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"Speech Delay" Phenomenon and Its Influencing Factors

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ABSTRACT

Speech delay is one of the developmental disorders that often occurs in early childhood, affecting approximately 5–10% of preschool-age children globally. This phenomenon can have significant impacts on children's communication, social, and academic development. This study aims to analyze the causative factors, impacts, and effective intervention strategies in dealing with speech delay through a literature review approach. The method used involves searching for and critically analyzing various relevant scientific sources published between 2019–2024 from the Google Scholar database using keywords "speech delay", "children's language development", and "speech delay intervention". The results of the study show that biological factors (genetics, birth weight, premature birth, neurological disorders), environmental factors (lack of verbal stimulation, excessive gadget exposure, multilingual environment), and psychosocial factors (parental education level, working mothers, family stress) collectively contribute to the occurrence of speech delay. Early intervention involving the active role of parents and professionals has been proven effective in overcoming speech delay in children. This review emphasizes the importance of early detection and holistic approaches that integrate family involvement, professional guidance, and targeted therapeutic interventions to support optimal language development in children.

Keywords: *Speech delay, Early childhood, Intervention strategies, Parental involvement*

INTRODUCTION

The language development aspect is very important for early childhood. Language development in children contains all the skills of a child to be able to discuss through any way, including using lyrics, writing, gestures, and even facial expressions (Atagi & Sandhofer, 2020; Friantary, 2020; Hamid Wahid et al., 2021; Kang & Uchikoshi, 2022; Putri & Eliza, 2021). Language development is one of the fundamental aspects in children's growth and development which is closely related to cognitive, social, and emotional abilities. Language development is a crucial component in children's growth and development, acting as the basis for communication and social interaction. However, not all children reach language development milestones according to their age (Sardi, Suryana, & Mahyuddin, 2023).

Nowadays, many children experience speech delays. The phenomenon of "speech delay" has been increasing since the Covid 19 pandemic was conveyed by dr. Dian Pratamastuti. Many cases of speech delay or "(halidi & Efendi, 2022) *speech delay*"In recent decades, it has been influenced by various biological, psychosocial, and environmental factors. Delay in speaking or *speech delay* is the meaning that is usually aimed at speech that is late and communication that is not supposed to be for the age of development Speech delay or "speech delay" is a condition in which the development of children's speech skills is left behind compared to the standard of the age that should be. In Indonesia, the prevalence of speech delay reaches 5-10% in preschool-age children. The prevalence of speech delay is quite high and can have a negative impact on children's academic, social, and emotional aspects in the future. Therefore, a deep understanding of the factors that cause and handle speech delay is important to ensure timely and effective interventions. According to Erikson's theory of psychosocial

development, the early stages of life, especially in the trust vs. mistrust (0-18 months) and autonomy vs. shame and doubt (18 months-3 years), play a crucial role in establishing a child's communication base. When language development is stunted in this phase, the implications are not only limited to linguistic aspects, but also have an impact on confidence, independence, and the ability to build healthy social relationships in later stages of development (Sardi, Suryana, & Mahyuddin, 2023; Savitri, Primatanti, & Kusumandewi, 2024).

According to the World Health Organization (WHO), language development delays affect 5-8% of preschool children worldwide, with higher prevalence rates reported in developing countries. The language development aspect is very important for early childhood. Language development in children contains all the skills of a child to be able to communicate through any way, including using words, writing, gestures, and even facial expressions. Language development is one of the fundamental aspects in children's growth and development which is closely related to cognitive, social, and emotional abilities. Language development is a crucial component in children's growth and development, acting as the basis for communication and social interaction. However, not all children reach language development milestones according to their age.

The phenomenon of speech delay has become increasingly prominent in recent years, particularly since the COVID-19 pandemic. Dr. Dian Pratamastuti reported a significant increase in speech delay cases during and after the pandemic period. Many cases of speech delay or "speech delay" in recent decades have been influenced by various biological, psychosocial, and environmental factors. Speech delay refers to a condition in which a child's speech and language development is significantly behind the expected milestones for their chronological age. In Indonesia, the prevalence of speech delay reaches 5-10% in preschool-age children. This high prevalence rate raises serious concerns as speech delay can have profound negative impacts on children's academic performance, social relationships, emotional well-being, and overall quality of life in the future.

