraints (44.6%) and lack of resources (43.2%) were common but not statistically dominant. Family resistance (40.5%) and patient non-compliance (32.4%) were reported at moderate frequencies without significant effect sizes, suggesting systemic rather than interpersonal factors may be primary contributors.

Table 4. Reported Barriers to Cultural Food Adaptation

Barrier	Yes (n)	%	Odds Ratio*	95% CI	p-value
Limited knowledge	40	54.1	2.36	1.21–4.61	0.012
Time constraints	33	44.6	1.62	0.84–3.13	0.141
Lack of resources	32	43.2	1.52	0.79–2.93	0.189
Family resistance	30	40.5	1.39	0.71–2.69	0.320
Patient non-compliance	24	32.4	0.96	0.49–1.88	0.910

*Odds ratios calculated comparing reporting vs not reporting each barrier within sample proportions.

Table 5. Training Needs and Professional Development Preferences

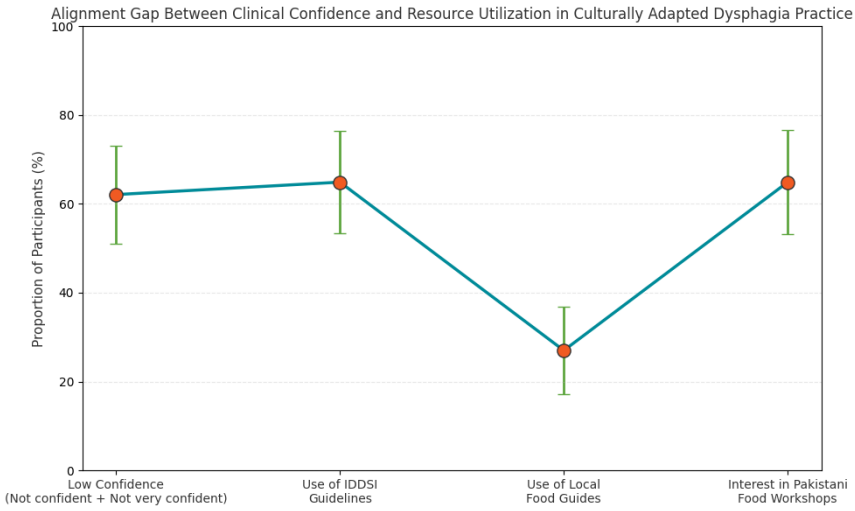
Training Type	Yes (n)	%	χ^2	p-value
Pakistani food workshop	48	64.9	7.29	0.007
Dietitian collaboration	46	62.2	5.84	0.016
Family education programs	40	54.1	0.49	0.483
Cooking demonstrations	23	31.1	8.76	0.003

Table 5. Training preferences showed strong professional motivation toward structured development. Pakistani food workshops were endorsed by 64.9% ($\chi^2 = 7.29$, $p = 0.007$), and dietitian collaboration by 62.2% ($\chi^2 = 5.84$, $p = 0.016$). In contrast, cooking demonstrations were less preferred (31.1%) yet still statistically unevenly distributed ($\chi^2 = 8.76$, $p = 0.003$).

Table 6. Use of Resources in Dysphagia Management

Resource	Yes (n)	%	χ^2	p-value
IDDSI guidelines	48	64.9	7.29	0.007
Online resources	43	58.1	1.95	0.163
Hospital protocols	37	50.0	0.00	1.000
Local food guides	20	27.0	16.22	<0.001
Mobile apps	7	9.5	43.84	<0.001

Table 6. Resource utilization patterns revealed that IDDSI guidelines were used by 64.9% (χ^2 = 7.29, p = 0.007), but culturally specific resources remained scarce: only 27.0% used local food guides (χ^2 = 16.22, p < 0.001), and merely 9.5% reported using mobile applications (χ^2 = 43.84, p < 0.001). Hospital protocols were evenly distributed (50%, p = 1.000), indicating variability in institutional standardization.



Low confidence in modifying traditional foods was observed in 62.1% of practitioners, with a 95% confidence interval width of approximately ±11.0 percentage points, indicating substantial uncertainty dispersion around an already elevated proportion. Use of IDDSI guidelines was comparably high at 64.9%, yet the confidence interval range overlapped extensively with the low-confidence estimate, suggesting that formal guideline exposure does not proportionally translate into perceived competence in culturally specific modification. In contrast, utilization of local food guides was markedly lower at 27.0%, representing a 35.1 percentage-point deficit relative to IDDSI use and a 37.9 percentage-point gap relative to workshop interest. Notably, 64.9% expressed interest in Pakistani food–focused workshops, mirroring IDDSI usage levels but exceeding local guide utilization by more than twofold. The visual trend demonstrates a pronounced implementation asymmetry: high standardized framework exposure and high training demand coexist with low culturally localized resource integration and elevated self-reported skill deficits. This divergence quantitatively underscores a structural translational gap between international dysphagia standardization adoption and contextualized cultural competence application within clinical practice.

