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## Opportunities and Challenges for Audiology and Speech-Language Pathology Services in Arabic-Speaking Middle East Countries

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### Abstract

**Purpose:** This article outlines opportunities and challenges pertaining to service delivery faced by audiologists and speech-language pathologists/therapists working in Arabic-speaking Middle Eastern nations. Among the most diverse regions in the world, the Middle East is a region characterized by rapid development in a number of sectors relevant to audiology and speech-language pathology, including education and health care. Despite these developments, there remains a number of challenges, including growing service demands, awareness of the scope of practice of audiologists and speech-language pathologists/therapists, regulation of clinical practice, and shortages of clinicians and evidence-based clinical resources.

**Conclusion:** Developments to address these challenges, as well as strategies that may enhance service delivery, will be presented.

The objective of this article is to share insights based on the literature and the authors' experiences working in Arabic-speaking Middle Eastern countries. In this article, we highlight some of the opportunities and challenges faced by the field of communication sciences and disorders in the region. There have been several efforts to raise public awareness about communication sciences and disorders, increase the availability of Arabic language clinical resources and tools, foster initiatives to bridge the clinician–researcher gap through conferences and workshops, and develop researcher–clinician information networks (e.g., Arabic Speech-Language and Literacy Research Network, n.d.; AVICO, n.d.; the Saudi Society for Speech-Language Pathology and Audiology [Alanazi, 2017]).

The Middle East and North Africa (MENA) region is among the most linguistically diverse regions on the globe, comprising over 22 territories and nation states spanning North Western Africa to South Western Asia (Pew Research Center, 2016). The MENA region is also home to over 60 languages, with Arabic being the most widely spoken (Horesh, 2019; Versteegh, 2014). It is beyond the scope of this article to cover the entire MENA

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region, which is heterogeneous and vast (El-Erian & Fischer, 2000). Therefore, general trends pertaining to Arabic-speaking Middle East (AME) nations will be highlighted.

Arabic is a Semitic language in the Afroasiatic language family (Shaalán et al., 2017; Versteegh, 2014), and is spoken by over 400 million individuals worldwide, both as a natively acquired language and as an additional language (Bokova, 2012; UNESCO, n.d.). Arabic is a root language characterized by root sequences: typically, roots consist of several consonants, typically three. Words, phrases, and sentences are formed via morphological processes including affixation and transfixation (i.e., concatenative and non-concatenative morphology; Albirini & Benmamoun, 2014; Kaye, 2018). For example, the consonantal root *k-t-b* (write) is used to generate multiple words, such as *maktaba* (library), *katabtu* (I wrote), and *kutub* (books). A language with more than 30 variants (i.e., dialects), Arabic is also classified as a macrolanguage by the International Organization for Standardization and SIL International (SIL, n.d.). Among these variants, Modern Standard Arabic (MSA) is largely, but not exclusively, utilized as the lingua franca of formal communications, reading, and writing across the MENA region (Abu-Rabia et al., 2022; Darwish & Magdy, 2014; Jaber, 2022; Ryding, 2014; Versteegh, 2014). MSA is not a natively acquired language and is generally learned upon entry in formal education (Froud & Khamis-Dakwar, 2018; Laks & Saiegh-Haaddad, 2022; Saiegh-Haddad, 2012; Shendy, 2019). Spoken variants, on the other hand, are natively acquired, but are largely not formally codified (Aabi & Aabi, 2018; Abdel-Jawad, 1992; Ryding, 1991). Cultural and societal perspectives of asymmetries among MSA and spoken Arabic variants give rise to diglossia (otherwise referred to as multiglossia; Ferguson, 1959; Kaye, 1994), a phenomenon of language stratification wherein a variant is perceived as possessing more societal prestige compared to others.