Therefore, a comprehensive understanding of the etiological factors, early detection mechanisms, and evidence-based intervention strategies is critically important to ensure timely and effective support for affected children. According to Erikson's theory of psychosocial development, the early stages of life, especially in the trust vs. mistrust (0-18 months) and autonomy vs. shame and doubt (18 months-3 years), play a crucial role in establishing a child's communication base. When language development is stunted in this phase, the implications are not only limited to linguistic aspects, but also have an impact on confidence, independence, and the ability to build healthy social relationships in later stages of development. Similarly, Freud's psychosexual development theory highlights that disruptions during the oral (0-1 year) and anal (1-3 years) stages can affect overall development, including language acquisition.

These theoretical frameworks underscore the importance of addressing speech delay during critical developmental windows. Language consists of several key components that are essential for effective communication: phonology (sound system), semantics (word meaning), syntax (grammatical structure), morphology (word formation), and pragmatics (social language use). Children with speech delay often exhibit difficulties across multiple language components. For instance, they may struggle with phonological production (articulation errors), have limited vocabulary (semantic delays), use simplified sentence structures (syntactic difficulties), demonstrate errors in word formation (morphological challenges), and experience

problems with social communication (pragmatic impairments). Understanding these components is crucial for comprehensive assessment and targeted intervention planning.

Despite extensive research on speech delay globally, there remains a significant gap in synthesizing evidence from diverse contexts, particularly regarding the interplay between biological, environmental, and psychosocial factors in different cultural settings. Previous studies have primarily focused on isolated risk factors, but few have examined the complex, multifactorial nature of speech delay comprehensively. Additionally, the rapid societal changes brought about by technological advancement and the COVID-19 pandemic have introduced new environmental risk factors, such as increased screen time and reduced social interaction, that warrant systematic investigation.

This literature review aims to: (1) identify and analyze the multifactorial causes of speech delay in early childhood, (2) examine the developmental impacts of speech delay on children's overall well-being, and (3) synthesize evidence-based intervention strategies that can be implemented by parents and professionals. The benefits of this study include providing healthcare professionals, educators, and parents with comprehensive knowledge to facilitate early detection and intervention, informing policy development for child development programs, and highlighting areas requiring further research. The practical implications of this review extend to improving screening protocols, developing culturally appropriate intervention programs, and enhancing parental education initiatives to promote optimal language development in young children.

METHOD

This study uses a literature study methodology with a qualitative approach. Data was collected through a systematic search of various scientific journals, books, and other trusted sources that discuss topics related to speech delay. The search strategy employed the following keywords in Boolean combinations: "speech delay" OR "language delay" AND "early childhood" AND ("intervention" OR "risk factors" OR "parental involvement").

The literature search was conducted using Google Scholar as the primary database. The inclusion criteria for article selection were: (1) peer-reviewed journal articles or reputable academic books, (2) published between 2019 and 2024 to ensure currency of information, (3) written in either Indonesian or English language, (4) specifically addressing speech delay in children aged 0-5 years, and (5) containing empirical data or systematic reviews relevant to the research objectives. Exclusion criteria included: opinion pieces without empirical support, studies focusing solely on children older than 5 years, and articles not accessible in full text. The initial search yielded 87 potentially relevant sources. After screening titles and abstracts, 45 articles met the inclusion criteria and were retrieved for full-text review. Following critical appraisal of methodological quality and relevance, 20 sources were ultimately selected for inclusion in this literature review.

Data analysis was conducted using thematic content analysis, whereby findings from selected sources were systematically coded and categorized into major themes: causative factors (biological, environmental, psychosocial), developmental impacts, and intervention strategies. Cross-study comparisons were performed to identify convergent findings, contradictions, and gaps in the existing literature. As this study is secondary research involving literature review, ethical approval for primary data collection was not required. However, all

sources were properly cited following academic integrity standards to ensure appropriate attribution and respect for intellectual property rights.

RESULTS AND DISCUSSION

Literature analysis indicates that the causes of speech delay are multifactorial. The current review identified three major categories of risk factors: environmental, biological, and psychosocial, each contributing uniquely and interactively to speech delay outcomes. Table 1 below summarizes the key factors identified across reviewed studies and their relative impact on speech delay risk.

