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Knowledge of AAC Devices in Pakistani Speech Therapists

Muhammad Sikander Ghayas Khan[1], Mrs. Ayesha Kamal Butt[2], Qurrat ul Ain[1], Madiha, Rabia Ghayas[1]

ABSTRACT

Background:

Augmentative and alternative communication (AAC) is a term which is used for the communication techniques that usually substitute or enhance speech widely. Classical Greeks and Romans used AAC for the deaf persons. There are many AAC systems and they include both unaided communication system, there is no need of any, it also includes sign and body language, while aided normally require a wide range of external tools such as communication boards, pictures and speech producing devices etc.

Objective:

To find out knowledge of AAC devices in Pakistani Speech therapists

Methodology:

A Cross-sectional Survey was conducted through questionnaire from January 2012 to June 2012 in Department of Speech and Language Pathology, Riphah College of Rehabilitation Science, Riphah International University Islamabad. The target population was the Speech and Language therapists working in the six major cities of Pakistan. The questionnaire was circulated in 125 speech therapists from Islamabad, Rawalpindi, Lahore, Karachi, Quetta and Peshawar and total of 46 speech therapists responded back. The response rate was 36.8 %. The statistical analysis of the data was performed by SPSS-17.

Results:

Over all response of speech therapist regarding and use of AAC devices were 40% to 50%

Conclusion:

Therapist should be experienced in assessing and working with individuals using AAC with limited devices, and he/she should be involved with multi-professional teams working with AAC. It is very important to conduct workshops, seminars and courses for training of SLTs.

Keywords: AAC (Augmentative and Alternative Communications), Speech and Language Therapist, awareness of AAC devices

1. Riphah International University, Lahore Campus
2. Riphah International University, Islamabad
Correspondence Address:
Sikandar Ghayas Khan
(sikandar.khandr@riphah.edu.pk

INTRODUCTION:

AAC is not a very new concept. The traces age back to Roman and Greek history. They used AAC for the deaf people. The People of early times played a very important role in speech-making and education systems. [1] The ancient Egyptians used water and light as a symbols of life. [2] The knowledge of anatomy evoked the new thoughts about communication maladies, mainly for the patients suffering from stroke or brain trauma.

The universal language drive brought awareness an d conscious n ess in teach in g verbal communication to the deaf people, who were also offered different methods of learning and communicating. The alternate and augmented means of communication was also taught to non-speaking persons to enhance their communication.

In the 16th century manual sign and alphabets were also used in Europe and also among the Native Americans, as a result they were able to communicate through gestural system of Hand. [3] 1950s is known as a modern era of AAC, as it initiated in Europe and North America and Europe, and made numerous social changes. The Government gave rights to the people with disabilities and also started funding for their education. [4] Earlier, only the people with laryngectomy and glossectomy mainly used AAC, but later on individuals with cerebral palsy and aphasia also used AAC. AAC started off when the

traditional speech therapy was unsuccessful and many SLP's were reluctant to provide non-speech intervention to people who might be able to learn to speak. Individuals who had intellectual deficit were usually not provided with AAC support the reason being that they did not possess the essential skills for AAC. The recognition of sign language increased later on in the Deaf community, and AAC also came to be observed as one of the most appropriate method for those with other diagn oses also. Man ual sign languages (Makaton) firstly used for cognitive impairments and later on for with intellectual impairment or autism people. The Research that whether, primates might absorb the use of sign or graphic symbols stirred further interests for using AAC for the people with cognitive impairments. [6] In 1977, described the Handy Voice 120 speech producing device. The family member of AAC user play key role through their writings, presentations, serving on committees, and also establishing advocacy organizations. In 1981 AAC was accepted as a field of practice by The American Speech-Language-Hearing Association. ' Enhancements in technology also led to a considerably amplified quantity, diversity, and presentation of commercially accessible communication devices. The speech output potentials also include digitized and synthesized speech, with a text-to-speech choice available to augment communication aids. With the passage of time the AAC services also became more comprehensive, as they helped in growing a balance between the aided and unaided strategies with the main goal of refining daily lives of people who are using it. Speedy development in hardware an d software devel opme nt continued, including projects supported by the Europeans. With the passage of time the high-tech devices have reduced in size and weight, that has increased the convenience, availability and dimensions of these devices.' Experts of AAC are focusing on improving the devices' interface, which will reduce the obstacles and will enhance the social interaction of the people using them.

The AAC researchers have challenged the m an ufact urers to d evelo p easy to use communication devices that are more attractive, and have more and better options for leisure and play. The speedy and continuous developments i n s m a rt phon es, an d tab let co mpute r techn ologies has a massive potential to radicallyad just to the availability of economical, accessible, flexible communication devices. Open source operating systems and androids, also bring chances for small groups, such as AAC.' Other promising areas of groMh comprise of the access of communication devices using signals such as gestures of the body, or electrodes that measure the activity going on in the brain, and also for the automatic record used for the recognition of the dysarthric speech.

