Parent-Child Interactions in Preventing Childhood Language and Speech Delays: A Systematic Review

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ABSTRACT

Background: *Speech and language delay is a condition in which a child's speech and language abilities do not meet age-appropriate developmental expectations. Without timely intervention, such delays may lead to more significant disorders, including developmental language disorders and learning difficulties upon reaching school age. Interactive parent-child engagement plays a critical role in promoting speech and language development and in preventing delays among typically developing children.*
Method: *This systematic review was conducted in accordance with the PRISMA guidelines. The process involved analyzing online articles published between 2020 and 2024, sourced from ScienceDirect, PubMed, and Google Scholar, using the keywords "parent-child interaction" and "language and speech development".*
Result: *Eight relevant studies were reviewed and analyzed. The findings consistently highlight the significant role of parent-child interactions in preventing speech and language delays. Parents contribute not only to supporting age-appropriate development but also to identifying potential delays or abnormalities early, thereby enabling timely intervention. Reciprocal interactions provide children with meaningful experiences that foster language acquisition. Shared activities such as reading together offer children opportunities to imitate, create narratives, and receive corrective feedback from parents on aspects such as articulation and intonation.*

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Article History
Received 8 March 2025
Revised 14 March 2025
Accepted 17 March 2025
Available Online 24 April 2025

Keywords
Parent-child interaction
Language development
Speech development

DOI
10.14710/jpki.20.3.185-191

INTRODUCTION

Language and speech delay in children refers to a condition in which a child's speech and language abilities do not develop at the expected rate compared to their peers. Children under the age of three who have fewer than 50 spoken words and do not produce two-word combinations—without the presence of neurodevelopmental or hearing impairments—are often referred to as “late talkers”.(1) Language skills are essential for fostering children’s readiness to learn, shaping their behavior and social interactions, and regulating their emotions.(2) Even in children without any identifiable physical or neurological conditions, the emergence of language or speech delays during critical developmental stages may indicate the presence of an underlying neurodevelopmental disorder, warranting parental attention.(1) Globally, the prevalence of language and speech delays is increasing—from an earlier estimate of 10–15% to recent figures reaching up to 20% among school-aged children.(1)(3) While the exact prevalence in Indonesia is still unknown, it is estimated that approximately 5% to 8% of children aged 2 to 4 years experience speech and language delays.(4) Children who continue to face language difficulties up to the age of 4–5 years may be diagnosed with a developmental language disorder.(5) Developmental language disorder refers to children who, despite having no other neurodevelopmental conditions, continue to exhibit speech and language delays beyond the age of four. These children are expected to perform on par with their peers, yet their language acquisition remains below expectations. Compared to children with typical development, those with neurodevelopmental issues often acquire vocabulary more slowly and have a more limited range.(6)

Developmental language impairment can affect both receptive and expressive language skills, including speaking, listening, reading, and writing. This condition affects approximately one in fourteen preschool-aged children and its consequences may persist into adulthood. (7) Learning difficulties are reported to be five times more prevalent in children with developmental language disorders than in typically developing children. Moreover, these children are more likely to experience behavioral, emotional, psychiatric, and social adaptation challenges, which may eventually impact their future interpersonal relationships and employment outcomes. (8) The

increasing prevalence of language and speech delays in children is a pressing concern requiring appropriate intervention. A significant contributing factor is parents' limited ability to recognize early signs of delays, which often results in delayed access to appropriate support and services.(9) In addition to medical conditions, indirect factors such as socioeconomic status and the quality of parent-child relationships also influence the occurrence of language and speech delays.(10) Parent-child interaction plays a critical role in language and speech development, particularly in preschool-aged children.(11) Therefore, parents are encouraged to actively stimulate their children's cognitive and linguistic growth through shared activities guided by parental involvement. This paper aims to emphasize the importance of active parental participation in providing various forms of stimulation that promote language and speech development.(9) Through this systematic review, it is hoped that parents will gain a more detailed and practical understanding of specific activities that can effectively support their child's language development. In practice, many parents still believe that stimulation and early detection fall solely within the domain of healthcare professionals. This review seeks to help bridge that gap by empowering parents with the knowledge to take a more proactive role.(12)

METHOD

This systematic review was conducted in accordance with the PRISMA guidelines.(13) The literature search involved online databases including ScienceDirect, PubMed, and Google Scholar. The study selection process followed a structured approach with clearly defined inclusion and exclusion criteria. To identify relevant sources, the *Publish or Perish 8* (PoP) application was used, employing the keywords "parent-child interaction" and "language and speech development." The search focused on articles published between 2020 and 2024. The selection process was carried out in five stages, as outlined in the flowchart (Figure 1).

