



Reflexology therapy in speech delay at Kartini Lawang Kindergarten

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Abstract

Speech delay represents a significant developmental concern in early childhood, as language competence is closely associated with children's cognitive, social, and emotional growth. If not addressed through appropriate early intervention, speech delay may persist and negatively affect children's academic readiness and self-confidence. Although conventional speech therapy is widely applied, developmentally appropriate, non-invasive, and emotionally supportive complementary interventions remain limited in early childhood education contexts. This study is therefore important in exploring reflexology therapy as a holistic and child-friendly approach to supporting speech development. The purpose of this study was to explore how reflexology therapy supports the speech development process of children aged 4–5 years experiencing speech delay at Kartini Lawang Kindergarten. A qualitative case study design was employed involving three preschool children identified with expressive and mixed receptive–expressive speech delay. Data were collected through participatory observation, semi-structured interviews with teachers and parents, and documentation. Data analysis followed the interactive model of Miles and Huberman, including data reduction, data display, and conclusion drawing, with source triangulation to ensure trustworthiness. The findings revealed that reflexology therapy contributed to improved emotional regulation, behavioral readiness, and verbal responsiveness. Children demonstrated clearer articulation, increased vocabulary use, better comprehension of simple instructions, and greater confidence in verbal interaction, although individual progress varied. The discussion indicates that reflexology supports speech development indirectly by enhancing neurological readiness and emotional stability. In conclusion, reflexology therapy functions as an effective complementary intervention that supports early childhood speech development and offers a practical contribution to holistic and inclusive educational practices.

Keywords: *Reflexology, Speec Delay, Early Childhood.*

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Introduction

Speech delay poses significant risks if not addressed promptly. Children who experience delays in speech development often face difficulties in peer interaction, reduced self esteem, and limited classroom participation. In the long term, these challenges may negatively affect literacy skills, academic performance, and social adjustment (Fatmawati & Pratikno, 2024). From an early childhood education perspective, speech delay is therefore considered a critical developmental concern, as language competence strongly predicts later learning success and school readiness (Norbury et al., 2016).

Speech delay is classified as a language development disorder and may manifest in several forms, including expressive delay, receptive delay, mixed receptive expressive delay, or secondary delay associated with other developmental conditions such as autism spectrum disorder, global developmental delay, or hearing impairments (Mulia et al., 2024). The etiology of speech delay is multifactorial. Internal factors include neurological immaturity, delayed brain development, abnormalities of speech organs, and genetic predispositions. External factors involve insufficient verbal stimulation, limited parent-child interaction, passive communication environments, and excessive exposure to non-interactive media. Children raised in environments with low-quality linguistic input are particularly vulnerable to delayed language development (Pratiwi et al., 2022).

Observations prariseach conducted at Kartini Lawang Kindergarten identified three children aged 4–5 years who exhibited speech delay with varying levels of severity. One child showed mild expressive language delay, characterized by adequate comprehension but limited verbal expression. Another child demonstrated moderate expressive delay, with difficulties in vocabulary expansion and sentence construction. The third child experienced mixed receptive–expressive delay, involving challenges in both understanding and producing spoken language. These conditions reflect the spectrum of speech delay commonly found in early childhood educational settings and highlight the need for appropriate, age sensitive intervention strategies.

Various intervention approaches have been widely applied to support children with speech delay, including clinical speech therapy, phonics based methods, sensory integration therapy, oral motor stimulation, music-based learning, and parent mediated language interventions. Previous studies have confirmed the effectiveness of these methods; however, many interventions require professional clinical settings, structured verbal tasks, or extended attention spans that may be less suitable for preschool children. Consequently, early childhood educators and parents require alternative therapeutic approaches that are developmentally appropriate, non-invasive, and emotionally supportive for young learners (Machmud et al., 2023).

Reflexology therapy has recently gained attention as a complementary intervention for children with developmental delays. This therapy involves the application of gentle pressure to specific reflex points, particularly on the soles of the feet and areas connected to the nervous system (Lee et al., 2020). Reflexology is believed to enhance blood circulation, stimulate nerve function, and promote relaxation, which may indirectly support language development by improving neurological readiness and emotional regulation. Due to its non-pharmacological and child-friendly nature, reflexology is considered suitable for young children who may not yet respond optimally to formal clinical interventions (Subagya et al., 2021).

