



Key Elements of Screening Checklists for Needs of Augmentative and Alternative Communication

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With the use of augmentative and alternative communication (AAC), people with complex communication needs could participate in social situations even if they had severe speech impairments. Even though speech-language therapists in Thailand are aware of AAC, they still mainly teach young children with complex communication needs to mainly use speech as a means to communicate. This could lead to fewer opportunities for people with complex communication needs to use AAC systems. Therefore, this article aimed to analyze and classify the items related to communication success, as a guideline to generate a screening checklist for determining whether individuals with a communication impairment would benefit from using AAC. Three previously available screening checklists pertaining to communication success were analyzed to identify the 3 domains: 1) verbal communication intelligibility, 2) verbal functional communication, and 3) verbal communication comprehension. These 3 domains were divided into 2 aspects: 1) familiar/unfamiliar communication partners, and 2) familiar/unfamiliar settings. To create a standard screening checklist that speech-language pathologists in Thailand could utilize, more research would need to be done in the future.

Keywords: Speech-language pathologists, Complex communication needs, Augmentative and alternative communication, Screening checklist

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Introduction

Augmentative and alternative communication (AAC) system is “an area of clinical practice that supplements or compensates for impairments in speech-language production and/or comprehension, including spoken and written modes of communication”.¹ AAC systems can be any form of communication other than speech, such as vocalization, gestures, manual signs, communication boards, speech-generating devices, and picture-exchange communication systems (PECS), etc. As such, various types and methods of AAC could be used together as a form of multimodal communication to maximize a patient’s communication abilities.

AAC has mainly played significant roles in enabling individuals who cannot solely rely on speech, or individuals with severe expressive and receptive communication difficulties to engage with everyday communication situations from fulfilling basic social interaction to employment. Those communication impairments can result from congenital disabilities (cerebral palsy, autism spectrum disorders, and developmental apraxia of speech) or acquired disabilities (traumatic brain injuries, and disability following surgeries).¹⁻⁷ Individuals, whose speech performance or intelligibility is insufficient to communicate in daily situations would be considered as individuals with complex communication needs.

Depending on the issues and requirements of patients, AAC could be used as either an alternative communication method or an addition to existing speech performance. Thus, the use of AAC as a complement to support preexisting speech is referred to as “augmentative”. In contrast, the term “alternative” refers to the use of AAC in place of, or as a supplement to speech when speech is not functioning.

AAC could also be used either on a temporary or permanent basis. It is typically temporarily used while a patient is receiving rigorous postoperative care. On the other hand, AAC should be used permanently for patients who would be unable to rely only on speech, possibly throughout an individual’s lifetime. However,

depending on how intact a patient’s language and cognition would be at the beginning of the impairment and during its evolution, the AAC requirements for people with acquired disabilities could change over time.

AAC systems are tailor-made for an individual based on that individual’s capabilities, such as communication abilities, physical abilities, and cognitive condition, as well as the individual’s demands. An individual’s AAC system must also be adaptable in order to consider changes in a patient’s requirements and abilities over time. Consequently, AAC systems should maximize the patient’s communication efficacy and efficiency in varied contexts and among a variety of communication partners, as well as increase independence in daily living activities.^{2,8}

The benefits of effective AAC intervention in individuals with complex communication needs have been documented in several studies. Those benefits include promoting expressive language,^{9,10} receptive language skills,¹¹⁻¹³ literacy skills,¹⁴ functional communication skills,¹⁵⁻¹⁷ as well as for reducing challenging behaviors.¹⁸⁻²⁰

In Thailand, Kamonsitichai and Goldstein²¹ reported that all Thai speech-language pathologists who responded to their questionnaire were aware of AAC. Nevertheless, a number of Thai speech-language pathologists persistently used speech to improve communication abilities for young patients with complex communication needs even if AAC could benefit those patients. Despite the fact that many speech-language pathologists work with young patients, the range of AAC systems is still limited in Thailand. This could be the case because Thai speech-language pathologists were hesitant to offer AAC interventions to people with complex communication needs. Therefore, this article’s objective was to identify the key elements of screening checklists for needs of AAC to assist Thai speech-language pathologists in determining whether a patient would benefit from AAC or not. As a result, Thai speech-language pathologists would be more knowledgeable about implementing AAC systems for individuals with complex communication needs. These individuals would also have a greater chance of accessing the AAC systems and benefiting from them.

