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Family-based Early Intervention of Verbal Expressive Language Skills for children with Autism Spectrum Disorder (ASD)

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Abstract: Cases of children experiencing speech impediments occur in children with Autism Spectrum Disorder (ASD) because most of them have difficulty in mastering verbal language. The role of the family to reduce the gap is needed so that the child's development can occur optimally. Using the Mand model is expected to help reduce gaps and optimize verbal expressive language development through family-based early intervention. First, a child profile and family profile are developed into a program to address children's verbal expressive language needs and family skill needs. The form of intervention carried out includes the implementation of the program from the interventionist to the family and the implementation of the intervention from the family to the child. The results of the intervention program indicate that the mand model is effective. Children's verbal expressive language skills increase as seen from the acquisition of new vocabulary that children can say. This model is also effective for families because it is natural and easy to follow.

Keywords: Autism Spectrum Disorder (ASD); Verbal Expressive Language; Family-based Early Intervention.

INTRODUCTION

Children with Autism Spectrum Disorder (ASD) are one of the cases of children who experience delays or obstacles in language development. Children with ASD have different language development. Most children with ASD have difficulty in mastering language, especially verbal language. The degree of this difficulty varies greatly between individuals. About 25% - 30% of children with ASD fail to develop functional language verbally, or remain minimally verbal (Anderson 2007; Norrelgen 2015).

Such conditions are very detrimental to children with ASD. Language has a role in communicating with the wider community. Children with ASD not only have language difficulties, but also behavioral difficulties, (McClintock, 2003; Sigafoos 2000), poor adaptive functioning, and social skills (Anderson 2007; Hudry 2010). This can result in reduced quality of life and opportunities to participate in society for children with ASD.

ASD can be categorized as a neurodevelopmental disorder characterized by impaired social communication or social interaction, as well as restrictive and repetitive behaviors (Ousley and Cermak, 2013; Ediyanto et al., 2021; Rezkiani & Aprilia, 2023; Irdamurni et al., 2021). This condition disrupts the child's daily life.

Typically, these disorders develop in children before the age of 3 years (Miles and McCathren, 2005). Signs of ASD are often apparent by 18 months of age, or even earlier. Children with ASD will also show delays in speech acquisition, not uttering their first words until 36 months of age. Children who speak before 36 months will usually regress or lose words that have been learned. There is delayed development of vocal behavior; the child is slower in babbling and slower in developing language sounds. In addition to this delay, the child also shows more use of less speech-like vocal behaviors such as high-

pitched sounds, trills, shouts, and growls. Until now, the causes of ASD are still a hot topic of discussion and research.

According to Miles and McCathren (2005), the causes of autism can be divided into two, namely "secondary" and "idiopathic". In "secondary" autism, the causative factors are known and only about 10% of individuals with ASD fall into this category. Whereas, the remaining 90-95% of individuals with ASD have "idiopathic" autism where the causative factors are unknown. ASD has no cure as it is a lifelong disorder and requires extensive support.

So there needs to be an effort used to identify and provide effective early support for children with ASD or what we commonly call early intervention. Effective early intervention can serve to prevent problems from occurring or to address them directly before they become worse. Early intervention includes systems, services, and supports designed to enhance a child's development, minimize the potential for developmental delays, meet the need for special education services, and increase family capacity as caregivers (Baker & Feinfield, 2003).

However, this intervention will be more evident if it is done by involving the family. This is because the family is the closest environment to the child. The family has a major role and function in supporting optimal child development. The family is also the first environment that has a deep influence on children (Gunarsa, 2009) because it is in this family that children first receive education and guidance (Hasbullah, 2008).

Using the Mand Model approach, it is hoped that this family-based intervention can help reduce gaps and optimize verbal expressive language development. The use of the mand model is the first step in language teaching because it is based on student motivation and results in the student being reinforced specifically with what he or she is asking for. It should be noted that for children who cannot imitate speech sounds or words, a different form of response may be required such as sign language (Peterson, 2004).

The Mand model in its implementation is used as a modeling of children's cues. Such as in observing the child's focus of interest (e.g. Ball) and modeling the correct verbalization (e.g. "That is a ball"). If the child makes the correct verbal response, then praise the child and provide an object of interest.

METHOD

This research was conducted in October 2021 - March 2022 on a 6-year-old child with ASD named Rasya. Development of a family-based early intervention program based on cases in the field using the Mand Model approach. This program was developed to improve the verbal language skills of children with ASD according to the research flow chart (Figure 1).

The research began by looking for cases of children who were suspected of having developmental barriers. The identification process was carried out first through the observation method and it was found that the child had ASD and was suspected of experiencing language development barriers. Then, a child development assessment and family assessment were conducted.

