

Investigation of Dysphagia Education and Practice Among the Speech and Language Therapists in Türkiye: A Descriptive Cross-Sectional Study

Türkiye'deki Dil ve Konuşma Terapistleri Arasında Disfaji Eğitimi ve Uygulamasının İncelenmesi: Tanımlayıcı-Kesitsel Bir Araştırma

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ABSTRACT Objective: Swallowing disorder (dysphagia) is one of the major areas of interest for speech and language therapists (SLT). This study aims to investigate the educational background and practice patterns of Turkish SLTs in the field of dysphagia. **Material and Methods:** A total of 127 SLTs were included in this descriptive cross-sectional study. An online survey consisting of 45 questions in total was created via "Google forms" and sent to the SLTs across Türkiye using professional networks and social media. **Results:** The response rate to the survey was 52.4% (127/242). Among the study population, only 22 (18.2%) participants reported having 4 years or more experience in the profession. Almost 95% of the SLTs indicated that they had at least one theoretical course, and 25.2% reported attending a postgraduate course about dysphagia. Twenty three (18.1%) subjects reported the presence of a dysphagia team in their current facility. History-taking, oral-motor assessment, and cognitive screening were the most frequently used dysphagia assessment modalities and, therapeutic approaches such as oral hygiene, caregiver education and training, and oral motor exercises were the most frequently preferred techniques for dysphagia treatment. **Conclusion:** Although the SLTs in Türkiye have an adequate level of dysphagia education based on the best practices and standards in the profession, they do not have enough opportunity to practice this knowledge in their facilities. From the outcome of our investigation, it is possible to conclude that increasing SLT employment in medical centers and providing adequate opportunities for comprehensive management can improve dysphagia practice patterns of SLTs in Türkiye.

Keywords: Deglutition disorders; educational measurement; evidence-based practice; professional practice

ÖZET Amaç: Yutma bozuklukları, dil ve konuşma terapistlerinin (DKT) çalışma alanı içerisindedir. Bu araştırmanın temel amacı, Türkiye'de çalışan DKT'lerin yutma bozuklukları ile ilgili almış oldukları eğitimleri ve klinik pratikte uygulama yapabilme olanaklarını incelemektir. Gereç ve Yöntemler: Tanımlayıcı-kesitsel desende yapılan bu çalışmaya 127 DKT dâhil edilmiştir. Toplam 45 sorudan oluşan ve "Google Forms" üzerinden oluşturulan bir anket, profesyonel bağlantılar ve çeşitli sosyal medya platformları üzerinden katılımcılara gönderilmiştir. **Bulgular:** Anket gönderilen terapistlerin %52,4'ü (127/242) geri dönüş sağlamıştır. Yirmi iki (%18,2) katılımcı alanda 4 yıl ve üzeri deneyim sahibi olduğunu belirtmiştir. DKT'lerin %95'i yutma bozuklukları ile ilgili en az bir ders aldığını belirtirken, %25,2'si mezuniyet sonrası kurs aldığını belirtmiştir. Çalışılan merkezlerin sadece 23'ünde (%18,1) yutma bozuklukları ile ilgili bir ekibinin olduğu bildirilmiştir. DKT'ler arasında hikâye alma, oral motor değerlendirme ve kognitif tarama en çok kullanılan değerlendirme yöntemleri olurken ağız hijyeni, aile eğitimi ve oral motor egzersizler ise en sık kullanılan terapi yaklaşımları olarak belirtilmiştir. **Sonuç:** Her ne kadar Türkiye'deki DKT'ler mesleki klinik uygulamalar ve standartlar çerçevesinde yeterli düzeyde disfaji eğitimi almış olsalar da, çalıştıkları kurumlarda bu bilgileri uygulama fırsatları yetersizdir. Sonuç olarak, Türkiye'deki DKT'lerin disfaji ile ilgili uygulama fırsatlarını geliştirmek için, kurumlardaki DKT istihdamlarının artırılması ve terapistlere yutma bozukluklarını kapsamlı yönetebilmeleri için iş yerlerinde yeterli olanakların sunulması gerekmektedir.

