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Overview of the Development of Language Skills in Toddlers with Prescreening Developmental Questionnaire (PDQ) at Posyandu Anggrek Sukamandi, Sagalaherang District, Subang, Indonesia

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A B S T R A C T

At the toddler development stage, namely 1-3 years old, language skills become a very crucial aspect in the process of interaction and communication with the surrounding environment. At this time, children begin to develop vocabulary, speech skills, understand instructions, and express themselves using words. This study aimed to provide an overview of the development of language skills in toddlers at Posyandu Anggrek Sukamandi, Sagalaherang District, Subang, Indonesia. This study was a descriptive observational study. A total of 42 research subjects participated in this study. Univariate analysis was carried out to screen language skills with the PDQ. Toddlers who experience questionable language development are 7.14%. Toddlers with adverse language development were found in 28.57% of toddlers with malnutrition and 3.23% of toddlers with good nutrition, 16.67% of toddlers with mothers who had primary school education, and 7.15% of toddlers with mothers who had a junior high school education. The percentage of the development of questionable language is higher in toddlers who have risk factors than in toddlers who don't have risk factors.

1. Introduction

Language is one of the important abilities in child development. At the toddler development stage, namely 1-3 years old, language skills become a very crucial aspect in the process of interaction and communication with the surrounding environment. At this time, children begin to develop vocabulary, speech skills, understand instructions, and express themselves using words. In Sagalaherang, Subang, Indonesia, it is important to monitor the development of language skills in toddlers. As Sagalaherang is an area with a significant under-five population, ensuring that they reach age-appropriate language development milestones is important.[1-3]

One of the methods used to monitor the development of language skills in toddlers is to use the prescreening developmental questionnaire (PDQ). PDQ is an instrument used to identify potential language development disorders in children aged 1-4 years. Through this questionnaire, parents or caregivers can observe various aspects of a child's language skills, such as comprehension of words, speaking ability, and speech patterns. PDQ is a very important tool in the early identification of potential language development disorders in toddlers. By recognizing early problems in children's language skills, appropriate interventions and support can be provided to help toddlers overcome these barriers. This will enable them to develop optimal language skills as they grow and develop.[4,5]

The use of PDQ as a screening tool for language development in toddlers will provide significant benefits. By detecting potential language development disorders early, appropriate steps can be taken to ensure that children receive the necessary interventions and receive appropriate support in developing their language skills. Through routine monitoring and evaluation using PDQ, it is hoped that language development in toddlers in Sagalaherang, Subang, can be improved as a whole. It is important to continue to monitor and develop language skills in toddlers because language is an important basis for communication in everyday life. By using tools such as PDQ, we can ensure that toddlers in Sagalaherang, Subang, have the best opportunity to develop their language skills well, which in turn will help them in the process of learning and social interaction throughout their lives.[6-8] This study aimed to provide an overview of the development of language skills in toddlers at Posyandu Anggrek Sukamandi, Sagalaherang District, Subang, Indonesia.

2. Methods

This study was a descriptive observational study and used primary data obtained from interviews and examinations of respondents at the Posyandu Anggrek Sukamandi, Sagalaherang District, Subang, Indonesia. A total of 42 research subjects were included in this study, and the respondents met the inclusion criteria. The inclusion criteria in this study were toddlers who were screened at Posyandu Anggrek Sukamandi, Sagalaherang District, Subang, Indonesia.in March 2023 and received parental or guardian approval for them to participate in this study.

Observations were made on sociodemographic data and language skills screening results using the prescreening developmental questionnaire (PDQ). prescreening developmental questionnaire (PDQ) is a tool used to identify potential language development disorders in children aged 1-4 years. This questionnaire is designed to provide an initial picture of a child's language skills and assist in detecting signs of delays or language development problems that may need to be followed up with further evaluation. PDQ consists of a series of questions designed to observe various aspects of language skills in children. PDQ asked about the child's ability to understand the words used in everyday situations. These questions can include the child's ability to recognize objects, follow simple instructions, or understand words related to everyday activities. PDQ observes children's ability to use words and express their thoughts and desires orally. This involves asking questions about the extent to which the child uses words to communicate, whether they are able to form simple sentences, and whether they have difficulty pronouncing certain sounds or syllables. PDQ looks at children's speech patterns, including the number of words used, the diversity of vocabulary, and the level of clarity in communication. The questions in this questionnaire aim to assess the extent to which children develop speech patterns appropriate to their stage of development.