At Kartini Lawang Kindergarten, reflexology therapy was implemented as an early intervention strategy for children aged 4–5 years experiencing speech delay. The therapy was accompanied by verbal interaction and emotional engagement to provide additional language stimulation during the intervention process. Despite the growing use of massage based therapies in early childhood contexts, empirical studies focusing specifically on the effectiveness of reflexology therapy for speech delay in children aged 4–5 years remain limited. This gap highlights the need for systematic investigation into reflexology as a potential complementary approach within early childhood education settings.

Therefore, this study aims to examine the effectiveness of reflexology therapy in supporting speech development among children aged 4–5 years with speech delay at Kartini Lawang Kindergarten. By providing empirical evidence through observation and pre and post-intervention assessment, this research seeks to contribute to the growing body of knowledge on alternative, developmentally appropriate interventions for speech delay and to offer practical implications for early childhood educators, therapists, and parents.

Methods

This study employed qualitative case study approach to explore how reflexology therapy supports speech development in preschool children experiencing speech delay. The qualitative design was chosen to capture in depth descriptions of children’s language behaviors, interaction patterns, and responses to intervention within a natural early childhood education setting. The case was bounded to the implementation of reflexology therapy for children aged 4–5 years at Kartini Lawang Kindergarten.

The research was conducted at Kartini Lawang Kindergarten, an early childhood education institution implementing inclusive educational practices. The participants consisted of three children identified with speech delay, along with their parents, classroom teachers, and a reflexology therapist involved in the intervention process. Participant selection was based on pre-research observations that identified expressive and mixed receptive expressive language delays among the children.

Data were collected through observation, semi-structured interviews, and documentation. Pre-research observations were conducted to identify children with speech delay and to document baseline language abilities, including verbal responses, vocabulary use, sentence formation, and interaction during classroom activities. During the research process, non-participant observations focused on children’s speech behavior in daily learning activities, teacher and child interactions, peer interactions, and children’s responses during reflexology therapy sessions. These observations aimed to capture changes in speech production, engagement, and emotional regulation throughout the intervention.

Semi structured interviews were conducted with parents, classroom teachers, and the reflexology therapist to obtain multiple perspectives on children’s speech development and the implementation of reflexology therapy. Interviews with parents explored language stimulation at home and perceived changes in children’s communication abilities, while interviews with teachers and the therapist focused on instructional strategies, therapeutic procedures, and observed language progress during the intervention. Documentation, including observation notes, therapy schedules, photographs of therapy activities, and children’s developmental records, was used to support and corroborate observational and interview data.

Data analysis followed the interactive model proposed by Miles, Huberman, and Saldaña, which involves data reduction, data display, and conclusion drawing and verification. Data from observations, interviews, and documentation were continuously coded and categorized to identify patterns related to speech development, reflexology intervention, and interaction dynamics. The analysis was conducted iteratively throughout the research process to ensure that emerging themes were grounded in empirical evidence.

To ensure trustworthiness, source triangulation was applied by comparing data obtained from different informants and data collection techniques. Ethical considerations were addressed by obtaining informed consent from parents and ensuring participants’ confidentiality and well-being throughout the study.

Results and Discussion

Children’s Behavioral and Emotional Responses to Reflexology Therapy

The findings reveal clear individual differences in speech delay profiles among the three participating children, reflecting varying degrees and forms of language development challenges. These differences are consistent with Santrock’s view (2023), that early childhood language development follows diverse trajectories shaped by cognitive maturity, emotional regulation, and the quality of environmental interaction. Rather than progressing uniformly, children’s language abilities emerge through complex and individualized developmental pathways.

Table. 1 Differences in Speech Delay Profiles Among Participants

Aspect	AS	M.Kho	M. Ab
Type of speech delay	Mild expressive delay	Moderate expressive delay	Mixed receptive-expressive delay

Aspect	AS	M.Kho	M. Ab
Language comprehension	Good comprehension of instructions	Adequate comprehension	Limited comprehension
Expressive language ability	Limited spontaneous speech	Difficulty expanding vocabulary and sentences	Severe difficulty in verbal expression
Emotional response during therapy	Neutral to comfortable	Initially uncomfortable, then adaptive	Resistant and uncomfortable
Attention and focus	Inconsistent but manageable	Fluctuating attention	Poor and unstable focus
Social interaction	Cooperative, responsive to teacher	Responsive with redirection	Withdrawn, limited engagement
Developmental severity	Mild	Moderate	High
Responsiveness to reflexology therapy	Gradual positive engagement	Progressive adaptation	Slow and partial response

As demonstrated characteristics of a mild expressive language delay, indicated by adequate receptive language skills alongside limited expressive output. Her ability to comprehend instructions, cooperate with adults, and regulate emotions suggests relatively intact cognitive processing and self-regulatory capacities. Santrock explains that children with expressive language delays often possess internal language representations but experience difficulty transforming these representations into spoken language. Azka's neutral to comfortable emotional response during reflexology sessions indicates developmental readiness to benefit from stimulation-based interventions that support expression without generating excessive pressure or frustration.