Anahtar Kelimeler: Yutma bozuklukları; eğitimsel ölçüm; kanıta dayalı uygulama; profesyonel uygulama

Swallowing disorders, also called dysphagia, is a symptom that may occur as a result of various etiologies. Neurologic disorders, progressive diseases,

connective tissue/rheumatoid disorders, structural diagnoses, and iatrogenic causes are the most commonly reported health conditions that could

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contribute to dysphagia.¹ It is not possible to declare a general and definite prevalence of this symptom due to its variability among the diseases. For instance, dysphagia prevalence in stroke, Parkinson, and head and neck cancers were reported to be between 25-81%, 15-87%, and 9.2-67%, respectively.² Because of both the relatively high prevalence of dysphagia and the various numbers of symptom-related diseases, dysphagia should be taken into consideration by multidisciplinary health care teams that include speech and language therapists (SLTs), otolaryngologists, neurologists, radiologists, gastroenterologists, dietitians, nurses, dentists, and physiotherapists.

Many documents related to best practices and standards in the SLT profession have been published by various associations and committees around the world such as; The American Speech-Language-Hearing Association, Standing Liaison Committee of European Union Speech and Language Therapists and Logopedists, and Royal College of Speech and Language Therapists. These documents reflect the standards of the SLT profession which include the following items: 1) conduct, performance, and ethics, 2) proficiency, 3) continuing professional development, and 4) education and training.³⁻⁵

The history of the SLT profession traces back to the 1980s in Türkiye. During this long time period, great efforts have been made to achieve the international criteria and standards in the profession. In a study by Topbas, SLT was defined as a newly developing profession in Türkiye and there were only seven SLTs in the entire country till the year 2006.⁶ However, by the year 2014, Türkiye was stated to have a clearly developed modern model for the initial training of professionals in the area of speech and language therapy.⁷ In 2016, Türkiye has also provided a framework model for SLT programs in accordance with the above-mentioned international criteria and standards.⁸

SLTs are not only experts in communication disorders but also possess a leading role in the management of swallowing disorders. Even though in many countries around the world such as Australia, Canada, the United Kingdom, and the United States, dysphagia services have been developing rapidly, the estab-

lishment of the SLT profession in many developing countries (e.g., Bangladesh, Indonesia, and Thailand) was reported to be in early stages.⁹ The number of SLTs has been growing rapidly during the last 20 years but, currently, the majority of SLTs in Türkiye are interested in different areas of communication disorders other than dysphagia.¹⁰ Accordingly, it is seen in the literature that the vast majority of the research in dysphagia was conducted by other professionals from other fields such as otolaryngology, neurology, and gastroenterology. Bengisu and Gerçek reported in their study that there were 75 post-graduate theses related to swallowing disorders between the years of 1979-2018 in Türkiye.¹¹ The results of the study revealed that the vast majority of the theses (94.6%) were carried out by professionals other than SLT. However, as it is known, SLTs are the major member of dysphagia teams and should take part in research and studies about swallowing disorders. For this reason, the establishment and improvement of dysphagia services in developing countries should be encouraged. In a recent research, only about 10% out a total of 215 SLTs reported dysphagia as their primary practice field beside the other fields that are within the scope of the SLT profession.¹⁰

The primary aim of the current study was to investigate the educational background and practice of the SLTs regarding swallowing disorders, who are working in different facilities throughout Türkiye. Furthermore, we were particularly interested in whether they had enough opportunities in their workplaces to implement comprehensive management of dysphagia that requires qualified staff and specific equipment. We hypothesized that even if the SLTs in Türkiye have a solid training about swallowing disorders, they do not have enough opportunities to practice providing better management for patients with dysphagia.