Table 1: Major Risk Factors for Speech Delay in Early Childhood

Category Factor	Specific Factors	Relative Risk/Correlation
Environment	Lack of verbal stimulation	High
Environment	Excessive gadget exposure (hours/day)	Risk increases times
Environment	Multilingual environment	Medium
Biological	Low birth weight	Significant
Biological	Premature birth	High
Biological	Neurological disorders	High
Biological	Hearing loss	High
Biological	Male gender	Medium
Psychosocial	Parental education is low	Medium to High
Psychosocial	Mother works full-time	Risk increases times
Psychosocial	History of infection	Significant
Psychosocial	Poor nutritional status	Significant

Verbal stimulation factors from parents

Delays in language development in children are mostly due to differences in family interactions, particularly lack of verbal stimulation from parents. In the study, twins with single children showed that parents gave less verbal interaction to twins compared to single children. In addition, parents of twins tend to be less involved in reading activities and conversations that support language development. These differences contribute significantly to the language delay observed in twins. This result is in line with Indriasih et al in their research which showed that parents who had more time to interact with their children, showed better improved language development (Rubenstein et al., 2019; Thorpe et al., 2003; Tseng et al., 2023).

Based on the results of the study, it can be seen that parenting behavior of parents has a correlation with delayed speech. Parents or caregivers, both family members outside of father and mother, who often interact will improve language skills in children. It is undeniable that stimulation from the main circle (family) is very important, because the frequency with which the child hears a new word from his immediate environment. Evidence from the Badawieh & Al-Shamsi study shows that language development is primarily due to environmental factors (Badawieh & Al-Shamsi, 2023; Savitri, Primatanti, & Kusumandewi, 2024).

Gadget Exposure Factors

The analysis of the study showed that children who were exposed to gadgets had a 4,250 times greater risk of experiencing speech delay. Based on the American Association of Pediatrics, it is recommended that the duration of children exposed to gadgets at the age of 2-

5 years is a maximum of 1 hour a day. Excessive use of gadgets for a 2-year-old child can affect his cognitive development. The use of gdget in learning or adding vocabulary is not proven, the use of gadgets or wires will reduce the relationship of involvement and interaction between children and parents which increases the risk of speech delay. Using gadgets for too long has a direct impact on speech delays. The excessive use of gadgets today is indeed unsettling. A survey of 1,000 parents of children under the age of two found that toddlers who watched more videos said less. For every additional hour of video that an eight- to 16-month-old infant watches in a day, they say an average of six to eight fewer words. Parental involvement in the use of gadgets in children (coviewing) is recommended to know and still have two-way interactions when children see gadgets (Indriasih, Salimo, & Pamungkasari, 2019; Oktariani, 2022; Savitri, Primatanti, & Kusumandewi, 2024; Tan, Mangunatmadja, & Wiguna, 2019).

Biological Factors

Based on the findings of Taseman et al, speech delay is caused by two factors, namely internal factors and external factors. These internal factors are found in children that come from genetics, physical defects, neurological malfunctions, prematurity, gender. In the findings of the study, Ni Putu et al showed that the gender factor has a correlation with speech delay. (Savitri, Primatanti, & Kusumandewi, 2024).

Research facts, according to Indriasih et al, reveal that there is a heavy relationship between baby birth and language delay. Babies with normal birth weight can reduce the risk of delays in language development. Not only that, but there is also a relationship between a history of infection and a delay in speech and language development. There is a significant outcome in the relationship between nutritional status and speech delays or speech delay. These results are supported by a study from Trisha et al which shows that the results of speech delay and the factors associated with it are biological and environmental. Medical risk factors are birth asphyxia, convulsive disorders, and oro-pharyngeal deformities. Another study shows that babies with low birth weight and premature birth or premature babies have a relationship with speech delay, because they experience imperfect brain development that can impact children's speech (Indriasih, Salimo, & Pamungkasari, 2019; Savitri, Primatanti, & Kusumandewi, 2024; Sunderajan & Kanhere, 2019).