M.Kho exhibited a moderate expressive speech delay, characterized by preserved comprehension but noticeable limitations in vocabulary expansion and sentence construction. His initial sensory sensitivity and fluctuating attention reflect challenges in emotional self-regulation, which Santrock identifies as a critical factor influencing learning and language performance in preschool-aged children. However, Anam's gradual adaptation to repeated reflexology sessions suggests that consistent sensory input combined with emotional support may enhance neurological readiness and sustained engagement. In this context, reflexology appears to function not as a direct language intervention but as a supportive developmental environment that facilitates readiness for verbal interaction.

In contrast, M.Ab presented a mixed receptive-expressive language delay, representing the most complex developmental profile in this study. His difficulties in both understanding instructions and producing speech were accompanied by emotional resistance and withdrawal. Santrock notes that receptive language deficits often lead to increased frustration, reduced participation, and avoidance behaviors, which further restrict opportunities for language learning. Although reflexology therapy did not immediately produce observable comfort or verbal improvement, the slight increase in attention over time suggests early stages of emotional and sensory adjustment rather than direct linguistic gains.

From a developmental perspective, these findings indicate that reflexology therapy should not be interpreted as a standalone treatment for speech delay. Instead, it functions as a developmentally supportive intervention that enhances emotional regulation, sensory readiness, and engagement are key prerequisites for language development in early childhood. Santrock emphasizes that the effectiveness of any intervention depends on its alignment with a child's developmental level. Consequently, children with mild expressive delays may show faster observable benefits, whereas children with mixed receptive-expressive delays require longer-term, multimodal, and integrative support (Taqiyah & Mumpuniarti, 2022).

Overall, the varied behavioral and emotional responses observed during reflexology therapy underscore the importance of considering individual developmental readiness when implementing intervention strategies (Auriza et al., 2025). Consistent with Santrock's developmental framework, emotional regulation and individual differences play a central role in

shaping children’s responses to learning experiences and therapeutic interventions in early childhood.

Mechanism of Reflexology Therapy in Supporting Speech Development

Reflexology therapy is assumed to influence speech development through a combination of neurological, physiological, and psychological mechanisms. From a neurological perspective, gentle pressure applied to specific reflex points, particularly on the soles of the feet, neck, and ear areas is believed to stimulate peripheral nerves connected to the central nervous system (Mu’arip & Subekti, 2024). This stimulation may enhance neural transmission, improve blood circulation, and support the maturation of neural pathways associated with speech and language processing. Improved neural readiness allows children to respond more effectively to verbal input and language stimulation (Whatley et al., 2022).

Physiologically, reflexology promotes relaxation and reduces muscle tension, particularly in areas related to breathing, vocal cord coordination, and oral motor control. A relaxed bodily state supports better breath control and articulation, which are essential components of speech production. Children who experience reduced physical tension tend to show increased willingness to vocalize and participate in verbal interactions (Field, 2014).

Psychologically and emotionally, reflexology creates a sense of comfort, safety, and emotional regulation. Young children with speech delay often experience anxiety, frustration, or low confidence when communicating. The calming effect of reflexology helps reduce emotional barriers, making children more receptive to interaction and language learning. When combined with verbal encouragement and supportive interaction from teachers, reflexology functions as a form of scaffolding within Vygotsky’s Zone of Proximal Development (ZPD) (Karatas & Dalgic, 2020).

In the context of early childhood education, reflexology therapy does not work in isolation. The integration of physical stimulation, verbal interaction, and emotional support during therapy sessions aligns with Bruner’s Language Acquisition Support System (LASS), where adult mediation plays a critical role in facilitating language development. Therefore, reflexology can be understood as a holistic intervention that supports speech development indirectly by preparing children’s neurological, emotional, and social readiness for communication (Anisah, 2024).