MATERIAL AND METHODS

STUDY DESIGN

The present study was designed as a descriptive cross-sectional research model and approved by the Ethics Committee of the Hacettepe University (decision number: 35853172-202.03.02, decision date: 10.09.2020). A total of 127 SLTs were included in

the study during a 3-month period from September to November 2020. The study was conducted in accordance with Helsinki Declaration of 1975 and all participants were informed about the study. Written informed consents were obtained from each participant prior to enrollment. Respondents who resided in Türkiye at the time of data collection and who were working as an SLT were included in the study.

DATA COLLECTION

To collect data, an online survey was designed based on similar data collection tools used in previous studies.^{9,12,13} Senior committee members provided feedbacks and comments regarding the clarity, length, and relevance of the questions before the survey was uploaded to the online platform. The content of the questions in the survey was designed to unravel the general level of dysphagia education, training, and practice among the SLTs in Türkiye. The survey was prepared via “Google Forms” and consisted of a total of 45 questions with both multiple-choice and open-ended questions. While the questions from 1 to 6 were about the general information about SLTs, the ones from 7 to 9 were about the dysphagia education and training, and the remaining 35 questions were about the practice patterns of SLTs in the field of dysphagia (Appendix 1). Next, a link to the survey was sent to the SLTs with a cover letter that explained the purpose and general perspective of the current study. Professional networks and social media platforms including Facebook, WhatsApp, and Instagram (Meta Platforms, Inc., USA) were used for data collection. At the end of the 3 months, the survey was closed and the data were transferred from “Google Forms” to “Excel Spreadsheets”. Participants were asked to provide their name and contact information to exclude duplicate responses and to be sure of valid responses the database was checked and reorganized before analysis.

STATISTICAL ANALYSIS

All data analyses were conducted using Statistical Package for the Social Sciences (SPSS) version 25 (IBM Corp., Armonk, NY). Categorical variables were presented as percentages, all normally distributed variables were presented as mean and standard deviations, and all skewed variables were presented as median and minimum-maximum values. To ex-

amine the frequency of using both dysphagia assessment and treatment options among the SLTs, the percentage of responses for each answer option (never, rarely, sometimes, often, or always) was calculated.

RESULTS

GENERAL INFORMATION

The survey was sent to 242 SLTs and 52.4% (n=127) of the potential participants responded. Seventy eight percent (n=99) of the participants were graduates of Hacettepe University and Anadolu University, and the remaining ones were graduates of 6 different Turkish universities namely; Üsküdar University, Gazi University, Biruni University, Ankara University, Başkent University, and Medipol University (22%, n=28). The educational level of the participants was 71.7% (n=91) for bachelor’s degree, 24.4% (n=31) for master’s degree, and 3.9% (n=5) for doctoral degree. While over half of those surveyed reported to be working in Ankara and İstanbul, 42.6% (n=54) SLTs reported to be employed in rural and remote areas across Türkiye. A total of 31 different cities across Türkiye were stated as the current location of employment (Figure 1). The percentage of SLTs who are currently working in special education and rehabilitation centers (SERC) was 44.9% (n=57). According to the years of experience, 44 of the (34.6%) participants reported having experience less than one year and 60 participants (47.2%) stated having 2-3 years of experience. More detailed information about the participants’ profiles is given in Table 1.

DYSPHAGIA EDUCATION AND TRAINING

A great number of the SLTs (93.7%) indicated that they had at least one theoretical course and approximately half of them (47.2%) stated to have at least 13 weeks of practical courses on swallowing disorders in their academic curriculum. Among the SLTs, the percentage of attendance to a postgraduate course on dysphagia was 25.2% (Table 2).

PRACTICE PATTERNS

When the practical experience of SLTs about dysphagia management was investigated, 104 (81.9%) subjects reported their percentage of current dysphagia caseload between 0 and 10%.

