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**SPTCIFIC FTATURES OF ECHOLALIA IN CHILDREN WITH
AUTISM SPECTRUM DISORDERS**

Abstract

Echolalia represents one of the most prevalent speech patterns observed in children with Autism Spectrum Disorder (ASD), characterized by the repetition of words, phrases, or sentences previously heard. This phenomenon manifests in various forms, ranging from immediate echolalia, where children repeat utterances shortly after hearing them, to delayed echolalia, involving repetition after extended time intervals. Contemporary research demonstrates that echolalia serves multiple communicative and self-regulatory functions rather than being merely a meaningless repetitive behavior. Children with ASD utilize echolalia for various purposes including communication attempts, emotional regulation, cognitive processing, and social interaction facilitation. The complexity of echolaliac behaviors varies significantly among individuals, influenced by factors such as cognitive abilities, language development level, environmental contexts, and intervention approaches. Modern therapeutic interventions recognize echolalia as a potential stepping stone toward more sophisticated communication skills, emphasizing the importance of understanding its functional aspects. Assessment approaches have evolved to incorporate functional analysis of echolaliac utterances, examining their communicative intent and contextual appropriateness. This comprehensive review examines current theoretical frameworks, clinical manifestations, assessment methodologies, and intervention strategies for addressing echolalia in children with ASD. The findings suggest that individualized approaches considering the child's

developmental profile, environmental factors, and specific echolalic patterns yield the most effective outcomes in promoting communicative competence and reducing maladaptive repetitive speech behaviors.

Keywords: echolalia, autism spectrum disorder, communication development, speech patterns, language intervention, repetitive behaviors

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АУТИЗМ СПЕКТРІ БҰЗЫЛЫСТАРЫ БАР БАЛАЛАРДАҒЫ ЭХОЛАЛИЯНЫҢ ЕРЕКШЕЛІКТЕРІ

Аңдатпа

Эхолалия аутизм спектрінің бұзылыстары (АСБ) бар балаларда байқалатын ең кең таралған сөйлеу үлгілерінің бірі болып табылады және бұрын естілген сөздер, сөз тіркестері немесе сөйлемдерді қайталаумен сипатталады. Бұл құбылыс әртүрлі формаларда көрінеді: дереу эхолалиядан, яғни балалар сөйлемдерді естігеннен кейін көп ұзамай қайталайды, кешіктірілген эхолалияға дейін, яғни ұзақ уақыт аралығынан кейін қайталау. Қазіргі заманғы зерттеулер эхолалия мағынасыз қайталанатын мінез-құлық болып табылмай, көптеген коммуникативтік және өзін-өзі реттеу функцияларын орындайтынын көрсетеді. АСБ бар балалар эхолалияны әртүрлі мақсаттарда қолданады: коммуникациялық әрекеттер, эмоционалдық реттеу, когнитивтік өңдеу және әлеуметтік өзара әрекеттесуді жеңілдету үшін. Эхолалиялық мінез-құлықтың күрделілігі жеке адамдар арасында айтарлықтай өзгешеленеді және когнитивтік қабілеттер, тіл дамуының деңгейі, қоршаған орта контексті және араласу тәсілдері сияқты факторларға байланысты. Заманауи терапиялық араласулар эхолалияны неғұрлым күрделі коммуникация дағдыларына апаратын потенциалды қадам ретінде тануда, оның функционалдық аспектілерін түсінудің маңыздылығын атап өтеді. Бағалау тәсілдері эхолалиялық сөйлемдердің функционалдық талдауын, олардың коммуникативтік мақсатын және контекстуалдық сәйкестігін зерттеуді қамтитын дамыды. Бұл кешенді шолу қазіргі теориялық негіздерді, клиникалық көріністерді, бағалау әдістемелерін және АСБ бар балалардағы эхолалияны шешудің араласу стратегияларын зерттейді. Нәтижелер баланың даму профилін, қоршаған орта факторларын және нақты эхолалиялық үлгілерді ескеретін жеке тәсілдер коммуникативтік құзыреттілікті дамытуда және бейімсіз қайталанатын сөйлеу мінез-құлық азайтуда ең тиімді нәтижелер беретінін көрсетеді.