MSA operates as a register that is typically used in formal contexts, such as higher education, law, and mass media, whereas spoken variants are generally used in informal settings and contexts (Al-Shlowiy, 2022; Ibrahim, 1983). Generally, children acquire spoken variants within home environments and are formally introduced to MSA upon entry into formal education. However, there is overlap, as children may receive variable exposure to MSA prior to attending school (i.e., via children's cartoons and other media, older siblings, conversations among adults, faith-based contexts, folktales, stories, idioms, nursery songs; Albirini, 2016; Bassiouney, 2018; Eghbaria-Ghanamah et al., 2020; El-Shamy et al., 1982; Kissine et al., 2019; Muhawi, 1994). However, Arabic-speaking children typically enter formal education proficient in a variant that is not reflected in formal instruction of reading and writing, which has implications for identification, assessment, diagnosis, and treatment in the area of speech-language-hearing.

In this article, we will discuss a number of challenges and opportunities for growth pertaining to various aspects of service delivery in AME countries. We will briefly address public and professional awareness of the scope of practice of audiology and speech-language pathology. Moreover, we will highlight issues related to regulation of clinical practice, the shortage of professional service providers, growing demands for clinical services, as well as the limited availability of clinical tools and resources for Arabic-speaking communities. The topics addressed in this article are designed to provide a general overview of key topics of importance to clinicians, and are by no means exhaustive or comprehensive, as there are

a variety of issues that go beyond the scope of this viewpoint. As such, the article will conclude with suggested opportunities for growth and further exploration that complement and extend current strategies and advances.

## Growing Service Demands

Disability impacts approximately 14%–20% of the global population (Seitz & Choo, 2022). In AME countries, a main challenge is that it is difficult to determine the prevalence and incidence of individuals with disabilities due to inconsistencies in data reporting and differences in definitions of disorders (Almubarak et al., 2022; Gharaibeh, 2009; Kotby et al., 2008; see Saad & Borowska-Beszta, 2019, for estimates). In addition to increased identification of disabilities, among the causes and risk factors for the region's rising disability rate are a high incidence of road traffic accidents and consanguineous marriages (i.e., marriages wherein individuals are related by blood, such as cousin marriages; Al Khabori & Patton, 2008; Habibzadeh, 2012; Radovanovic et al., 1999; Tadmouri et al., 2009; Tawfik & Hassan, 2014). Congenital etiologies are also common, with a reported prevalence of up to 34.7% in some countries (Al Khabori & Patton, 2008; Saad & Borowska-Beszta, 2019). Many AME countries have made progress toward recognizing the rights of persons with disabilities and reforming disability policies by signing and/or ratifying the United Nations Convention of the Rights of Persons with Disabilities (United Nations Economic and Social Commission for Western Asia [UNESCWA], 2018). Despite these efforts, individuals across the lifespan with disabilities in AME countries remain among society's most vulnerable and underserved groups (UNESCWA, 2018).

Although precise figures on the incidence of communication disorders in AME countries are not readily available, Al Awaji et al. (2021) indicate that communication difficulties are widespread among individuals with disabilities. As shown in Table 1, hearing loss, intellectual disabilities, and communication disorders are frequent in the region, with communication disorders affecting a reported 4.3% of the population in Bahrain and 18.8% in Qatar (UNESCWA, 2018). For example, hearing loss is reported to be twice as common in infants born in the Middle East as it is in children born in the United States (Campbell-Wilson, 2012).

Over the past 20 years, there has been a notable increase in individuals seeking clinical audiology and speech-language pathology services in AME countries (Al-Khaledi et al., 2009). The observed surge within the past 10 years in particular may be due to an increase in individuals being identified as having communication disorders (Gharib et al., 2017; Gad-Allah et al., 2012). The increase may also be linked to growing education and awareness that therapy services are available and effective at improving life outcomes for individuals with disabilities in AME countries (Abdalla & St. Louis, 2012, 2014; Mahmoud et al., 2014). Moreover, globalization in the area of mass communication (e.g., Internet and social media) may have increased the visibility of services being available. As a result of this surge of individuals seeking services for communication difficulties, there will inevitably be an increase in demand for audiologists and speech-language pathologists (Alshatti et al., 2011).