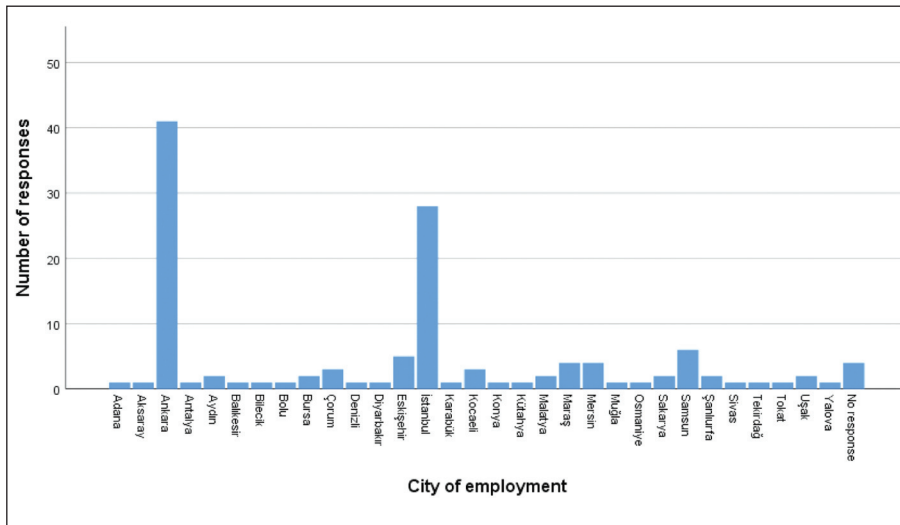


FIGURE 1: Number of responses from the cities across Türkiye.

TABLE 1: General information of the participants.	
Variables	n=127
Graduated university, n (%)*	
Hacettepe University	77 (60.7)
Anadolu University	22 (17.3)
Üsküdar University	8 (6.3)
Gazi University	7 (5.5)
Biruni University	5 (3.9)
Other	8 (6.3)
City of employment, n (%)	
Ankara	41 (32.3)
İstanbul	28 (22.0)
Other	54 (42.6)
No response	4 (3.1)
Current work setting, n (%)	
SERC	57 (44.9)
Hospital	26 (20.5)
University	24 (18.9)
Private clinics	20 (15.7)
Type of employment, n (%)	
Part-time	23 (18.1)
Full-time	104 (81.9)
Years of experience, n (%)	
Less than 1 year	44 (34.6)
2-3 years	60 (47.2)
4-6 years	15 (11.8)
More than 6 years	7 (6.4)

*Column percentage.

Only a small number of the SLTs (n=23, 18.1%) reported the presence of a dysphagia team in their current facility, and within this small group, SLTs and otolaryngologists were stated as the major members of the dysphagia teams. In response to the question about consultations and referrals that are received from different departments to SLTs, the percentages were as follows: Otolaryngology (73.7%), neurology (66.7%), physiotherapy (39.4%), oncology (35.4%), pediatrics (35.4%), gastroenterology (29.3%), and geriatrics (25.3%). More details about the practical experience of the study sample are given in Table 3. Through the survey, the participants rated their frequency of using different modalities in both dysphagia assessment and treatment as well. The results indicated that history-taking, oral-motor assessment, and cognitive screening were the most frequently used dysphagia assessment modalities, in contrast, instrumental measurements such as videofluoroscopic swallowing study (VFSS) and fiberoptic endoscopic evaluation of swallowing (FEES) were reported to be among the less frequently used modalities (Figure 2). Regarding intervention, oral hygiene, caregiver education and training, and oral motor exercises emerged as the most frequently preferred therapy approaches for dysphagia (Figure 3).

TABLE 2: Education background of speech and language therapists regarding swallowing disorders.

Variables	n=127
Theoretical courses, median (range)	2 (0-6)
Duration of practical courses completed, n (%)*	
0-4 week	34 (26.8)
5-12 weeks	33 (26.0)
≥13 weeks	60 (47.2)
Postgraduate courses, n (%)	
Yes	32 (25.2)
No	95 (74.8)

*Column percentage.