The utterance-based systems are also in the process of development. These are systems, in which recurrent utterances are controlled in sets, so that the speed of exchange of communication is improved. Likewise, researchers also have been focusing on the facility of appropriate access to vocabulary and conversation right for particular interactions. The production of natural language procedures have also been measured, which includes the use of logs of past conversations. This data was collected from different sources such as internet vocabulary hunts, user's schedule, as well as info about any location obtained by global positioning systems, and other sensors. Even though there is a repeated focus on the improvements in technology which will lead to improvements in AAC, specialists are still recommended to continue to focus on various communication needs of the AAC users: "The purpose of AAC will note advancement of technology but use of advancement for effective communication for persons who have complex communication needs". [1,]

METHODOLOGY:

Cross-sectional survey was conducted to find out knowledge and use of AAC devices in Pakistani

Speech therapists. For this purpose a structured questionnaire developed from literature review and experts opinion, comprising of five questions were used. Pilot study was conducted prior to research work to have a clearer understanding of questionnaire. This study was conducted in Riphah International University Islamabad during Jan 2012 to Jun 2012.Target population was male and female speech language therapists with at least one year experience as a speech language therapists. Data was collected from six major cities (Islamabad, Rawalpindi, Lahore, Karachi, Quetta and Peshawar) of Pakistan and analyzed by SPSS 16.

Results:

Table: 1 Response of speech language therapists

S:No	Questions	Do not know	No Tech system	LowTech system	MidTech system	High Tech s stem
1	PECS is a form of	25 (54.3%)	10(26.7°â)	6(13%)	3(6.2°â)	2(4.3)
2	**Dynavox , Tango, IPAD'S are**	**22(47.8°â)**	**1(2.2%)**	1(2.2%)	3(6.2°A)	19(41.3%)
3	Go Tdk, Message Communicator is	32 22(47.8%)	2(4.3°â)	2(4.3°é)	15(32.6°â)	5(10.9R•)
4	Single Message Switch is	21(45.7%)	0	16(34.8)	7(15.2%)	2(4.3°6)
5	Eye gaze boards are	21(55.7P)	12(26.1%)	9(19.6%)	4(8.79)	0

DISSCUSSION:

This study explores the knowledge and use of AAC devices in speech language pathologist. Results of this study were not much encouraging and positive. There is a wide range of speech disorders, it can be articulations problem or problems in speaking of any word. Children who cannot fulfill their basic needs and demands due to speech disorders get irritated, and eventually this affect their behaviors. AAC p rovid e compensations to them and change their behavioral issues. [11] There are many different types of unaided and aided AAC strategies. In unaided AAC which are also No tech systems, there is no need of any external tool. [2] And they mainly focus on facial expressions, gestures, vocalizations, sign languages and systems, these are also a part of natural communication skills, and such signals might be used by those who have intense disabilities.'° The AAC aided systems are both electronic and non-electronic, they are used to convey or receive messages, and these include communication books, speech generating devices etc. [4]

The No-tech communication aids are simple communication boards or books which do not need batteries or electricity. The user usually selects letters, words, phrases, pictures, and/or symbols to convey a message.' [s] No-tech aids are Picture Exchange Communication System (PECS), Choice/communication boards. These may be commercial or handmade and use a picture communication system (PCS) or other symbols, photographs, etc.(") In this study only 10 % speech therapist knew that PECS come under the category of No-Tech devices and 12% therapist knew that eye gaze boards are also No-Tech systems. 16% therapists were aware that single-message voice output communication device comes in to Low-Tech devices, and works on the basis of cause and effect. These voice output devices also called voice output switches (i.e., Big Mack) give a singular message and an easy-to-use recording device." In High-tech AAC systems, speech production might be digitized and/or synthesized: digitized systems commonly play recorded comprehensible words or phrases, but the synthesized speech uses text-to-speech software that is hard er and much mo re complicated to understand. [1,] The devices with voice output are beneficial for its users as they increase the communicative power, including the capability to initiate conversation with people who are at a distance. Though, they characteristically need programming, and can be very unreliable. Because of the unreliability, low tech systems are recommended as a backup in case of a device failure.([1"]) The devices mostly range from the simple 6-key Go Talk 4+ and only 15 % therapists know that this is Mid Tech device. It has 4.5 minutes of recording time, to the sophisticated 128-key Green Macaw 5 that provides up to 78 minutes of recording time [(20)] 19%therapist

recognized that dynavox is a High-tech V-max+ with a large, crisp and clear display that can be seen indoors and outdoors.[21] There is an attractive new handheld device called Tango is suitable for those who are hearing or speech impaired, helping them in the creation of sentences. It is also helps kids learn English. The Tango! has a camera which can capture a new image to serve as an icon, and then an adult can record the correct phrase for the item, even with a simulated child's voice.[2*]

Hence, it is proved that AAC devices do not slow down speech development in individuals with developmental disabilities, but the fact is that it might result in modest gains [23] It is also important to begin AAC as early as possible. Even if your child is already receiving speech and language therapy, he can still benefit from AAC devices. Early intervention helps in early communication development. [2o]

CONCLUSION:

The AAC technology usage depends upon an awareness of SLTs, partner's concerns, skills, and preferences. It is require to enhance the knowledge of AAC devices Pakistani Speech and Language Therapist.

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