Кілт сөздер: эхолалия, аутизм спектрінің бұзылыстары, коммуникация дамуы, сөйлеу үлгілері, тілдік араласу, қайталанатын мінез-құлық

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ОСОБЕННОСТИ ЭХОЛАЛИИ У ДЕТЕЙ С РАССТРОЙСТВОМ АУТИСТИЧЕСКОГО СПЕКТРА

Аннотация

Эхолалия представляет собой один из наиболее распространенных речевых паттернов, наблюдаемых у детей с расстройством аутистического спектра (РАС), характеризующийся повторением ранее услышанных слов, фраз или предложений. Данное явление проявляется в различных формах, от немедленной эхолалии, когда дети повторяют высказывания вскоре после их прослушивания, до отсроченной эхолалии, включающей повторение через продолжительные временные интервалы. Современные исследования демонстрируют, что эхолалия выполняет множественные коммуникативные и саморегулятивные функции, а не является просто бессмысленным повторяющимся поведением. Дети с РАС используют эхолалию для различных целей, включая попытки коммуникации, эмоциональную регуляцию, когнитивную обработку и облегчение социального взаимодействия. Сложность эхолалических форм поведения значительно варьирует среди индивидуумов, под влиянием таких факторов, как когнитивные способности, уровень языкового развития, контексты окружающей среды и подходы к вмешательству. Современные терапевтические вмешательства признают эхолалию как потенциальную ступень к более сложным коммуникативным навыкам, подчеркивая важность понимания ее функциональных аспектов. Подходы к оценке эволюционировали, включая функциональный анализ эхолалических высказываний, изучение их коммуникативной интенции и контекстуальной уместности. Данный комплексный обзор исследует современные теоретические основы, клинические проявления, методологии оценки и стратегии вмешательства для работы с эхолалией у детей с РАС. Результаты показывают, что индивидуализированные подходы, учитывающие профиль развития ребенка, факторы окружающей среды и специфические эхолалические паттерны, дают наиболее эффективные результаты в развитии коммуникативной компетентности и снижении неадаптивного повторяющегося речевого поведения.

Ключевые слова: эхолалия, расстройство аутистического спектра, развитие коммуникации, речевые паттерны, языковое вмешательство, повторяющееся поведение

Introduction. Within the structure of speech manifestations in children with autism spectrum disorder (ASD), echolalia occupies a distinctive and multifaceted position that has garnered increasing attention from researchers, clinicians, and educators worldwide. Unlike typical language development, where repetition of heard phrases represents a transient developmental phase that aids in language acquisition, echolalia in children with ASD often becomes a persistent and complex phenomenon that may serve a wide range of functions—from self-regulation to attempts at meaningful communication [1]. This fundamental difference highlights the critical need for a comprehensive analysis of the phenomenon from the integrated perspectives of speech therapy, neuropsychology, developmental psychology, and special education.

The prevalence of echolalia among children with ASD is remarkably high, with research indicating that approximately 75-85% of individuals diagnosed with autism spectrum disorders exhibit some form of echolalic behavior during their developmental trajectory [2]. This statistic underscores the significance of understanding echolalia not as an isolated symptom, but as a central component of the communication profile characteristic of many children with ASD. The persistence and variability of

echolalic patterns across different developmental stages, environmental contexts, and individual profiles necessitate sophisticated assessment and intervention approaches that move beyond traditional pathological models.

Current interdisciplinary studies suggest that echolalia is not always indicative of a purely pathological condition requiring elimination; rather, when properly understood and therapeutically supported, it can serve as a foundation for the emergence of meaningful speech and functional communication [3]. This paradigmatic shift has profound implications for how professionals approach assessment, intervention planning, and family counseling.

The recognition of echolalia's potential communicative value challenges traditional behaviorist approaches that sought to extinguish repetitive speech patterns, instead favoring developmental models that build upon existing strengths and emerging capabilities.