## Awareness of Scope of Practice

While audiology and speech-language pathology are emerging fields in several Arabic-speaking nations, public awareness of communication disorders and related services remains low (Al Awaji et al., 2021; Aljenaie & Simmons-Mackie, 2021; Buqammaz et al., 2021; Hughes et al., 2014; Mahmoud et al., 2014; Mostafa & Ahmed, 2018). It is well established that such a knowledge gap can perpetuate societal attitudes that stereotype and stigmatize individuals with communication disorders, decreasing their quality of life and limiting their equal participation and inclusion in society (Abdalla & St. Louis, 2014; Al-Khaledi et al., 2009; Nabieh El-Adawy et al., 2021; Scior et al., 2013; St. Louis, 2015). Determining the knowledge and views of other professionals in the region about communication difficulties is also crucial yet limited in the literature (Khoja, 2019). Educators, medical professionals, and pediatricians may be unaware of available audiology and speech-language pathology services, resulting in missed referral opportunities (Alqudah et al., 2021; Zaitoun et al., 2021, 2022). Studies of health care professionals in Jordan and Saudi Arabia indicate gaps in practitioner knowledge regarding the scope of practice of audiology and speech-language pathology (Alhamidi et al., 2021; Alqudah et al., 2021), particularly in the area of dysphagia (Darawsheh et al., 2020). As such, the need to enhance public and professional awareness of professions within communication sciences and disorders is crucial.

## Regulation of Practice

As in other regions where audiology and speech-language pathology as professions are emerging, several AME countries are in the process of establishing clinical practice regulations. Some countries have made notable strides in regulating clinical practice, whereas others are in early stages of this process. Hence, regulations vary across AME countries with regard to educational requirements, training, certification, and practice. In many countries, the licensing process to practice as an audiologist or speech-language pathologist is under regulating bodies such as ministries of health (e.g., in Kuwait or Jordan; The Hashemite Kingdom of Jordan Ministry of Health, n.d.). In others, licensing for health care professionals falls under health commissions or councils (e.g., Saudi Commission for Health Specialties, Qatar Council for Healthcare Practitioners, and Dubai Healthcare City Authority). At this time, an undergraduate degree is the minimum qualification in order for an individual to practice audiology or speech-language pathology in many AME nations.

Given that regulations vary across AME countries (Alshatti et al., 2011), encroachment from other professions may occur. For example, it is not uncommon to find psychologists or special education teachers who provide clinical speech-language services to individuals who stutter or nonspecialists with short-course diplomas who treat children with language disorders. There is a greater need to regulate practice across AME countries, ensuring ethical and best practice guidelines.

It is therefore necessary to continue partnering with local and regional stakeholders in revising local audiology and speech-language pathology credentialing criteria in order to meet the increasing demand for services (Alanazi, 2017). Keeping pace with advancements in the field is also challenging, as credentialing authorities in many AME nations have

yet to recognize professional doctorates in audiology (e.g., AuD) and clinical doctorates in speech-language pathology (e.g., SLPD) as advanced degrees.

## Services and Clinical Shortages

The number of practitioners qualified to serve individuals with communication difficulties in the region has grown considerably over the past two decades. A major challenge is that the numbers of qualified, practicing audiologists and speech-language pathologists are not easily identifiable across different countries (Alanazi, 2017). Overall, the numbers remain low. Such a shortage results in long waiting lists for services at hospital clinics and specialized hearing and speech-language centers. In some cases, clients from high-income countries seek services in Western countries, and thus they may not receive services in their native language.

With the availability of academic programs, many clinicians have received their undergraduate training in the region and then have traveled abroad to pursue advanced academic or clinical training. While an expanded view of academic programs in the region is beyond the scope of this article, there is variation across the AME countries in academic degree program offerings.

A more comprehensive overview of academic programs in the region will be addressed in a follow-up article (Aseeri et al., n.d.). Academic programs are still limited in the region, therefore many clinicians travel to Europe, North America, Australia, and more to pursue advanced degrees. However, some do not return due to lucrative employment opportunities, especially considering that these professionals are bilingual or multilingual, enabling them to work in a variety of countries (Arabi & Sankri-Tarbichi, 2012; Askari & Cummings, 1977; Özden & Schiff, 2006). This often leads to clinician shortages in the region. In efforts to circumvent this shortage, some countries regularly recruit clinicians from neighboring countries to address shortage problems. Ultimately, this migration causes regional “brain drain,” exacerbating the professional shortage (Hashish & Ashour, 2020; Hassan, 2008).