The assessment was made in advance by deriving the grids from the theoretical study that had been done. The result of the assessment is a child and family profile consisting of abilities, barriers, and needs. This information is used to develop an appropriate program for the child and family. After considering both profiles, a family-based early intervention program is designed. After the program is developed, it is implemented in the child, then the results are seen and continued to be analyzed.

The following is a flowchart of research on the Early Intervention of Verbal Expressive Language Skills for children with Family-Based Autism Spectrum Disorder (ASD).

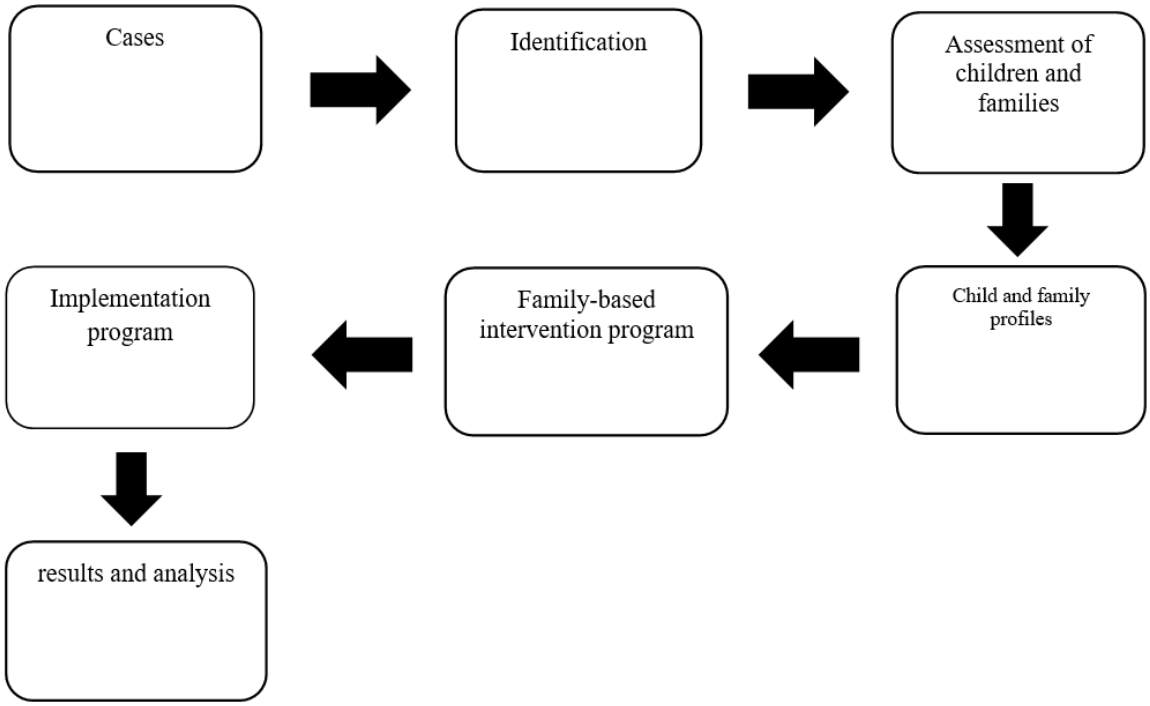

Figure 1. Flow Chart of Research

FINDING AND DISCUSSION

Based on the case findings in the context of developing a Family-Based Early Intervention Program, the results show that children experience the greatest obstacles in the aspect of language.

Table 1. Results of Child Development Identification Score

Aspects of Development	Number of Questions	Total Score	Result	Description
Motoric	40	80	62	77,5%
Cognitive	40	80	53	66,3%
Language	40	80	31	38,8%
Social-Emotional	40	80	33	41,3%

The child is assessed for development in the aspect of language. Language development assessment consists of the scope of receptive and expressive language.

Based on the results of the assessment, the child's needs in receptive abilities, the child can understand, follow, and respond to simple instructions. Whereas in expressive abilities, children are still minimally verbal and are more likely to point, pull people's hands, or babble and vocalize to convey their wishes. So the child needs a verbal expressive language Intervention Program as well as increasing vocabulary for receptive language.