3. Results and Discussion

Table 1 presents the characteristics of the research subjects, where the majority of the research subjects were female and aged between 1-3 years. The majority of the research subjects had normal nutritional status, and the mothers of the research subjects had the last high school education and were housewives. Table 2 presents that the majority of research subjects have age-appropriate language skills based on the PDQ screening. Table 3-7 presents a breakdown of the language skills of the study subjects.

One of the main advantages of PDQ is its ability to help early identify potential language development disorders in toddlers. Using this questionnaire, parents or caregivers can observe and recognize signs of delays or problems in their child's language skills.

Table 1. Characteristics of research subjects.

Based on gender	Male	16 (38%)
	Female	26 (62%)
Based on age	0-1 years	10 (24%)
	>1-2 years	11 (26%)
	>2-3 years	11 (26%)
	>3-4 years	7 (17%)
	>4-5 years	3 (7%)
Based on nutritional status	Severely wasted	0
	Wasted	7 (17%)
	Normal	31 (74%)
	Possible risk of overweight	4 (9%)
	Overweight	0
	Obesity	0
Based on the mother's education	Primary school	12 (29%)
	Junior high school	14 (33%)
	Senior high school	15 (36%)
	Bachelor degree	1 (2%)
Based on the mother's occupation	Housewives	36 (86%)
	Employee	5 (12%)
	Teacher	1 (2%)

Table 2. Overview of language development based on PDQ.

Language development	In accordance	Doubtful	Total
	39 (92,86%)	3 (7,14%)	42

Table 3. Overview of language development by age.

0-1 years (n=10)	In accordance	10 (100%)
	Doubtful	0 (0%)
>1-2 years (n=11)	In accordance	9 (81,82%)
	Doubtful	2 (18,18%)
>2-3 years (n=11)	In accordance	10 (90,91%)
	Doubtful	1 (9,09%)
>3-4 years (n=7)	In accordance	7 (100%)
	Doubtful	0 (0%)
>4-5 years (n=3)	In accordance	3 (100%)
	Doubtful	0 (0%)

Table 4. Overview of language development based on gender.

Male (n=16)	In accordance	14 (87,5%)
	Doubtful	2 (12,5%)
Female (n=26)	In accordance	25 (96,15%)
	Doubtful	1 (3,85%)

Table 5. Overview of language development based on nutritional status.

Wasted (n=7)	In accordance	5 (71,43%)
	Doubtful	2 (28,57%)
Good nutrition (n=31)	In accordance	30 (96,77%)
	Doubtful	1 (3,23%)
Possible risk of overweight (n=4)	In accordance	4 (100%)
	Doubtful	0 (0%)

Table 6. Overview of language development based on mother's education.

Primary school (n=12)	In accordance	10 (83,33%)
	Doubtful	2 (16,67%)
Junior high school (n=14)	In accordance	13 (92,85%)
	Doubtful	1 (7,15%)
Senior high school (n=15)	In accordance	15 (100%)
	Doubtful	0 (0%)
Bachelor degree (n=1)	In accordance	1 (100%)
	Doubtful	0 (0%)

Table 7. Overview of language development based on mother's occupation.

Housewives (n=36)	In accordance	34 (94,44%)
	Doubtful	2 (5,56%)
Employees (n=5)	In accordance	4 (80%)
	Doubtful	1 (20%)
Teacher (n=1)	In accordance	1 (100%)
	Doubtful	0 (0%)

Early identification is very important because it allows prompt and appropriate intervention to take place. The sooner a language development problem is detected, the sooner appropriate follow-up steps can be taken. Thus, the child can receive appropriate intervention, care, and support in a timely manner. Interventions given at the early stages of language development have greater potential to help children overcome barriers and develop their language skills optimally. In cases of language development disorders that are not diagnosed or treated quickly, children may face difficulties in their communication, learning, and social interactions. Therefore, by using the PDQ to identify potential problems, parents and caregivers can quickly take the necessary actions to assist their children in their language development.[9-11]