Of particular relevance to contemporary research is the study of echolalia within multilingual environments such as that of Kazakhstan, where children often acquire two or more languages simultaneously, displaying unique speech strategies that reflect the complex interplay between linguistic systems and autism-related communication differences [8]. The bilingual context adds layers of complexity to both the manifestation and interpretation of echolalic behaviors, requiring culturally sensitive and linguistically informed assessment and intervention approaches.

This article provides a comprehensive exploration of key theoretical approaches to understanding echolalia, its classification systems, functional properties, and clinical manifestations in diverse linguistic settings including Kazakh-speaking, Russian-speaking, and mixed-language environments. The analysis integrates findings from international research with insights from regional studies, offering a global perspective while acknowledging local contextual factors that influence both the expression and treatment of echolalia in children with ASD.

Echolalia refers to the automatic repetition of previously heard words, phrases, or entire utterances, occurring with varying degrees of temporal delay and functional purpose. In typically developing children, such repetitive behaviors may constitute a normal and beneficial component of language acquisition, serving as a mechanism for practicing phonological patterns, internalizing Syntactic structures, and exploring semantic relationships [4]. However, in children with ASD, echolalia represents a more complex and persistent phenomenon, often serving various communicative, regulatory, or self-stimulatory purposes that extend well beyond the scope of typical developmental imitation.

The conceptual understanding of echolalia has evolved dramatically over the past several decades, moving from early behaviorist interpretations that characterized it as meaningless, pathological behavior requiring suppression, to contemporary developmental perspectives that recognize its potential adaptive functions and communicative significance [1]. This evolution reflects broader changes in the field of autism research, including increased recognition of neurodiversity, emphasis on strength-based approaches, and growing understanding of the heterogeneous nature of autism spectrum presentations.

Both international and local researchers have emphasized that echolalia, rather than being merely pathological, can play a significant and constructive role in communication development and cognitive processing. The functional analysis of echolalic utterances has revealed sophisticated patterns of contextual use, emotional expression, and social engagement that suggest underlying communicative competence, even when surface-level language appears repetitive or inappropriate [2]. This recognition has led to fundamental changes in therapeutic approaches, assessment protocols, and family education strategies.

The first comprehensive theoretical models of echolalia were proposed by American researchers Barry Prizant and Gerald D. Duchan in 1981, whose groundbreaking work fundamentally transformed clinical understanding of repetitive speech in autism [1]. They challenged prevailing behaviorist interpretations by proposing that echolalia should not be regarded solely as pathological behavior, but instead as a developmental stage in the cognitive and linguistic progression of children with autism. Their framework introduced important distinctions between different types and functions of echolalic behavior, providing a foundation for more nuanced assessment and intervention approaches.

Prizant and Duchan introduced a influential classification system dividing echolalia into immediate and delayed forms based on temporal characteristics. Immediate echolalia occurs directly after hearing speech, typically within seconds or minutes of the original utterance, while delayed echolalia surfaces after a more substantial time lapse, ranging from hours to days, weeks, or even months [1]. This temporal distinction has important implications for understanding the underlying cognitive processes involved in echolalic production and for developing appropriate intervention strategies.

Furthermore, their framework recognized that both immediate and delayed forms of echolalia may serve functional or non-functional purposes, with functional echolalia including self-regulation, expression of internal emotional states, attempts to initiate or maintain social interaction, and various communicative functions such as requesting, protesting, or commenting

[2]. Non-functional echolalia, by contrast, appears to lack clear communicative intent and may serve primarily self-stimulatory or regulatory purposes.

In 1990, Carol Schuler and Susan Berkowitz significantly expanded this theoretical framework by identifying additional subtypes including partial and mitigated forms of echolalia [3]. Partial echolalia involves repeating only selected portions of a phrase or utterance, which may indicate selective attention to salient linguistic elements or cognitive processing limitations that prevent complete reproduction. Mitigated echolalia includes various modifications in intonation patterns, word order, grammatical structure, or the insertion of novel elements that suggest active linguistic processing rather than rote repetition.

These nuanced distinctions allow for more context-sensitive analysis of echolalic behavior and provide important diagnostic information about the child's linguistic processing abilities, cognitive flexibility, and communicative intentions. The recognition of modified forms of echolalia has particular significance for intervention planning, as these variations may indicate emerging language skills and readiness for more sophisticated communication training.