DISCUSSION

Although the number of dysphagia centers providing evidence-based practice care to the patients with swallowing disorders have been increasing rapidly all around the world, the SLT profession is still in its early stages in many developing countries such as Türkiye.⁹ To achieve better service delivery, it is necessary to increase the number SLTs and expand dysphagia services and available resources for comprehensive dysphagia management, particularly in developing countries.¹⁴⁻¹⁶ Thus, it was the main purpose of this paper to draw attention to the dysphagia education, training, and practice of the Turk-

ish SLTs and also to investigate the availability of sources for comprehensive management of swallowing disorders at the facilities where SLTs provide services. On the other hand, in this study, we have addressed not only the scope of dysphagia but also the development of the SLT profession in Türkiye over the years.

TABLE 3: Practical experience of the speech and language therapists about dysphagia management.

Variables	n=127
Dysphagia caseload, n (%)*	
0-10	104 (81.9)
11-25	11 (8.7)
26-50	2 (1.6)
51-75	6 (4.7)
76-100	4 (3.1)
Dysphagia team in the facility, n (%)	
Present	23 (18.1)
Absent	104 (81.9)
Frequency of treatment sessions, n (%)	
Once a month	12 (13.5)
Biweekly	25 (28.1)
Once a week	46 (51.7)
Twice a week	3 (3.4)
At least three times a week	3 (3.3)
Number of treatment sessions, (mean±SD)	6.9±5.1

*Column percentage; SD: Standard deviation.

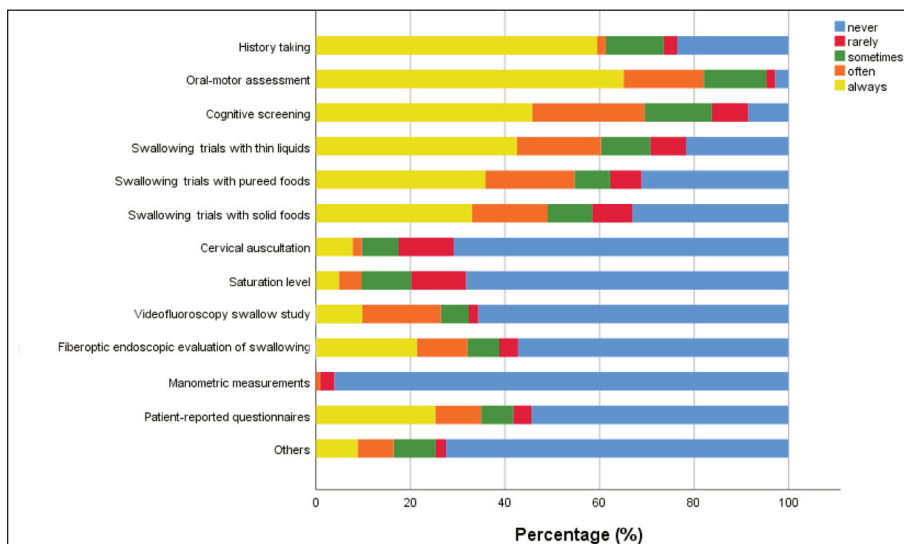


FIGURE 2: The frequency of using different dysphagia assessment modalities among the speech and language therapists.