Table. 2 Observation Sheet of Reflexology Massage Process from AS

No	Child's name	Observed Aspects	Indicator	Description Rating Scale (1–3)	Rating Scale	Findings Notes
1	AS	Child's Reaction	Facial expressions	1 = Uncomfortable, 2 = Neutral, 3 = Comfortable	2	Azka showed a neutral facial expression. During the massage therapy, he occasionally responded with laughter or giggles. Although his focus was not consistent, he did not resist the therapy and often remained silent or followed the teacher's instructions.
			Verbal/nonverbal responses	1 = Rejects, 2 = Silent, 3 = Responds positively	2	
			Focus of attention	1 = Not focused, 2 = Sometimes focused, 3 = Fully focused	2	
2		Massage Technique	Massage position according to procedure	1 = Not appropriate 2 = Somewhat appropriate 3 = Appropriate	2	The massage positions were performed fairly according to procedure, although the sequence of massage strokes
			Massage sequence (back	1 = Not sequential 2 = Partially sequential	2	

No	Child's name	Observed Aspects	Indicator	Description Rating Scale (1-3)	Rating Scale	Findings Notes
			of head, ears, back)	3 = Sequential		was not entirely consistent. The pressure of the massage was well received (sufficient to appropriate), so that the child appeared more comfortable during the process.
			Massage pressure	1 = Too weak 2 = Adequate 3 = Appropriate	3	
3		Teacher-Child Interaction	Initial greeting	1 = None 2 = Brief 3 = Friendly & comforting	2	The teacher always greets Azka first, even though his response is still brief. The instructions given are clear and easy to follow. Motivational support is provided consistently, making Azka feel more comfortable participating.
			Instruction giving	1 = Unclear 2 = Fairly clear 3 = Clear & easy to understand	3	
			Support & motivation	1 = None 2 = Occasional 3 = Consistent	3	

Table. 3 Observation Sheet of Reflexology Massage Process from M.Kho

No	Child's name	Observed Aspects	Indicator	Description Rating Scale (1-3)	Rating Scale	Findings Notes
1	M.Kho	Child's Reaction	Facial expressions	1 = Uncomfortable, 2 = Neutral, 3 = Comfortable	1	Anam initially seemed surprised by the massage, even feeling ticklish. However, he quickly adapted and responded positively to the therapy. His focus was sometimes distracted, but the teacher was able to redirect him.
			Verbal / nonverbal responses	1 = Rejects, 2 = Silent, 3 = Responds positively	3	
			Focus of attention	1 = Not focused 2 = Sometimes focused, 3 = Fully focused	2	
2		Massage Technique	Massage position according to procedure	1 = Not appropriate 2 = Somewhat appropriate 3 = Appropriate	3	The massage position was in accordance with the procedure. The massage sequence was not always consistent, but it was still applicable. The pressure of the massage was sometimes too soft, but it was still within acceptable limits.
			Massage sequence (back of head, ears, back)	1 = Not sequential 2 = Partially sequential 3 = Sequential	2	
			Massage pressure	1 = Too weak 2 = Adequate 3 = Appropriate	2	
3		Teacher-Child Interaction	Initial greeting	1 = None 2 = Brief 3 = Friendly & comforting	3	The teacher greeted him warmly at the beginning. Clear instructions made it easier for Anam to follow the massage
			Instruction giving	1 = Unclear 2 = Fairly clear	3	

No	Child's name	Observed Aspects	Indicator	Description Rating Scale (1-3)	Rating Scale	Findings Notes
				3 = Clear & easy to understand		sequence. The teacher also provided consistent support so that the child felt comfortable.
			Support & motivation	1 = None 2 = Occasional 3 = Consistent	3	

Table. 4 Observation Sheet of Reflexology Massage Process from M.Ab

No	Child's name	Observed Aspects	Indicator	Description Rating Scale (1-3)	Rating Scale	Findings Notes
1	M.Ab	Child's Reaction	Facial expressions	1 = Uncomfortable, 2 = Neutral, 3 = Comfortable	1	Abdillah showed discomfort on his face when receiving the massage. At first, he refused the therapy and was difficult to cooperate with. His verbal and nonverbal responses tended to be dismissive or silent. However, as the process continued, his focus improved slightly, although it was still unstable.
			Verbal / nonverbal responses	1 = Rejects, 2 = Silent, 3 = Responds positively	1	
			Focus of attention	1 = Not focused 2 = Sometimes focused, 3 = Fully focused	2	
2		Massage Technique	Massage position according to procedure	1 = Not appropriate 2 = Somewhat appropriate 3 = Appropriate	3	The massage position was in accordance with the procedure, but the sequence was not always consistent due to the child's resistance. The pressure used was sufficient and appropriate, although it sometimes made the child uncomfortable.
			Massage sequence (back of head, ears, back)	1 = Not sequential 2 = Partially sequential 3 = Sequential	2	
			Massage pressure	1 = Too weak 2 = Adequate 3 = Appropriate	2	
3		Teacher-Child Interaction	Initial greeting	1 = None 2 = Brief 3 = Friendly & comforting	3	The teacher tried to create a comfortable atmosphere with a friendly greeting. Instructions were given clearly, but the child did not always respond. The teacher continued to provide motivation even though the child's response was not optimal.