Table 2. Child Profile Assessment Results

Scope	Ability	Barriers	Needs
Expressive	Able to convey wants or needs (eat, drink, toilet, play, sleep) nonverbally by pointing or pulling people's hands. The child can show feelings through facial expressions when happy, sad, or angry. Can make sounds with vocalization "aaa" "maa" "baa" "gaa" Can repeat the last syllable of the vocabulary Assalamualaikum = Kum Ibu = bu, ayah = yah, mau = ma ua	Not yet able to use language verbal Not yet able to name own name, not yet able to mention 1 vocabulary word. The child makes babbling sounds and unclear vocalizations that are not clear, the child replaces verbal communication with nonverbal by pointing or pulling the hand of people. Not yet able to repeat words that heard in its entirety in its entirety. The child repeats only part of the word.	Program Intervention language expressive verbally
Receptive	Able to follow one command/instruction related to activities that are often daily activities i.e: - Stand, Sit, Look, Pick up - Eat, Have vocabulary noun vocabulary - Chair, Table, Paper, Pencil, Scissors, Have vocabulary vocabulary - Stand, Sit, Fetch, Jump, Go, Go Home, Have vocabulary adjectives - Color: Red, Blue, Green, Yellow - Expressions: Happy, Sad, Angry	Not yet able to follow more than one command at a time simultaneously. When giving an order must be repeated many times. Not yet able to understand the conversation Cannot yet understand the story Vocabulary is still limited to the surrounding environment that has been taught.	Program to improve treasurer word

Based on the results of the assessment of the family, information was obtained about the family's condition. The assessment is carried out using the family functioning theory approach which consists of family abilities, obstacles, and needs. The child's family consists of 3 family members, namely, the father, mother, and child. Both parents are busy working and try to divide their time between family and children.

Mom works in the office, while Dad works from home. Every Saturday is scheduled for outside activities. The child's mother knows the condition of her child's development, and from the age of 2.5 years has taken various actions including consulting with experts, conducting routine therapy, and enrolling the child in schools and therapeutic and educational services.

The following Family Profile is the result of the assessment to determine the needs of the program to improve family skills in conducting child language interventions.

Table 3. Results of Family Profile Assessment

Scope	Ability	Barriers	Needs
Value Family	The family accepts the child's condition The family is open and has enthusiasm and motivation to help optimal child development. Families want to learn about child development child's development. The family accepts input.	No barriers	No requires program
Skills Family	Families know natural limitations skills to train children in language, so the child is enrolled in school. At home, the family tries to train verbal language skills by asking the child to repeat words.	No program language program at the child's school or service center therapy There are no programs or special methods that are implemented by the family at home. Teaching is done spontaneously and without targets.	Intervention programs to improve the knowledge and skills of families about development child development
Pattern Communication	The family communicates effectively. The family deals with problems by communicating directly, and doing everything by not forcing the situation. circumstances. The family communicates with the child by talking verbally.	Because the family is busy working, the child is given phone cells when at home The family let the child reply non-verbally by pointing, pulling a hand, or babbling and vocalizing	Program intervention program to improve understanding of communication patterns in children with ASD

Based on the child profile and family profile, a family-based intervention program is developed that considers the needs of the child and the needs of the family. The program developed is a program to address children's verbal expressive language needs and family skill needs.

The intervention program consists of 2 stages, 1) Implementation from Interventionist to Family and (2) Implementation of Intervention from Family to Child.

First, the interventionist provides education and skill-building to the family, as well as how to intervene with the child. The purpose of this stage is to prepare parents to act as interventionists. The following is the flow of procedures for stage 1 of program implementation:

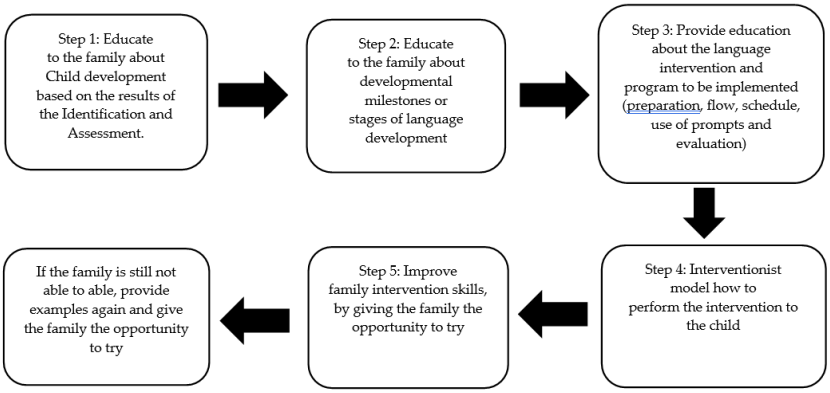

Figure 2. Procedure Flow of the Family Intervention Program

In the second stage, the interventionist transfers the interventionist's role to the family. The family intervenes with the child according to the schedule. The interventionist conducts control. The following is the procedure flow for stage 2 of program implementation:

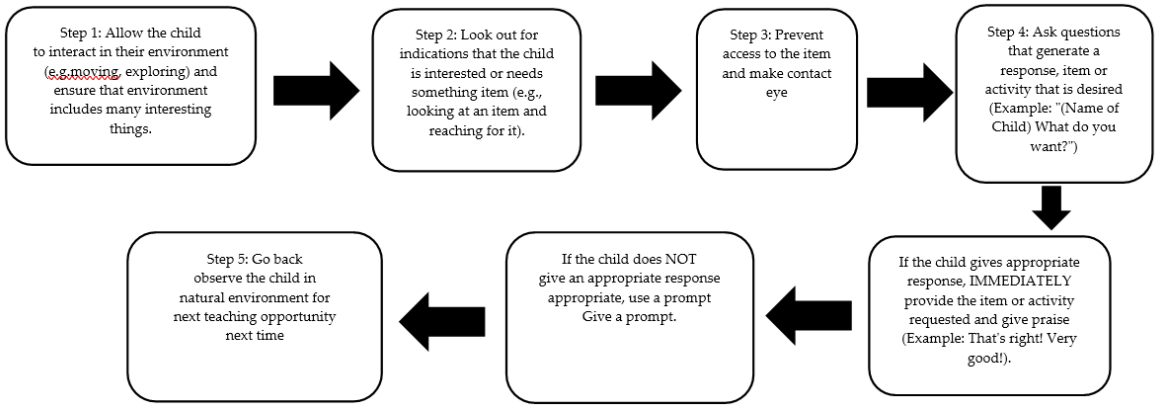

Figure 3. Procedural Flow of the Family to Child Intervention Program

Prompts are used to increase the likelihood that children will make the correct response. Prompts are a form of assistance, there are several types of prompts:

1. Full Prompt:
   - The family gives the child the full spoken answer to the question asked.
   - Example: The family asks the child, "What does Rasya want?"
   - The family answers "Bread" while asking the child to repeat the word.
2. Partial Prompt
   - The family gives the child a partially spoken answer to a question.
   - Example: The family asks the child, "What does Rasya want?"
   - The family answers "Ro-" while asking the child to complete the word.
3. Visual Prompts
   - Visual prompts can include videos, photos, or pictures or show the item that the child wants.
   - Example: The family asks the learner, "What does Rasya want?". The family shows a picture of the item or points to the item that the child should ask for.
4. Without Prompt
   - The family waits for a fully verbalized answer to the child's complete answer to the question.
   - Example: The family asks the child, "Rasya wants what?

When intervening it is also necessary to pay attention to the child's eye contact. Make sure the child makes eye contact with the interventionist. In addition to getting a prompt in the form of audio (sound) or visual (item), the child needs to see how to make the shape and movement of the mouth when saying a word. With good eye contact, the child can imitate the shape and movement of the mouth, making it easier when the child tries to say the word.

Evaluation of the early intervention program can be seen from two aspects. The first is the success of the family, which can be seen if the family can intervene with the child independently, which is indicated by the improvement of the child's language skills.

The second is on improving the child's ability to pronounce words verbally. Spoken words have meaning and function to convey children's desires for goods or activities in their environment.

In this intervention program, 5 words are targeted, namely Jalan, Buka, Teh, Mie, and Mau. The word chosen is seen from the child's interest in the environment so a strong sense of motivation arises for the child to ask for these words. Observed the child's verbal language skills and recorded the words that have been able to be spoken (both words that have been able to be spoken as a whole, words that can only be spoken partially, and words that have not been able to be spoken.

Table 4. Results of Intervention Program Implementation

Session	Activity	Word Acquisition
1	The interventionist discusses the results of the assessment of Rasya's development and determine prioritize the developmental aspects to be intervened	-
2	The interventionist discusses the results of the assessment of Rasya's development and determines to prioritize the developmental aspects to be intervened	-
3	Interventionists train parents to implement a language intervention program for Rasya.	Jalan = ja – lan (partial word)
4	The family implemented a verbal language intervention program for Rasya	Jalan = ja – lan (partial word) Buka = a – ka atau u-ka (partial word)
5	The family implemented a verbal language intervention program for Rasya	Mie = M – ma (partial word)
6	The family implemented a verbal language intervention program for Rasya	Teh = teh (whole word)

CONCLUSION

The results of the intervention program indicate that the mand model is effective. Children's verbal expressive language skills increased, this can be seen from the acquisition of 5 new vocabulary that children can say, like a whole word or part of a word. However, the word that is vaporized is by its function and can motivate children to ask for the word.

In addition, this model is also effective for families. Since this intervention is family-based, the family plays the role of interventionist. This model has a natural nature which is easy to follow, and the way it is applied in the child's daily activities.

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