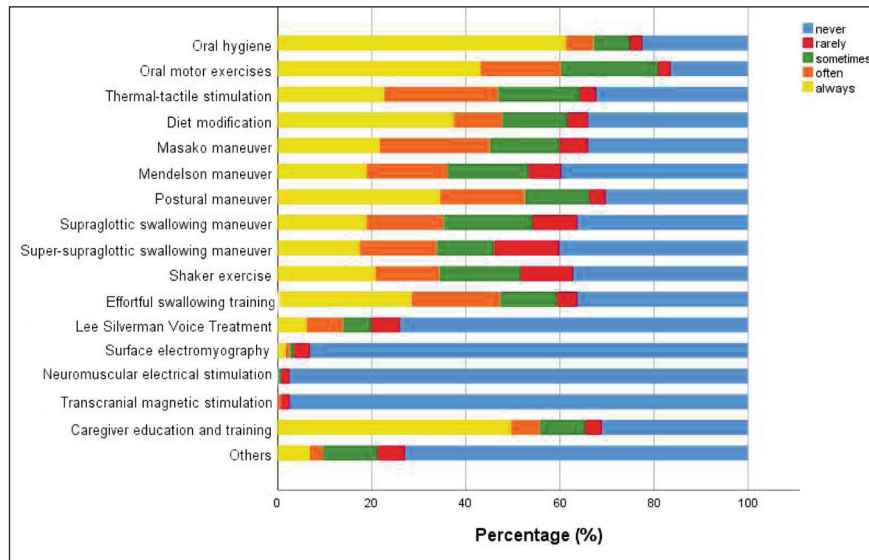


FIGURE 3: The frequency of using different therapy approaches among the speech and language therapists.

Most notably, to the best of our knowledge, this is the first online survey that provides a general perspective on dysphagia among the SLTs in Türkiye.

The findings of the current study are similar to the results of Pettigrew and O'Toole; clinicians in both of the studies appear to have the same level dysphagia education and training with respect to the number of theoretical and practical courses they have completed.¹⁷ However, in Pettigrew and O'Toole's study, the majority of the SLTs in the Republic of Ireland (67.1%) reported that at least 50% of their caseloads involved dysphagia management. Unsurprisingly, in the current study, 81.9% of the respondents reported that 10% or less of their caseloads comprised of dysphagia assessment and intervention. Despite the fact that Türkiye has an educational model for SLT programs that meets the specific international criteria and standards, the results of the present study confirm that the opportunities for the majority of the Turkish SLTs to provide better dysphagia management at their existing work settings are quite limited.⁸ In a study by Toğram et al., it was indicated that SLTs in Türkiye had relatively short clinical experience and there were not enough number of SLTs working in the rural and remote areas of the country.¹⁰ The study also mentioned that a great number of the surveyed respondents (75.3%) had no dysphagia caseloads in their current workplace and only 10.2% of the SLTs reported dysphagia as their pri-

mary field of practice. Moreover, in a recent study conducted in Türkiye, it was discovered that the majority of dysphagia-related research for master theses and PhD dissertations (94.6%) were conducted by the professionals other than SLT, such as physiotherapy, neurology, nutrition and dietetics, otolaryngology, radiology, and nursing.¹¹ The need to encourage researchers in the SLT profession to undertake research for post-graduate theses in the dysphagia field was one of the points of emphasis in this aforementioned study.

To date, various studies have been conducted to investigate the establishment and improvement of dysphagia services and also the current practice for dysphagia management among SLTs.^{9,12,14-16,18} The studies that have been conducted in developing countries revealed that the number of available service providers in this field was limited, a team approach towards dysphagia management was lacking, and the clinic opportunities for SLTs to practice dysphagia evaluation and treatment were inadequate. These multiple challenges were reported as great barriers to the establishment and development of dysphagia services.^{9,14,15,18} The results of the present study are in line with these findings, as in our study, 81.9% of the SLTs reported that they do not even have a dysphagia team in their facility and only a minority of the participants (n=10, 7.8%) reported to have 50% or more dysphagia caseloads at their workplace.

The most frequently preferred dysphagia assessment modalities in the present study were history-taking, oral motor assessment, cognitive screening, and swallowing trials with different consistencies.¹⁹⁻²³ However, the frequency of using gold standard instrumental measurements such as VFSS and FEES was relatively low. On the other hand, oral hygiene, caregiver education and training, oral motor exercises, diet modifications, and postural maneuvers were the most frequently preferred therapy approaches in the management of dysphagia.²⁴⁻²⁹ All of the above-mentioned modalities and approaches are well defined in the literature and all could be used as evidence-based practice patterns in swallowing disorders.³⁰ In a recent study conducted with 48 SLTs in India, it was reported that over half of SLTs (56%) had relatively fewer years of experience between 1 and 6 years, only 7 (17%) participants had more than 75% of dysphagia caseload, and 9% of SLTs received no theoretical courses related to dysphagia as part of their university academic curriculum.¹⁶ Although it was stated in the study that funding, limited expertise, and reduced clinical training opportunities were the limiting factors for a more thorough standard of dysphagia practice, there was a strong interest among clinicians for continuing education in the area of swallowing disorders. Since the findings of the current study are consistent with that of Rangarathnam and Desai, it is plausible to suggest that SLT services for dysphagia management are yet to be fully established in developing nations.¹⁶