PDQ is designed to cover various aspects of language skills in toddlers, including understanding words, speaking skills, and speech patterns. By looking at these aspects as a whole, PDQ provides a more comprehensive picture of toddlers' language abilities. By examining the understanding of words, PDQ evaluates the extent to which toddlers can understand words used in everyday situations. This involves their ability to recognize objects, follow simple instructions, or understand words related to everyday activities. This examination helps in identifying whether there are limitations in a toddler's understanding of the words used in daily interactions. Speaking skills are also evaluated through the PDQ. This involves observing the extent to which toddlers use words to communicate. Questions in PDQ can include whether toddlers have started to use words actively, whether they are able to form simple sentences, or whether they have difficulty pronouncing certain sounds or syllables. This examination helps in identifying patterns or areas where toddlers may experience obstacles in their speech development. In addition, PDQ also evaluates toddler speech patterns. This includes looking at the number of words used, the diversity of vocabulary, and the level of clarity in communication. By looking at speech patterns as a whole, PDQ helps in identifying whether toddlers develop speech patterns that are appropriate to their stage of development. Unnatural or restricted speech patterns can indicate limitations in toddler language development.[12-14]

There is a strong link between mothers' education and children's language development abilities. Mother's education can influence the language environment provided for toddlers, as well as the way of interaction and stimulation provided to them. Mothers with higher education tend to have better communication skills and a wider vocabulary. They are often the primary language models for toddlers. When mothers have good language skills, they tend to

model better and more complex language use to their children. It provides a rich stimulus for toddlers' language development and improves their ability to understand and use words. A mother's education can also influence the learning environment at home. Mothers with higher education tend to be more aware of the importance of learning and developing language in their children. They may be more inclined to provide books, toys, or other educational materials that support language development. In addition, mothers with higher education may also be better able to provide environments that are rich in verbal interactions, such as talking and reading, with their children, which can strengthen toddlers' language skills. Higher maternal education also has the potential to increase engagement in formal and informal educational activities. Mothers who are involved in educational programs, seminars, or discussion groups about child development tend to have more knowledge and understanding of the importance of language skills in child development. They can apply effective learning strategies and understand how to provide proper language stimulation to toddlers. Mother's education level can also affect family access to resources that support toddler language development, such as children's books, educational games, or educational programs. Mothers with higher education may be better able to acquire these resources and use them effectively to help their child's language development.[15-17]

There is a link between toddler nutrition and their language skills. Adequate nutrition is important for the development of the brain and nervous system, including language development. Adequate and balanced nutrition is very important for the growth and development of a toddler's brain. A healthy and well-developed brain provides a solid foundation for the development of language skills. Nutrients such as omega-3, B complex vitamins, iron, and zinc play an important role in the formation of brain cells and the optimal transmission of nerve signals. Proper nutrition plays a role in supporting toddler cognitive function, including language processing. Adequate nutrition helps improve memory, attention, problem-solving, and learning abilities. All of these aspects are interrelated with toddlers' language skills, such as remembering words, recognizing sound patterns, and understanding instructions. Adequate nutrition contributes to the development of a toddler's vocabulary and language comprehension. Adequate nutrition helps improve a toddler's thinking, reasoning, and perception, all of which play a role in understanding and using language. Toddlers who get good nutrition tend to have better understanding abilities and are able to express themselves better. Adequate nutrition also affects the energy level and activity of toddlers. Toddlers who get adequate nutrition tend to have enough energy to interact, play and learn. Physical activity and active play also support language development by strengthening neural connections and facilitating learning through hands-on experiences. Lack of nutrition or lack of certain nutrients can cause growth and development disorders in toddlers. Growth disorders associated with poor nutrition can affect the development of the brain and nervous system, including language development. Lack of nutrition can cause limitations in language skills, decreased concentration, and hampered learning abilities.[18-20]

4. Conclusion

There was a delay in the language development of 7.14% in toddlers with the prescreening developmental questionnaire (PDQ) at Posyandu Anggrek Sukamandi, Sagalaherang District, Subang, Indonesia.

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