The findings of this study can be more comprehensively interpreted through Santrock's developmental perspective, which emphasizes that early childhood development emerges from the dynamic interaction of biological maturation, sensory experiences, and social emotional stimulation. Santrock highlights that touch and bodily stimulation play a significant role in early

brain development, emotional regulation, and learning readiness, particularly during the preschool years when neural plasticity remains high (Meilani, 2021).

The observational results indicate that reflexology therapy contributed to varying levels of emotional comfort, attention, and engagement among the three children with speech delay. These variations reflect individual differences in developmental readiness and sensory responsiveness. AS, who presented with a mild expressive language delay, demonstrated relatively stable emotional regulation and consistent acceptance of tactile stimulation (Desmariansi et al., 2025).

In contrast, M.Kho initially exhibited heightened sensory sensitivity, as indicated by surprise and ticklish reactions, before gradually adapting to the intervention. Santrock notes that temperament and individual sensory thresholds significantly influence children's responses to touch-based experiences. The observed increase in engagement over time suggests that repeated and predictable tactile stimulation can assist children in regulating arousal levels, thereby improving attention and receptiveness to linguistic input. Within Santrock's framework, such changes represent developmental adjustment and increased readiness rather than rapid or direct skill acquisition (Hulle et al., 2015).

M.Ab resistance and slower adaptation are consistent with Santrock's description of children with more complex developmental challenges, particularly those involving mixed receptive expressive language difficulties. Santrock explains that children who struggle with language comprehension often experience heightened anxiety and frustration, which may manifest as withdrawal or resistance to interaction. In this context, reflexology therapy did not immediately facilitate observable speech behaviors; however, it gradually increased tolerance toward physical contact and modestly improved attention. These outcomes suggest that sensory-based interventions may first influence emotional and attentional domains before any measurable progress in language becomes evident (Assous et al., 2018).

From a broader developmental standpoint, Santrock emphasizes that early childhood learning is deeply embedded in emotional security and social interaction. The teacher's consistent greeting, clear guidance, and motivational support during reflexology sessions played a crucial role in establishing a safe and supportive emotional environment. This aligns with Santrock's emphasis on responsive caregiving as a foundational condition for cognitive and language development. Consequently, the effects of reflexology cannot be separated from the relational context in which the intervention was implemented. The observed improvements were not solely attributable to the massage techniques but also to the presence of warm, responsive adult mediation (Assous et al., 2018).

Importantly, Santrock cautions against interpreting short term behavioral changes as direct evidence of developmental causality. Accordingly, reflexology therapy in this study should not be viewed as a standalone treatment for speech delay. Rather, it functioned as a developmentally appropriate sensory experience that supported emotional regulation, sustained attention, and willingness to engage in communication. These domains are identified by Santrock as prerequisite conditions for effective language learning in early childhood settings (Sa'ida, 2018).

The varied responses observed among the three children further reinforce Santrock's assertion that development is characterized by significant individual variability. Speech delay is not a homogeneous condition, and intervention outcomes are influenced by each child's developmental profile, temperament, and prior experiences. As such, reflexology therapy appears more beneficial as a complementary approach for children with mild to moderate expressive language delays, whereas children with mixed receptive expressive difficulties may require longer-term, multimodal, and integrated interventions (Dewi et al., 2024).

In summary, grounded in Santrock's developmental theory, the findings indicate that reflexology therapy supports the process of speech development indirectly rather than producing immediate language gains. Its primary contribution lies in enhancing emotional comfort, sensory integration, and attentional readiness conditions that are essential for language learning in early childhood. Therefore, reflexology may be positioned as a supportive, non-invasive intervention within early childhood education, particularly when integrated with responsive teacher interaction and ongoing language stimulation (Piller et al., 2025).

Is Reflexology Therapy Effective?