In the first stage, 295 sources were identified based on the specified keywords. This number was reduced to 245 after removing five duplicates and 45 ineligible sources identified through automated filtering tools provided by Covidence. In the second stage, a title and abstract screening was conducted, resulting in the exclusion of 179 articles that were not relevant to the keywords. Consequently, 66 sources remained for further screening. In the third stage, the full texts of these 66 articles were retrieved and assessed for eligibility. In the fourth stage, 58 articles were excluded after full-text review based on the following inclusion and exclusion criteria.

The inclusion criteria for this review were sources that focused on parent-child interactions and their impact on children's speech and language development. The exclusion criteria were based on the following considerations: studies that did not present results relevant to the topic, involved inappropriate populations or comparators, lacked a clear study design, intervention, or setting, were review articles, or required paid access. These criteria were established to ensure the selection of the most appropriate and relevant data sources, thereby minimizing potential bias in both the selection process and the interpretation of outcomes. The final step, constituting the fifth stage, involved extracting data from the eight sources that had been rigorously screened and met all inclusion requirements.

RESULT AND DISCUSSION

The identification and selection of literature using the PRISMA flowchart yielded a total of 295 articles. After removing duplicates (5 articles) and those flagged as ineligible by automation tools (45 articles), the remaining 245 articles underwent title screening. A total of 179 articles were excluded at this stage due to irrelevance to the research topic. The full texts of the remaining articles were then reviewed based on their abstracts and complete content. Several studies were excluded during this stage for reasons including: not being original research articles, lacking open access, or having populations and outcomes that were not aligned with the focus of the review. Ultimately, eight articles met the eligibility criteria and were included for analysis in this literature review.

From the eight reviewed studies, it is evident that rich and meaningful interactions filled with spoken language play a critical role in supporting the development of children's speech and language skills. Parents are key agents in creating such constructive interactions—whether through dyadic interactions (father–child or mother–child) or triadic interactions involving both parents and the child. Reciprocal communication between parents and children serves as a powerful stimulus for child development and may help reduce the incidence of speech and language delays that are increasingly prevalent among children today.