Types of AAC

According to the American Speech-Language-Hearing Association (ASHA), AAC comes in 2 primary varieties including unaided forms and aided forms.¹

Unaided Forms

Unaided forms of AAC do not require external instruments. Individuals using this form of AAC would mostly rely on their motor control and movement. Unaided forms of AAC include gestures, physical signals, facial expressions, vocalization, verbalization, body language, etc.

Aided Forms

Aided forms of AAC require external instruments. This type of AAC could be light-, mid-, or high-tech. In light-tech AAC systems, the instruments do not require batteries. This type of AAC would include pictorial-symbol communication boards (Figure 1), PECS, writing, line drawing, photographs, objects, etc. Mid-tech AAC systems are battery powered systems. This type of AAC would include Go Talk devices, single-message switches (Figure 2), etc. High-tech AAC systems are more advanced electronic forms of AAC and include speech-generating devices (SGDs) (Figure 3), as well as AAC software enabled on tablets, computers, or smartphones, for example.

In addition, each type of AAC system has different distinct advantages and disadvantages. Therefore, to choose the most appropriate AAC for a person with complex communication needs, AAC clinical specialists would consider both the individual's needs and current capabilities. For instance, a person with spastic cerebral palsy would frequently have a limitation of motor control. Instead of an unaided type of AAC that would depend on an individual's motor skills, assisted high-tech forms of AAC, including SGDs with an eye-tracking system, could be recommended. On the other hand, those with complex communication needs who have intact body

Figure 1. Pictorial-Symbol Communication Board

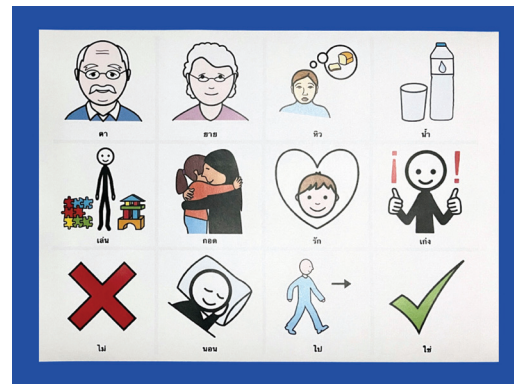
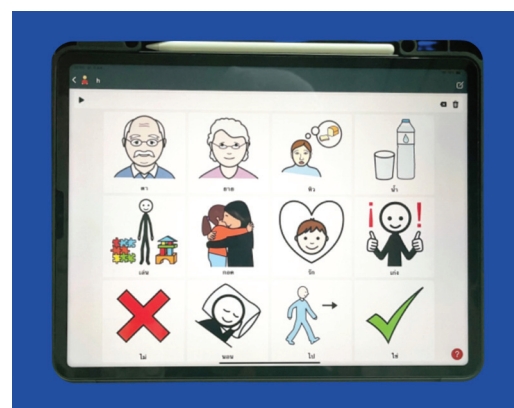


Figure 2. Single-Message Switches



Figure 3. Speech-Generating Devices





movements might be able to use either unaided or aided forms of AAC. Not only would the needs and existing abilities of the individual be considered when selecting the most appropriate AAC system for them, but also their preferences and the acceptance of their communication partners.¹

Who is Accountable for Identifying Those Who Might Benefit From AAC Intervention?

According to ASHA, speech-language pathologists would be crucial to the screening, evaluation, diagnosis, and treatment of people who would need AAC intervention. Additionally, speech-language pathologists play an essential role in assisting individual family members to communicate with the individual more effectively by using AAC.