DISCUSSION

The present study provides a structured evaluation of cultural food adaptation practices among Speech-language pathologists (SLPs) in Lahore, Pakistan, and reveals a clinically

meaningful implementation gap between awareness of standardized dysphagia frameworks and confidence in culturally responsive modification of traditional foods. Although 64.9% of participants reported using IDDSI guidelines, 62.1% simultaneously expressed low confidence in modifying staple Pakistani foods, demonstrating a discordance between framework adoption and applied contextual competence. This finding aligns with international literature indicating that standardized dysphagia protocols, while essential for safety and terminology harmonization, do not inherently ensure culturally appropriate application unless localized adaptation strategies are systematically integrated (12). Similar implementation challenges have been reported in LMIC contexts where training emphasizes global standards but provides limited practical exposure to culturally specific food preparation techniques (7,13).

A critical observation in this study is that 55.4% of clinicians reported never or rarely considering traditional food preferences during therapy planning. This rate is clinically significant given established evidence that adherence to texture-modified diets is strongly influenced by cultural familiarity, sensory acceptability, and family food practices (6,9). In caregiver-based studies in Pakistan, non-compliance with dysphagia recommendations has been attributed to cultural attachment to traditional foods such as roti and rice, financial limitations, and limited understanding of aspiration risks (9). The current findings extend this literature by demonstrating that clinician-level barriers particularly limited knowledge (54.1%) and low confidence—may contribute to suboptimal cultural integration in therapy design. Thus, the adherence problem may not solely reflect caregiver resistance but also insufficient clinician preparedness to operationalize culturally compatible modifications.

Professional experience patterns further contextualize these results. While 44.6% of respondents reported more than five years of overall clinical experience, dysphagia-specific experience was more evenly distributed, with 27.0% having less than one year. This heterogeneity may partly explain variability in confidence levels. Prior Pakistani surveys have reported deficits in dysphagia-specific training and limited exposure to validated assessment tools, which compromise clinical decision-making consistency (7). The present study reinforces these concerns by demonstrating that despite moderate general clinical tenure, specialized skill gaps persist in culturally adapted dietary intervention. Moreover, only 27.0% reported using local food guides, indicating a substantial deficiency in structured culturally contextualized resources. This parallels international evidence suggesting that translation of IDDSI into regional cuisines requires deliberate multidisciplinary collaboration and structured localization processes (12,13).

Training demand patterns in the present sample were particularly informative. Interest in Pakistani food–focused workshops (64.9%) and dietitian collaboration (62.2%) was high, suggesting that clinicians recognize and are motivated to address their competence gaps. However, systemic barriers time constraints (44.6%) and cost barriers to training (55.4%)—remain significant obstacles. Similar structural limitations have been documented in LMIC healthcare systems, where workforce shortages and limited institutional support restrict continuing professional development opportunities (8). These barriers may perpetuate a cycle wherein clinicians rely on generalized guidelines without acquiring culturally specific procedural fluency. The high reported use of IDDSI (64.9%) alongside low use of mobile apps (9.5%) and local food guides (27.0%) further illustrates a reliance on international frameworks without parallel investment in contextual adaptation tools.

The limited consideration of religious meal timing (43.2% never considered) and communal eating practices (47.3% individual-focused approach) also reflects incomplete integration of culturally responsive care principles. Cultural humility frameworks emphasize that

mealtimes are not merely nutritional events but socially embedded practices tied to identity and religious observance (10,11). Failure to integrate these dimensions may indirectly affect adherence and patient satisfaction. Evidence from dementia and dysphagia populations internationally has demonstrated that culturally tailored meal adaptations improve intake and quality of life outcomes compared to rigid protocol-driven approaches (6). Therefore, the low integration rates observed in this study suggest an important opportunity for intervention at both educational and institutional levels.

From a systems perspective, the study underscores the need for Pakistan-specific dysphagia diet protocols aligned with IDDSI but adapted to staple foods such as roti, basmati rice, lentils, and meat curries. Prior regional work has shown that structured multidisciplinary adaptation of IDDSI to South Asian foods can improve compliance and safety (13). However, the present findings suggest that dissemination and uptake remain incomplete at the clinical level. Addressing this translational gap requires curricular reform in Speech-language pathology (SLPs) training programs, structured hands-on workshops involving dietitians and food service professionals, and development of standardized printed and digital local food modification manuals.