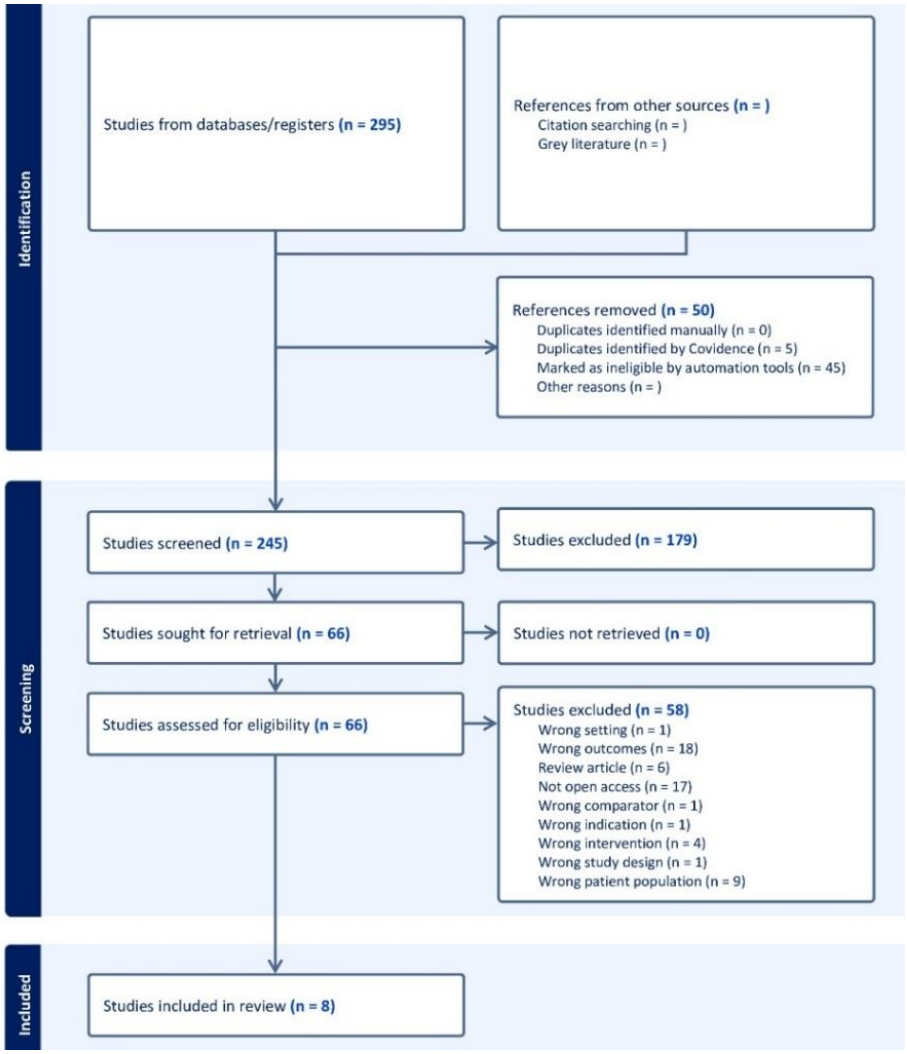

Figure 1. The flow diagram

Tabel 1. Summary of studies on parent-child interaction in enhancing children's language and speech development

No.	Title & Author	Methodology	Result
1.	Change the things you can: modifiable parent characteristics predict high-quality early language interaction within socioeconomic status (14)	Cross-sectional	a. Children's receptive and expressive language skills were significantly associated with mothers' self-efficacy, knowledge, and the interaction between self-efficacy and knowledge of child development. b. Maternal self-efficacy, when related to knowledge of child development, significantly influenced how frequently mothers responded to their children's utterances (i.e., conversational turn-taking and child-initiated communication).
2.	Children's multimodal language development from an interactional, usage-based, and cognitive perspective (15)	Quasi experimental intervention control design	a. The analysis supports the hypothesis that children can become proficient multimodal language users as they begin to express themselves according to their developmental stage and cognitive, motor, and language abilities. b. Children acquire language through sensory experiences embedded in everyday interactions.
3.	Parent child directed speech in	Cohort	a. The study revealed discrepancies between

	dyadic and triadic interaction: associations with co-parenting dynamics and child language outcomes (16)		naturalistic child language assessments and those obtained through direct observation in triadic and dyadic parent-child interactions under the same conditions. b. Dyadic interactions are widely used and effective in promoting language development, but triadic interactions involve more complex interactive and linguistic patterns that support long-term language skills.
4.	Longitudinal links between maternal directives, children's engagement in family conversations, and child linguistic skills (17)	Quasi experimental intervention control design	a. Findings based on semi-structured video observations of mother-child interactions showed significant improvement in maternal vocabulary diversity and children's language abilities over a one-year period. b. The most effective support for language development stems from concrete, experience-based learning obtained through daily interactions.
5.	The impact of parent training intervention in early years: language and literacy development (18)	Experimental intervention control design	a. The study demonstrated that attention-focused infants who participated in shared book interventions exhibited improved literacy skills compared to those who did not receive the intervention. b. Parents who received training using the shared book method showed an increase in both the quantity and quality of interactions with their children.
6.	Cross-cultural differences in mother-preschooler book sharing practices in the United States and Thailand (19)	Cross-sectional	a. The study revealed distinct cross-cultural differences in book-sharing practices between American and Thai mother–preschooler dyads, indicating differing narrative styles that influence children's language and speech development. b. Thai mothers employed fewer story-outline styles but used more attentional prompts and elaborations compared to American mothers. c. American children produced longer and more complex narratives, while Thai children were more likely to repeat their mothers' utterances.
7.	Interaction Time, Play Time and Screen Time of Typically Developing Children (20)	Cross-sectional	a. Findings showed that, on average, parents spent more than three hours interacting with their children daily, with mothers spending more playtime with children compared to fathers. b. The study emphasized the need to reduce screen time and recommended that daily interaction time with children be increased to five hours to support healthy development.
8.	Parentese in infancy predicts 5-year language complexity and conversational turns (21)	Cross-sectional	a. The study confirmed that parental speech input plays a significant role in determining children's language acquisition during early childhood. b. Constructive speech input, such as "parentese"—which is acoustically exaggerated, clearer, and higher-pitched—was found to support long-term language complexity and conversational engagement in children.