However, a multidisciplinary team would be required even though speech-language pathologists would be a key component of assessing and providing AAC intervention. A multidisciplinary team could include a teacher, occupational therapist, neurologist, pediatrician, speech-language pathologist, etc.¹

Key Elements of Screening Checklists for Needs of AAC

AAC is frequently used by people with complex communication needs, or by individuals whose speech, language, and communication is not able to address all of their communication needs for their age and culture.^{22,23} These impairments could be a result from congenital disabilities (cerebral palsy, autism spectrum disorders, and childhood apraxia of speech) and/or acquired disabilities (acquired brain injuries and disability following surgery).¹ For those who would be completely unable to produce speech, AAC would be considered as an option to replace spoken language. On the other hand, for those who would be able to speak but their speech intelligibility would still be poor (an individual who could speak 1-2 syllable words with fair intelligibility, but with poor intelligibility

when speaking up to 3 syllable words), AAC could be considered as a speech and language supplement.²⁴

Furthermore, individuals with complex communication requirements would normally be at significant risk not only in functional communication abilities but in several areas of their development, including cognitive skills, literacy capabilities, social engagement, access to education, access to healthcare needs, employment, and general quality of life.^{5, 25-29}

Therefore, speech-language pathologists would need to first determine whether the individual is thought to have communication impairments rather than delayed speech-language development. Then, the speech-language pathologist would need to decide if the individual has a communication impairment that would be regarded as having complex communication needs. If it was determined that they had complex communication needs, AAC could be the communication method that would enable the individual to successfully communicate in society. Nevertheless, there is currently no checklist for speech-language pathologists to utilize to assess whether an individual would be considered to have complex communication needs and would benefit from AAC technology or not for the Thai people. Consequently, this article's goal was to analyze existing screening checklists in order to pinpoint the key areas that they could share and might potentially be developed as screening checklists in Thailand to be utilized as a reference for determining whether a patient would need AAC.

The available checklists regarding include Tobii Dynavox's communication success screening,³⁰ AAC finders checklist from Assistive Wave,³¹ and Intelligibility in Context Scale (ICS).³² The important areas listed on these 3 checklists are primarily related to communication success of an individual with communication impairments. Questions in these checklists could be categorized into 3 main domains: 1) the extent to which an individual's verbal communication would be understood by different communication partners, 2) the degree to which an individual could functionally communicate verbally, and 3) the degree to which an individual would understand



verbal communication from different communication partners. These are described as follows:

1) *The extent to which an individual's verbal communication would be understood by communication partners:* This domain consists of 3 items associated with the intelligibility of an individual's verbal communication, such as familiar/unfamiliar communication partners, noisy/quiet environment, familiar/unfamiliar settings, and the number of words understood by the communication partners.

When the spoken communication of the patient is insufficient as the primary method of communication in order to meet the patient's varied communication demands, AAC systems would be suggested. Some individuals with complex communication needs would be able to speak, but their speech would be difficult to understand. As such, the speech-language pathologist could use the response of the domains in this domain to guide their decision on whether AAC would be beneficial for those individuals as a supplement to or replacement for spoken communication.^{1,2}

2) *The degree to which an individual could functionally communicate verbally:* This domain is composed of items pertaining to demonstrating communication difficulties even in communicate basic needs (difficulties in initiation and/or responding during conversation, and difficulties to communicate independently), displaying frustration and challenging behavior when unable to communicate with others, and use of gestures or pictures to communicate better than speech.

Complex communication needs would include severe speech impairment. Severe speech impairment could range from being completely unable to talk to speaking with poor intelligibility, which could cause frustration due to unsuccessful communication.¹ In order to lessen the negative impacts resulting from severe speech impairments, people with complex communication needs could use AAC to support or replace their speech.^{19,20} Speech-language pathologists could also use the domains in this theme to determine whether AAC would be needed

to facilitate communication, so that people could achieve their basic requirements.^{1,2,22,23}

3) *The degree to which an individual would understand verbal communication from different communication partners:* The following items are related to this domain: familiar/unfamiliar speaker, types of questions asked by communication partners (yes/no questions and wh-questions), and different types of communication functions received by the individuals (giving instructions, storytelling, lectures, and commenting, etc).