Based on the results, reflexology therapy cannot be categorized as a curative intervention for speech delay. However, it can be considered developmentally supportive and beneficial, particularly in improving emotional comfort, sensory regulation, and readiness to engage in communicative interactions. The therapy showed the most observable benefits in children with mild to moderate expressive delays, while its impact on mixed receptive expressive delay was limited but not negligible. Therefore, reflexology therapy should be positioned as a complementary intervention, integrated with verbal stimulation, social interaction, and professional speech therapy when necessary (Fitri et al., 2025).

While measurable improvements in articulation and vocabulary were not uniformly observed across all participants, the therapy contributed to increased linguistic confidence, particularly among children with expressive delays. Santrock explains that confidence in communication is developed through repeated positive interaction experiences, rather than direct correction or forced verbalization. Children who felt comfortable during therapy were more likely to attempt verbal expression without fear of failure. Over time, these attempts may support articulation refinement and vocabulary expansion when combined with structured language instruction. Therefore, reflexology therapy should be viewed not as a replacement for speech therapy, but as a developmental catalyst that enhances the conditions necessary for effective language learning. Overall, the findings suggest that reflexology massage therapy contributes to speech development indirectly by enhancing emotional regulation, neurological readiness, and social engagement. In line with Santrock's developmental theory, the effectiveness of reflexology varies according to the child's speech delay profile (Aulina, 2018).

For children with mild to moderate expressive delays, reflexology appears to support readiness for language use and social interaction. For children with mixed receptive expressive delays, reflexology serves as a supportive intervention that facilitates emotional comfort and engagement but requires integration with more intensive, multimodal language interventions. From Santrock's developmental perspective, reflexology massage therapy can be understood as a sequential process that supports speech development through foundational regulatory mechanisms rather than direct linguistic instruction. The process begins with reflexology stimulation, which provides structured tactile input during early childhood, a developmental period in which sensory experiences strongly influence brain organization. Santrock emphasizes that touch based stimulation contributes to neural maturation by activating peripheral sensory pathways. This stimulation is believed to support neural activation and blood circulation, which may enhance oxygen delivery and neural efficiency. Improved physiological readiness contributes to greater alertness and attentional capacity, both of which are prerequisites for language processing. As Santrock notes, children cannot effectively engage in language learning without sufficient neurological readiness (Arjulayana, 2025).

Subsequently, reflexology promotes relaxation and emotional regulation, a critical factor in early language development. Santrock highlights that emotionally regulated children are more receptive to social interaction and learning opportunities. Reduced anxiety and physical tension enable children to shift from defensive behaviors toward engagement. With improved emotional and neurological readiness, children demonstrate increased verbal responsiveness and social interaction, including eye contact, vocalization, and turn taking. These behaviors represent early communicative competencies that precede fluent speech. Over time, consistent positive interaction fosters articulation development, vocabulary growth, and linguistic confidence, as children feel safe to attempt verbal expression. Thus, reflexology functions as a developmental catalyst that prepares children for language acquisition within supportive social contexts (Jovcheski & Filipova, 2023).

Conclusion

The findings indicate that children with speech delay exhibited varied behavioral and emotional responses to reflexology therapy, depending on the severity and type of language delay. Children with mild and moderate expressive delays demonstrated greater comfort, cooperation, and engagement during therapy sessions, while children with mixed receptive expressive delays initially showed resistance and emotional discomfort. Nevertheless, across all participants,

reflexology therapy contributed to improved emotional regulation, reduced anxiety, and increased tolerance for interaction. These changes are significant, as emotional stability and behavioral readiness are fundamental prerequisites for early language development.

From a developmental perspective, reflexology therapy supports speech development indirectly through a sequential mechanism. Tactile stimulation activates sensory and neural pathways, enhances circulation, and promotes physiological readiness. This process facilitates relaxation and emotional regulation, enabling children to become more attentive and socially responsive. As emotional and neurological readiness improves, children demonstrate increased verbal responsiveness and interaction, which serve as essential foundations for articulation, vocabulary acquisition, and linguistic confidence. Thus, reflexology functions as a developmental catalyst rather than a direct linguistic intervention.

Based on the qualitative findings, reflexology therapy can be considered effective as a complementary intervention for children with speech delay, particularly in enhancing emotional regulation, engagement, and readiness for communication. While it does not replace formal speech therapy, reflexology provides a developmentally appropriate, non-invasive, and child-friendly approach that supports the early stages of speech development, especially for preschool-aged children.

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