Russian speech-language pathology has also contributed significantly to the theoretical understanding of echolalia through the work of prominent researchers who have examined the phenomenon within broader contexts of speech development and communication disorders. Researchers such as V. M. Kozlov and T. B. Filicheva recognized echolalia as an indicator of disruptions in speech activity and communication, while also acknowledging its potential adaptive functions [5]. Kozlov's work particularly emphasized echolalia's dual role as both a compensatory mechanism that allows children to participate in communicative exchanges and a symptom of more profound communication impairments that require targeted intervention.

The Russian theoretical tradition has also linked echolalia to broader aspects of the child's intellectual and emotional development, recognizing that repetitive speech patterns may reflect underlying differences in cognitive processing, attention regulation, and social-emotional functioning [6]. This holistic perspective has influenced assessment approaches that examine echolalia within the context of overall developmental profiles rather than as an isolated symptom.

N. V. Ilyina's influential work conceptualized echolalia as a form of primary communication, wherein the child, unable to generate original utterances due to various linguistic or cognitive constraints, employs memorized phrases in response to external stimuli [7]. This framework positions echolalia as serving a transitional function toward more complex language structures, suggesting that appropriate intervention can facilitate the evolution from repetitive to creative language use.

Research methods and materials. The distinctive feature of echolalia in children with ASD is the complex relationship between repetitive speech production and communicative intent, which often presents challenges for assessment and intervention planning. While repeated words or phrases may initially appear to lack communicative purpose, careful functional analysis frequently reveals sophisticated patterns of contextual use that suggest underlying communicative competence [1]. Instead of representing purely meaningless repetition, echolalic utterances often serve as mechanisms of self-regulation, emotional stabilization, social engagement, or adaptive responses to environmental demands.

Research has demonstrated that children with ASD may use echolalic phrases to convey needs, express emotional states, or draw attention to important environmental events, despite the apparent lack of semantic clarity or conventional linguistic structure [2]. The challenge for clinicians and educators lies in recognizing these communicative attempts and responding in ways that support further language development while honoring the child's existing communication strategies.

With appropriate speech therapy interventions and comprehensive developmental support, echolalia can gradually evolve into more flexible and functional language use through carefully designed therapeutic approaches that build upon existing strengths [3]. Through targeted guidance and systematic intervention, children can learn to adapt memorized expressions to real-life communicative contexts, facilitating the development of increasingly purposeful and creative speech patterns.

One of the most significant advances in understanding echolalia has been the recognition that therapeutic approaches should work with rather than against existing echolalic patterns, using

them as building blocks for more sophisticated communication skills [4]. This strength-based perspective represents a fundamental shift from earlier behaviorist approaches that sought to eliminate repetitive speech through punishment or extinction procedures.

A defining characteristic of echolalia that distinguishes it from typical developmental imitation is its stereotyped nature—utterances are often replicated with identical intonation patterns, rhythmic structure, and prosodic features that mirror the original production with remarkable accuracy [1]. While this precise reproduction may superficially resemble meaningful communication, its functional properties are frequently limited to internal regulation, emotional management, or sensory satisfaction rather than interpersonal communication.

Children with ASD may utilize echolalic patterns to relieve psychological or sensory stress, organize overwhelming internal experiences, or create predictable auditory input in chaotic environmental conditions [2]. The self-regulatory function of echolalia has important implications for intervention planning, as attempts to eliminate repetitive speech without providing alternative regulatory strategies may inadvertently increase anxiety or behavioral difficulties.

Groundbreaking research conducted by T. P. Tikhomirova and I. B. Guseva has demonstrated that echolalia extends beyond simple compensatory behavior and can be effectively integrated into comprehensive communication intervention programs [6]. When echolalic patterns are incorporated into structured frameworks such as PECS (Picture Exchange Communication System) or the DIR/Floortime model, they can become meaningful components of functional communication systems that support both expressive and receptive language development.