The Role of Parents

Parents are not only responsible for fulfilling their children's basic needs, such as providing food and shelter, but also play a pivotal role in their overall development. They are expected to be actively present during every stage of a child's growth, ensuring that each developmental milestone is reached appropriately.(22) This presence allows for early detection and intervention in cases where delays or abnormalities may arise. Early intervention can help children catch up and acquire age-appropriate developmental skills..(9) To effectively identify early signs of developmental issues, parents must maintain a strong sense of self-efficacy regarding the stages of child development, particularly in the area of speech and language.(14) It is essential that parents dedicate quality time to their children to provide the necessary stimulation for fostering speech and language development. In cases where parents are unable to engage directly with their children, they often resort to digital devices as substitutes. However, such practices may have adverse effects on children's developmental outcomes.(23) It is recommended that parents spend at least three to five hours per day interacting with their children in stimulating and enjoyable activities such as playing together, in alignment with their developmental stage.(20) Therefore, the role of parents is not limited to meeting physical needs but extends to supporting the child's developmental progress through daily interactions and age-appropriate activities.(15)

Reciprocal Interaction

The language input children receive from their parents during interactions forms the foundation of their own speech and language development. Parental speech serves as the primary linguistic input, making it a strong predictor of children's language abilities.(24) Research indicates that parents who consistently use rich and varied language from infancy tend to have children who demonstrate more advanced vocabulary, construct more complex sentences, and engage in more conversational turns by the age of five.(21) Frequent parent-child interactions are associated with more robust language skills in children. This is largely because parents tend to repeat words, wait for their child's response, and offer feedback during reciprocal exchanges—practices that enhance word comprehension and usage in children.(25) Both dyadic (one-on-one) and triadic (involving both parents and the child) interactions contribute significantly to the formation of a secure and responsive relationship, which in turn supports the child's responsiveness to linguistic stimuli.(26) Consistent parental responsiveness is critical in both dyadic and triadic settings. Parents who demonstrate high levels of responsiveness during early childhood are three times more likely to have children with advanced speech and language skills by school age (seven years old), compared to those with low responsiveness.(27) This evidence clearly indicates that active, reciprocal interaction—whether dyadic or triadic—greatly enhances children's speech and language development. Through these interactions, children are continuously exposed to verbal stimulation that guides and strengthens their linguistic skills .(16)(17)

Shared Book Activity

One of the most linguistically enriching activities for children is shared book reading. This practice serves as an effective intervention to foster various aspects of language development, including story grammar, complex language structures, vocabulary acquisition, inferencing skills, and social pragmatics.(28) Reading aloud to children enhances their speech and language abilities by expanding their vocabulary, stimulating their imagination through visual and narrative elements, and strengthening their cognitive thinking skills. This foundation is critical for early literacy development. Furthermore, read-aloud sessions also serve as an opportunity for parents to model appropriate social interaction behaviors for their children. (29) During shared reading, parents can ask questions, draw conclusions, and guide their children in understanding broader contexts. They can also encourage children to repeat words or sentences, thereby actively engaging them in verbal communication and vocabulary practice.(30) In addition to supporting language comprehension and imaginative thinking, interactive reading aloud (IRA) provides a valuable opportunity for parents to offer corrective feedback. For instance, they can help children improve their articulation of consonants or adjust their intonation when repeating sentences.(31) Parental storytelling styles also significantly influence how children develop narrative skills. Cross-cultural research comparing American and Thai mother-child dyads revealed notable differences: American mothers tend to use more elaborative and descriptive language, leading to children who produce longer and more complex story narratives. In contrast, Thai mothers more often employ instructional and less complex storytelling styles, resulting in children who are more likely to repeat their mothers' speech during storytelling.(19) However, this paper presents certain limitations. It primarily focuses on reviewing the effects of parental interaction on children's speech and language development. Moreover, the scope of parental interactions examined in this review is relatively narrow, concentrating only on those forms of interaction that are explicitly linked to enhancing children's communication skills.

CONCLUSION

Parents play a crucial role in monitoring and supporting each stage of a child's development, particularly in the area of speech and language development among typically developing children. This attention is essential for the early detection of any delays or abnormalities. In this context, health promotion efforts recommend and strongly encourage all relevant stakeholders and authorities, including the government and policy makers, to consider the following measures:

a) enhancing public awareness and parental education to improve early detection and intervention efforts, thereby minimizing the long-term impact of speech and language delays in children; and
b) ensuring that healthcare services are more accessible and affordable to facilitate timely parental access to interventions for children experiencing such delays. Based on the findings of this review, practical guidance for parents includes engaging in stimulating, reciprocal interactions with their children. Such activities provide valuable opportunities for children to imitate and construct sentences, especially when supported by shared book reading and interactive questioning. These strategies contribute significantly to the advancement of children's speech and language skills.

Acknowledgment

The authors would like to express their gratitude to the South Sumatra Research Institute and the Faculty of Public Health, Sriwijaya University, for their support.

Conflict of Interest

The authors declare that there's no conflict of interest.

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