The result of the present study indicated that the majority of the participants were graduates of Hacettepe University and Anadolu University; the 2 pioneering institutions in the field of SLT in Türkiye. By the efforts of the leaders in these universities, SLT programs have been spreading to every region of Türkiye. Thus, the service delivery is no longer restricted to the big cities like İstanbul and Ankara but reaches to rural and remote areas of Türkiye (42.6%). Settings, where Turkish SLTs work generally include private or public hospitals, special clinics, and SERCs. It should be particularly be noted that most of the dysphagia cases are treated and followed up at

hospitals in Türkiye. On the other hand, the characteristics of patients typically seen in special clinics and SERCs are those who have speech sound disorders, fluency disorders, cleft lip and palate, and language disorders (associated with a known biomedical etiology or not). In the current study, almost half of the surveyed SLTs (44.9%) stated to work in SERC which are known as the centers that have serve a relatively low number of patients with dysphagia.

Although the number of participants in this study was low, approximately 21% of Turkish SLTs were enrolled in the present study. According to a recent statement by the Turkish Association of Speech and Language Therapists, the current number of SLTs throughout the country is around 600.³¹ Not a long time ago, in 2011, the professional law (act) within the scope of practice bylaws and regulations was approved by the Ministry of Health as a result of great efforts. In 2013, it was stated in a report by Georgieva et al. that there were only two undergraduate SLT programs and 120 speech therapists (103 with an MSc degree, 10 with an MSc degree from abroad, and 7 with a PhD degree) in the whole country.⁷ Currently, the number of undergraduate SLT programs increased up to 12 which means that the number of SLTs will increase rapidly in the next few years.

The current study has several limitations that have to be considered. First, as mentioned above, since the general number of SLTs in Türkiye is relatively low, this study was conducted with a small group of participants. Moreover, in survey studies that have open recruitment design such as the current study, it is impossible to get a representative sample of the whole population of interest. Also, the respondents to the survey were mostly younger SLTs with restricted experience in the clinic and therefore the results could be different for a more experienced group of clinicians. Additionally, almost half of the participants (44.9%) were SLTs working in SERCs that have limited service delivery in the area of dysphagia. Thus, further studies with a large number of SLTs working in various facilities that have more dysphagia caseloads are warranted.

CONCLUSION

This study revealed that SLTs in Türkiye faced various challenges in terms of inadequate clinical resources and materials, reduced service delivery opportunities, the lack of a team approach to dysphagia management, and limited clinical training. All of these could be considered as major barriers to effective dysphagia management. However, Turkish SLTs had a relatively sufficient level of dysphagia education and training based on the best practices and standards in the SLT profession. It is possible to conclude from the findings of our investigation that practice patterns related to dysphagia in Türkiye do not reflect the education and training provided at the universities and need to move towards closer to the level of international practice standards; similar to those in the developed nations.^{12,32,33} National strategies that enhance the number of SLTs who are interested in swallowing disorders and as well as the clinical training opportunities with adequate clinical resources in the field would be critical for the development and enhancement of dysphagia services in Türkiye.

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Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Hakan Gölaç; **Design:** Hakan Gölaç, Önal İncebay; **Control/Supervision:** Fatma Esen Aydın; **Data Collection and/or Processing:** Hakan Gölaç, Önal İncebay; **Analysis and/or Interpretation:** Hakan Gölaç; **Literature Review:** Hakan Gölaç, Önal İncebay; **Writing the Article:** Hakan Gölaç; **Critical Review:** Fatma Esen Aydın; **References and Fundings:** Fatma Esen Aydın; **Materials:** Önal İncebay.