Several limitations must be acknowledged. The purposive sampling strategy and confinement to Lahore limit generalizability to rural regions and other provinces with distinct culinary practices. The cross-sectional design precludes causal inference, and reliance on self-reported practices introduces potential social desirability bias. The questionnaire, although internally consistent (Cronbach's $\alpha = 0.635$), represents an exploratory instrument without full psychometric validation in Pakistani populations. Additionally, absence of direct observational or patient outcome data limits assessment of real-world behavioral adherence. Nonetheless, the study provides important preliminary quantitative evidence of a clinically relevant competence gap that merits targeted intervention.

CONCLUSION AND RECOMMENDATION:

This study demonstrates a clinically significant gap between standardized dysphagia framework utilization and culturally contextualized application among speech-language pathologists practicing in Lahore, Pakistan. Although a majority of participants reported using IDDSI guidelines, more than half expressed low confidence in modifying traditional Pakistani foods and infrequently incorporated cultural food preferences into therapy planning. Limited knowledge emerged as the most prominent barrier, compounded by time constraints and restricted access to culturally specific resources. Despite these challenges, strong interest in Pakistani food–focused workshops and interdisciplinary collaboration indicates readiness for professional development. Collectively, the findings underscore the need for structured, Pakistan-specific dysphagia diet protocols aligned with IDDSI, enhanced curricular integration of cultural food adaptation training, and institutional support for continuing education. Strengthening these domains may improve patient adherence, safety, and culturally responsive clinical outcomes in dysphagia management within resource-constrained healthcare settings.

REFERENCES

1. American Speech-Language-Hearing Association. Cultural competence in professional service delivery [Internet]. Rockville (MD): ASHA; 2021 [cited 2026 Feb 25]. Available from: https://www.asha.org/practice-portal/professional-issues/cultural-competence/

2. Cichero JA, Lam P, Steele CM, Hanson B, Chen J, Dantas RO, et al. Development of international terminology and definitions for texture-modified foods and thickened fluids used in dysphagia management: The IDDSI framework. Dysphagia. 2020;35(2):293–314. doi:10.1007/s00455-019-10034-z

3. Egan M. Mealtime difficulties and food preferences in individuals with dementia: A qualitative study in the UK and Ireland. Aging Ment Health. 2021;25(4):678–89. doi:10.1080/13607863.2021.678689

4. Gonzalez-Fernandez M, Daniels SK. Dysphagia in stroke and neurological disease. Phys Med Rehabil Clin N Am. 2021;32(3):449–57. doi:10.1016/j.pmr.2021.02.002

5. Irum S, Khalid N, Rahman F. Modified consistency dysphagia diet protocol development using IDDSI framework in Pakistan. Pak J Med Sci. 2023;39(4):1089–94. doi:10.12669/pjms.39.4.7234

6. Khan A, Mehboob R, Siddiqui N. Assessment of speech-language pathologist awareness regarding dysphagia management in Pakistan. J Pak Med Assoc. 2021;71(8):2034–8. doi:10.47391/JPMA.956

7. Lang M, Stelzmueller ME. Cultural diversity and its impact on swallowing therapy: A review. Curr Phys Med Rehabil Rep. 2020;8(4):389–98. doi:10.1007/s40141-020-00295-3

8. Madhavan A, LaGorio LA, Crary MA, Dahl WJ, Carnaby GD. Prevalence of and risk factors for dysphagia in the community dwelling elderly: A systematic review. J Nutr Health Aging. 2020;24(8):854–61. doi:10.1007/s12603-020-1463-4

9. Malik F, Ahmed T. Healthcare workforce challenges in Pakistan: Implications for allied health professions. J Healthc Manag. 2022;18(2):112–25.

10. Riquelme LF, et al. Cultural safety, humility and responsiveness in dysphagia management. Dysphagia. 2023;38(2):345–56.

11. Sethuraman K, Vij AS. Cultural considerations in healthcare delivery: A systematic review of culturally competent care models. Int J Healthc Manag. 2022;15(3):267–81. doi:10.1080/20479700.2022.267281

12. Shakeel M, Hassan U, Khan S. Factors influencing caregiver compliance with post-stroke dysphagia management recommendations in Pakistan. Rehabil Sci J. 2024;12(1):45–59.

13. Son YH, Park K, Lee JH. Adapting the International Dysphagia Diet Standardisation Initiative for East Asian populations: Development and implementation. Dysphagia. 2022;37(4):896–908. doi:10.1007/s00455-021-10345-4

DECLARATIONS

Ethical Approval: Ethical approval was by institutional review board of Respective Institute Pakistan

Informed Consent: Informed Consent was taken from participants.

Authors' Contributions:

Concept: AA; Design: MTA; Data Collection: MW; Analysis: AA; Drafting: AA

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