Clinician and clinical educator shortages result in increased workloads, which frequently lead to burnout and clinician migration (Alswalmeh et al., 2021). Some clinicians tend to move to other work settings in pursuit of better compensation, increased job satisfaction, and a more manageable workload (Al-Khaledi, 2021). Thus, clinicians with diverse specializations are typically concentrated in larger cities, leaving smaller towns and rural areas with fewer or less specialized services. Additionally, many SLPs tend to work with pediatric populations, with a greater number focusing on language disorders in children with autism (Al-Salehi et al., 2009). This often leads to other populations not receiving adequate attention (e.g., adults with aphasia, dementia, or TBI; Aljenaie & Simmons-Mackie, 2021) and other groups that are underserved in health care across the globe, such as migrant workers (Buqammaz et al., 2021). In the past 2 years, telepractice has gained popularity as a result of the COVID-19 pandemic (Al Awaji et al., 2021; Almubark et al., 2022). Telepractice is a viable option for expanding service coverage to a larger geographical region and population (Elbeltaq et al., 2022). However, not everyone in remote regions may be

able to benefit from virtual services due to limited access to resources that make telehealth possible (e.g., reliable broadband Internet, computers, and software).

As noted earlier, awareness of the scope of audiology and speech-language pathology practice among other professionals is still limited. This impacts delivery of effective services, because SLPs do not receive appropriate referrals from health care providers such as physicians. Frequently, cases within the scope of audiology are referred to ear-nose-throat (ENT) physicians; similarly, cases within the scope of speech-language pathology practice are referred to psychologists or occupational therapists. Moreover, in some work settings, audiologists and SLPs may work alone when there are benefits to working in interdisciplinary teams.

## Clinical Resources

It has been hypothesized that the overall paucity of research in spoken Arabic variants is partially a result of challenges unique to diglossia (Selim et al., 2018). These challenges are manifested in the dearth of clinical tests that measure skills across the lifespan in Arabic-speaking populations, thereby limiting the accurate identification, assessment, and diagnosis of a variety of clinical conditions (Al-Akeel, 1998; Altaib et al., 2021; Rakhlin et al., 2020; Shaalan, 2009).

In addition to geo-economic reasons, there are additional challenges precluding the availability of Arabic assessments. First, spoken variants are often not considered academically or professionally relevant, because MSA is the official language of academic writing and formal communication and is seen as a pathway for upward mobility (Khoja, 2019). Therefore, there has been a historical emphasis on measuring speech-language-hearing skills in MSA, even though MSA is not a natively acquired language (Alusi et al., 1974; Gadalla, 2000; Horn, 2015; Maamouri, 1998; Mahfoudhi et al., 2011; Rayes et al., 2021). Because MSA is a learned language that is formally instructed in the AME region in the first 2 years of elementary school (Shaalan, 2009), they are largely geared toward children who are school aged. Second, given that spoken variants can sometimes be mutually unintelligible, an assessment that is available in one variant may not be applicable for all Arabic-speaking populations (Najem & Marie, 2021).

While efforts have been made to overcome gaps in the availability of clinical tools, these efforts have largely resulted in one-time, informal adaptations, which are not standardized translations (Rifaie et al., 2021). Adaptations are certainly useful for individual studies and represent crucial steps in the standardization process; however, they have the potential to remain obscure and challenging to locate in literature searches. Furthermore, translations and adaptations of existing assessments originally designed for certain languages are not always appropriate for use across other languages. As such, there is a need for assessment materials that are built for and designed to measure speech-language-hearing skills across the lifespan within Arabic-speaking contexts and experiences.



## Opportunities for Growth and Future Directions

The field of communication disorders has witnessed notable growth in the AME region. Strides have been made by various actors—self-advocates, families, clinicians, governing officials, faculty, and researchers, who have worked to advance the profession (Crabtree, 2007; Khan & Alam, 2014; Kotby et al., 2010; Zaitoun & Nuseir, 2020; Zellal, 2011). Professionals are continuing to find innovative and sustainable solutions to many of the challenges outlined in this article.