AAC systems could also be used to facilitate individuals who have difficulties comprehending verbal communications.¹⁻⁷ Therefore, it would be advised to take into account the domains associated with this theme in order to determine AAC for assisting the person's comprehension of speech from the communication partners.^{1,2,23,24}

Discussion

This article was to highlight the key elements that were suggested to be included in screening checklists for AAC needs to help Thai speech-language pathologists decide whether an individual might benefit from AAC. The screening checklist for determining whether individuals with communication impairment would receive benefits from using AAC has not yet been available in Thailand. According to a review of studies and available checklists for AAC needs that have been utilized in foreign nations, the individuals' success in communicating was given significant weight in the screening checklists. Verbal communication intelligibility, verbal functional communication, and verbal communication comprehension with different communication partners and settings would be the key domains related to communication success. However, there have not been many research studies or checklists published about the need for AAC. For the future research, the screening checklist for AAC needs would be developed for Thai speech-language pathologists.



Conclusions

The 3 main domains were suggested to be included in screening checklist for AAC needs: verbal communication intelligibility, verbal functional communication, and verbal

communication comprehension. To decide whether an individual was required AAC to replace or supplement his or her verbal communication or not, Thai speech-language pathologists were advised to consider those domains when evaluated the individuals' communication success.

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ปัจจัยสำคัญที่เกี่ยวข้องในแบบคัดกรองความต้องการการใช้การสื่อสารทางเลือก

วรรณิญา กมลสิทธิชัย

ภาควิชาวิทยาศาสตร์สื่อความหมายและความผิดปกติของการสื่อความหมาย คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล กรุงเทพฯ ประเทศไทย

การสื่อสารทางเลือกสามารถช่วยให้ผู้ป่วยที่มีความบกพร่องทางการพูดสื่อสารรุนแรงมีส่วนร่วมในการเข้าสังคมได้ อย่างไรก็ตาม แมื่อนักแก้ไขการพูดในประเทศไทยรู้จักการสื่อสารทางเลือก แต่การกระตุ้นการสื่อสารให้แก่ผู้ป่วยที่มีความบกพร่องทางการพูดสื่อสารรุนแรง ยังคงใช้วิธีการพูดเป็นหลักเช่นเดิมซึ่งอาจมีผลทำให้ผู้ป่วยมีโอกาสในการเข้าถึงการสื่อสารทางเลือกลดลง ดังนั้นบทความนี้จึงได้วิเคราะห์และจัดหมวดหมู่ของปัจจัยที่เกี่ยวข้องกับความสำเร็จในการสื่อสาร ซึ่งเป็นตัวชี้แนะที่ช่วยในการจัดทำแบบคัดกรองเพื่อช่วยตัดสินใจว่าผู้ป่วยที่มีความบกพร่องในการสื่อสารจะได้รับประโยชน์จากการใช้การสื่อสารทางเลือกหรือไม่ ปัจจัยหลัก 3 ด้าน ที่สรุปได้จากแบบคัดกรองที่ถูกเผยแพร่แล้วจำนวน 3 ฉบับ ได้แก่ 1) ระดับความชัดเจนในการพูดสื่อสาร 2) ประสิทธิภาพในการพูดสื่อสาร และ 3) ความเข้าใจการพูดสื่อสารของกลุ่มสนทนา ซึ่งทั้ง 3 ปัจจัยนี้ถูกแบ่งพิจารณาออกเป็น 2 มุมมอง ได้แก่ 1) สื่อสารกับคู่สนทนาที่คุ้นเคย/ไม่คุ้นเคย และ 2) สื่อสารในสภาพแวดล้อมที่คุ้นเคย/ไม่คุ้นเคย ทั้งนี้ การจัดทำแบบคัดกรองการใช้สื่อสารทางเลือกที่เป็นมาตรฐานสำหรับนักแก้ไขการพูดในประเทศไทยยังจำเป็นต้องมีการทำวิจัยเพิ่มเติมต่อไป

คำสำคัญ: นักแก้ไขการพูด ความบกพร่องทางการพูดสื่อสารรุนแรง การสื่อสารทางเลือก แบบคัดกรอง

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