The key insight from contemporary research is that echolalia should not be suppressed or eliminated, but instead should be carefully redirected toward functional communicative use through systematic therapeutic intervention [3]. This redirection process often represents a critical developmental milestone in a child's communicative journey, marking the transition from purely regulatory or self-stimulatory speech to intentional, interactive communication.

Successful redirection of echolalic patterns requires sophisticated understanding of their current functions, careful analysis of environmental factors that maintain them, and systematic introduction of modifications that expand their communicative potential [4]. This process typically involves gradual shaping of existing utterances, introduction of contextual variations, and systematic reinforcement of increasingly appropriate and flexible language use.

In the Kazakhstani context, cross-linguistic echolalia presents unique challenges and opportunities that reflect the complex multilingual environment characteristic of the region [8]. Children growing up in bilingual or multilingual households may alternate between Kazakh and Russian phrases, either as a conscious communicative strategy or as an unconscious reflection of their linguistic input patterns. This code-switching behavior within echolalic utterances provides valuable information about the child's linguistic competencies and cultural affiliations.

Speech therapists and educators working in bilingual settings must carefully consider cultural and linguistic variables when developing assessment protocols and intervention strategies [9]. The cultural

significance of specific phrases, the emotional resonance of particular languages, and the social contexts associated with different linguistic systems all influence the manifestation and therapeutic modification of echolalic behaviors.

Furthermore, cross-linguistic echolalia may reflect the child's differential exposure to specific familial expressions, educational content, or media sources in different languages, necessitating individualized and culturally informed therapy approaches that respect linguistic diversity while promoting functional communication development [10]. Understanding these cultural and linguistic factors is essential for developing effective intervention programs that are both therapeutically sound and culturally appropriate.

The assessment of echolalia requires sophisticated analytical approaches that examine multiple dimensions including temporal characteristics, linguistic complexity, functional properties, and contextual appropriateness [1].

Contemporary assessment protocols have moved beyond simple frequency counts of repetitive utterances to include detailed functional analysis that examines the antecedent conditions, communicative contexts, and consequent outcomes associated with echolalic behaviors.

Effective correctional work with children who exhibit echolalic patterns must be multi-layered, highly personalized, and integrative in approach, combining evidence-based methods from behavioral therapy, sensory integration, visual supports, and naturalistic language intervention [2]. The complexity of echolalia requires intervention teams that include speech-language pathologists, occupational therapists, behavioral specialists, and educational professionals working collaboratively to address all aspects of the child's communication and regulatory needs.

At early developmental stages, echolalia may serve as a crucial entry point for organizing communicative interactions and can later be systematically transformed into more coherent and flexible speech constructs through carefully planned therapeutic activities [3]. The transformation process requires patience, consistency, and deep understanding of each child's unique profile of strengths, challenges, and motivational factors.

The key principle underlying effective intervention lies in recognizing and analyzing the specific functions served by echolalic utterances—whether they primarily address self-regulation needs, emotional expression, social connection, or communicative intent—and adjusting intervention strategies accordingly [4]. This functional approach ensures that therapeutic efforts address the child's actual needs rather than imposing external expectations that may not align with their developmental priorities.

Among the various forms of echolalia observed in children with ASD, immediate echolalia holds particular clinical significance because of its direct connection to current communicative situations and its potential to indicate early signs of emerging speech development and social awareness [1]. Unlike delayed echolalia, which may be more closely tied to internal regulatory needs or self-stimulatory functions, immediate echolalia often represents the child's attempt to engage socially with their communication environment.

Such immediate repetitions may signal various communicative intentions including agreement or acknowledgment, requests for continuation or repetition, refusals or protests, or attempts to initiate dialogue and social interaction [2]. The contextual analysis of immediate echolalic responses provides valuable diagnostic information about the child's social awareness, communicative motivation, and emerging language comprehension abilities.

Contemporary research increasingly highlights that immediate echolalia can serve as a precursor to more sophisticated verbal interaction and demonstrates developing language comprehension abilities that may not be apparent through traditional assessment methods [3]. The careful analysis of immediate echolalic instances provides speech-language pathologists with critical insights into how individual children perceive, process, and attempt to employ language in social contexts.