Psychosocial Factors

Family and environmental causes are low paternal education, low maternal education, kinship, positive family history, multilingual environment, and inadequate stimulation. Studies show that children who have mothers work full-time (Sunderajan & Kanhere, 2019), part-time, and also mothers who did not work according to the results of mothers who worked full-time had a 1,206 greater chance of experiencing speech delay. This is in line with the results of a study by Indriasih et al, which showed that part-time working mothers (4-8 hours/day) have a lower risk than mothers who work more than that (Indriasih, Salimo, & Pamungkasari, 2019).

Parental education level serves as a proxy for multiple underlying factors including linguistic complexity of home language environment, awareness of developmental milestones, access to educational resources, and likelihood of seeking early intervention. Lower parental

education correlates with reduced verbal stimulation, simpler language input, and delayed recognition of speech problems—all contributing to increased speech delay risk.

Multilingual Factor

Studies show that multilingual families can make children confused during language learning This result is in line with the research of Ni Putu et al which showed a correlation between language use and speech and language delay in children aged 1-2. Festman explained that one language in a family that is often heard by children can improve language and speech skills in children (Sardi, Suryana, & Mahyuddin, 2023; Savitri, Primatanti, & Kusumandewi, 2024; Sunderajan & Kanhere, 2019).

However, it is crucial to distinguish between true language disorder and the normal phenomenon of code-switching or initial mixing that bilingual children exhibit. Contemporary research indicates that bilingualism itself does not cause speech delay; rather, insufficient exposure to each language (less than 30% input in either language) may result in apparent delays in both languages that resolve with adequate exposure. Additionally, multilingual children may show different developmental trajectories—sometimes appearing delayed in vocabulary in each individual language while having comparable or larger total conceptual vocabularies when both languages are considered together.

The confusion in multilingual environments likely stems from inconsistent language use patterns, rapid switching between languages without contextual cues, or lack of sufficient exposure to any one language to achieve proficiency. Therefore, recommendations for multilingual families should focus on consistent language use by each caregiver, ensuring adequate exposure to each language (minimum 30% input), and maintaining rich verbal interactions in whichever language the parent is most comfortable, rather than restricting families to monolingualism.

Integration with Theoretical Frameworks

The multifactorial findings of this review align cohesively with the developmental theories discussed in the introduction. Erikson's stages of trust vs. mistrust (0-18 months) and autonomy vs. shame and doubt (18 months-3 years) emphasize the critical importance of responsive caregiving and supportive environments for healthy psychosocial development—elements that directly facilitate language acquisition.

When speech delay occurs during these formative stages, it can cascade into later developmental challenges. Children who cannot effectively communicate their needs may develop feelings of frustration, inadequacy, and social withdrawal, potentially affecting Erikson's subsequent stages of initiative vs. guilt (3-5 years) where language becomes essential for social play and self-expression.

Similarly, Freud's psychosexual stages, particularly the oral stage (0-1 year) where infants explore their world through mouth and vocalization, and the anal stage (1-3 years) where communication becomes increasingly important for socialization and self-regulation, provide another lens for understanding how early disruptions in language development can have far-reaching implications for personality formation and social adaptation.

Understanding speech delay through these theoretical frameworks helps professionals and parents appreciate that interventions must address not only linguistic skills but also the

broader psychosocial context, including parent-child attachment, child's self-confidence, and social integration.

CONCLUSION

Speech delay is a multifactorial developmental disorder influenced by interrelated biological, environmental, and psychosocial factors, including genetics, prematurity, insufficient verbal stimulation, excessive screen exposure, and limited family interaction. Its impact extends beyond communication difficulties, affecting social relationships, emotional development, academic readiness, and self-confidence. Early detection and intervention, particularly before age three during peak neuroplasticity, are crucial for optimizing language outcomes. Effective strategies involve professional speech-language therapy, parent training, structured language-based play, reduced screen time, and continuous developmental monitoring. Addressing *speech delay* thus demands an integrated, multidisciplinary approach involving families and professionals to ensure holistic child development. Future research should emphasize culturally adapted screening tools, long-term intervention outcomes, mechanisms linking screen exposure and language acquisition, multilingual family support models, and cost-effectiveness analyses of early intervention programs.

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