Appendix 1: An instigation of dysphagia education and practice among the speech and language therapists in Türkiye.

*Required

1. Graduated university *

2. City of employment

3. Current workplace setting *

Mark only one oval.

- Special education and rehabilitation center (SERC)
- Hospital
- University
- Private clinic

4. Type of employment *

Mark only one oval.

- Part-time
 Full-time

5. Years of experience *

Mark only one oval.

- Less than 1 year
 2-3 years
 4-6 years
 More than 6 years

6. What is your educational degree? *

Mark only one oval.

- Bachelor's degree
 Master's degree
 Doctoral degree

7. How many theoretical courses did you have so far about dysphagia? *

8. How many weeks of practical courses did you have so far about dysphagia? *

Mark only one oval.

- 0-4 weeks
 5-12 weeks
 More than 13 weeks

9. Did you have any postgraduate courses so far about dysphagia? *

Mark only one oval.

- Yes
 No

10. What is the percentage of your current dysphagia caseload? *

Mark only one oval.

- 0-10%
 11-25%
 26-50%
 51-75%
 76-100%

11. Do you have a dysphagia team in your workplace? * (If "No" please skip question 12.)

Mark only one oval.

- Yes
 No

12. Which disciplines are included in the dysphagia team? *

Tick all that apply.

- Otolaryngologists
- Speech and Language Therapist
- Oncologist
- Neurologist
- Dietitian Physiotherapist
- Other: _____

13. Which departments do you receive consultations and referrals from? *

Tick all that apply.

- Otolaryngologists
- Speech and Language Therapist
- Oncologist
- Neurologist
- Dietitian Physiotherapist
- Other: _____

14. Frequency of treatment sessions? *

Mark only one oval.

- Once a month
- Biweekly
- Once a week
- Twice a week
- At least three times a week

15. Number of treatment sessions *

What is your frequency of using the following methods in dysphagia assessment?

Please rate the following questions from 0 to 4 (0=never, 1=rarely, 2=sometimes, 3=often, 4=always).

16. History taking *

Mark only one oval.

	0	1	2	3	4	
Never	○	○	○	○	○	Always

17. Oral-motor assessment *

Mark only one oval.

	0	1	2	3	4	
Never	○	○	○	○	○	Always

18. Cognitive screening *

Mark only one oval.

	0	1	2	3	4	
Never	○	○	○	○	○	Always

19. Swallowing trials with thin liquids **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

20. Swallowing trials with pureed foods **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

21. Swallowing trials with solid foods **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

22. Cervical auscultation **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

23. Saturation level **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

24. Videofluoroscopy **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

25. Fiberoptic endoscopic evaluation of swallowing **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

26. Manometric measurements **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

27. Patient-reported questionnaires **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

28. Others **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

What is your frequency of using the following methods in dysphagia treatment?

Please rate the following questions from 0 to 4 (0=never, 1=rarely, 2=sometimes, 3=often, 4=always).

29. Oral hygiene **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

30. Oral motor exercises **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

31. Thermal-tactile stimulation **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

32. Diet modification **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

33. Masako maneuver **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

34. Mendelson maneuver **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

35. Postural maneuver **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

36. Supraglottic swallowing maneuver **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

37. Super-supraglottic swallowing maneuver **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

38. Shaker exercises **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

39. Effortful swallowing maneuver **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

40. Lee Silverman Voice Treatment (LSVT) **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

41. Surface electromyography (sEMG) **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

42. Neuromuscular electrical stimulation (NMES) **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

43. Transcranial magnetic stimulation (TMS) **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

44. Caregiver education and training **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

45. Others **Mark only one oval.*

	0	1	2	3	4	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

<https://docs.google.com/forms/d/1QO5GQ0BujikAEKn7mkz-lgK7IkAQfub36kLLNv5Fizg/edit>

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