This understanding makes immediate echolalia a valuable diagnostic tool for early identification of communicative potential and an important component of therapeutic planning that can guide intervention goals and strategies [4]. Recognition of the communicative significance of immediate

echolalia has led to the development of intervention approaches that specifically build upon these spontaneous social engagement attempts.

The developmental trajectory of echolalia varies significantly among children with ASD, influenced by factors including cognitive abilities, severity of autism symptoms, environmental supports, and intervention approaches [1]. Some children demonstrate gradual reduction in echolalic behaviors as they develop more sophisticated language skills and alternative communication strategies, while others may maintain echolalic patterns while showing increased functional sophistication within these repetitive frameworks.

Understanding these diverse developmental pathways is crucial for setting appropriate therapeutic goals and maintaining realistic expectations for communication development [2].

Long-term follow-up studies have revealed that children who receive early, intensive, and functionally-focused intervention for echolalia demonstrate better outcomes in terms of both communication development and overall adaptive functioning.

Conclusion. Echolalia in children with ASD represents far more than a simple symptom of speech impairment; it constitutes a complex communicative phenomenon that serves multiple adaptive functions and offers significant potential as a foundation for meaningful communication development [1]. The evolution of theoretical understanding from pathological models to functional perspectives has fundamentally transformed clinical approaches, emphasizing the importance of working with rather than against existing communication patterns.

Immediate echolalia, in particular, functions as an early and valuable indicator of speech initiative and social engagement capacity, thereby holding substantial diagnostic and therapeutic significance for intervention planning [2]. The recognition that immediate repetitive patterns often reflect attempts at social connection and communicative participation has led to intervention approaches that specifically nurture and expand these emerging social communication skills.

The comprehensive theoretical analysis presented in this review confirms that, under conditions of adequate educational support and specialized speech-language intervention, echolalia can indeed transform into meaningful, functional speech and serve as an effective bridge toward full linguistic interaction and social communication competence [3]. This transformation process requires sophisticated understanding of individual differences, careful functional analysis, and systematic intervention approaches that honor the child's existing strengths while promoting growth in areas of need.

Moreover, echolalia provides valuable insight into the child's cognitive processing patterns, emotional regulation strategies, and perceptual engagement with their social and physical environment [4]. This diagnostic information underscores the necessity of comprehensive, multidisciplinary approaches that involve contextual observation across multiple settings, detailed functional speech analysis, and individualized correctional strategies that address the full spectrum of the child's developmental needs.

The cultural and linguistic considerations highlighted in this review emphasize the importance of developing intervention approaches that are sensitive to the multilingual contexts in which many children with ASD develop [8]. The unique patterns of cross-linguistic echolalia observed in bilingual environments such as Kazakhstan require specialized assessment tools and intervention strategies that acknowledge linguistic diversity while promoting functional communication development.

Future research directions should continue to explore the neurobiological foundations underlying echolalic behaviors, investigate long-term developmental outcomes associated with different intervention approaches, and develop more sophisticated assessment tools that capture the functional complexity of repetitive speech patterns [1]. Additionally, research examining cultural variations in echolalia expression and intervention effectiveness will contribute to more inclusive and culturally responsive clinical practices.

The recognition of echolalia as a complex, multifunctional communication phenomenon represents a significant advancement in understanding autism spectrum disorders and communication development

more broadly [2]. This understanding provides hope and practical guidance for children and families affected by autism, offering evidence-based pathways for meaningful communication development that honor individual differences while promoting functional growth.

Continued research, clinical innovation, and family-centered intervention approaches will undoubtedly lead to even more effective strategies for supporting children with echolalia in achieving their full communicative potential [3]. The integration of technological supports, naturalistic intervention methods, and culturally responsive practices promises to further enhance outcomes for this diverse population of learners.

The implications of this research extend beyond clinical settings to include educational environments, family support systems, and community inclusion initiatives that can benefit from deeper understanding of echolalia's communicative significance [4]. As our knowledge continues to evolve, the potential for transforming echolalic patterns into meaningful communication will continue to expand, offering hope for improved quality of life and social participation for children with ASD and their families.

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