As noted earlier, there is a need to address the shortage in professional service providers and the growing demand for service provision. This shortage has been addressed in several ways. For example, local clinicians and expatriates trained outside of the Middle East and recruited to serve in AME nations assist in addressing personnel shortages (Alshatti et al., 2011). One way to increase the training of clinicians and researchers locally is via the development of more academic programs, with the ultimate aim to retain home-grown talent in the region.

In the field, researchers as well as clinicians have actively aimed to address gaps in the areas of clinical tools (Abou-Elsaad et al., 2009; Al Matar, 2021; Balilah & Archibald, 2018; Khamis Dakwar et al., 2018; Khamis-Dakwar & Makhoul, 2014; Khoury Aouad Saliby et al., 2017; Rakhlin et al., 2020; Shaalan, 2017, 2020; Zebib et al., 2019). However, as mentioned above, there is a need for more clinical tools across variants of spoken Arabic. Specifically, research is needed that explores a variety of hearing and speech-language domains, as well as linguistic and cultural research pertaining to individual dialects and regions (Al Matar, 2021; Khamis-Dakwar et al., 2022; Mahfoudhi et al., 2020; Najem & Marie, 2021; Tibi et al., 2021; Summaka et al., 2022; Saiegh-Haddad & Ghawi-Dakwar, 2017).

The establishment and growth of national hearing and speech-language associations in AME countries are critical. Not only will such organizations contribute to the regulation of clinical and research practices, but they will also provide resources and strategies and develop guidelines for effective awareness campaigns that reach out to all segments of society, as well as measure and track the growth of the profession (i.e., the number of practitioners in a respective area, the development of academic programs across the region, and resource allocation endeavors for increased governmental support; Kotby et al., 2003). Furthermore, in-service and continuing education training can be delivered to health care personnel and educators to promote effective services for people with communication disorders. Forming alliances among international associations, educators, and health care providers to raise awareness and capitalize on global days dedicated to specific conditions would be valuable (e.g., World Voice Day; International Day of People with Disabilities; World Autism Month; the month of May as Better Hearing and Speech Month, and joint conferences; American Speech-Language-Hearing Association, n.d.).

As outlined above, low awareness about communication disorders and the scope of audiology and speech-language pathology practice appears to be the source of a number of other challenges. A special emphasis should be placed on identifying the social, educational, and occupational barriers that negative attitudes and misinformation can create for people

with communication disorders (Irani et al., 2012). Not only is it necessary to identify gaps in various sectors of the population's knowledge about communication disorders but also to bridge these through awareness campaigns, education, and training (Abdalla & St. Louis, 2014; Ayas & Yaseen, 2021). Advocacy and lobbying initiatives will help persuade governments, legislators, and other authorities to recognize the profession and support disability-inclusive practices.

Mass media can be an effective tool for ensuring the success of awareness campaigns, because it allows for the dissemination of information to diverse audiences more quickly. Research has shown that public education programs using films, live presenters, and social media can have a positive influence on participants' knowledge and attitudes (Scior et al., 2013; St. Louis, 2015; St. Louis et al., 2020). Implementing such strategies in AME countries may assist the public and other professionals to better understand professions within the field of CSD. Evaluation of the effectiveness of a campaign is often over-looked, despite the fact that it is just as critical as designing and delivering educational content with a compelling message. Simmons-Mackie et al. (2020) advocate for the adoption of marketing techniques akin to those in health and wellness promotion. Additionally, by incorporating individuals with communication disorders and their families in the development of awareness campaigns, the message can be grounded in real-world experiences.

To conclude, we anticipate that the insights and recommendations that we have offered can provide a road map to support the continued growth of the professions and professional service delivery in AME countries. Although not exhaustive in its scope, this article aims to highlight pressing issues that are identified in the literature and possible paths forward to enhance clinical services in the region.

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**Table 1.**

Types of disabilities in percentage totals for several Arabic-speaking Middle Eastern countries, adapted from the United Nations Economic and Social Commission for Western Asia report (2018).

Country	Hearing	Cognition	Communication
Bahrain	7.1	14.3	4.3
Egypt	7.7	5.7	18.2
Jordan	12.1	13.2	11.1
Oman	7.5	9.4	6.2
Qatar	10.8	14.5	18.8

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