# Early Stimulation Programs For Child Development: Systematic Review

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## **ABSTRACT**

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This systematic review study evaluates the effectiveness of early stimulation programs in the comprehensive development of children aged 0 to 5 years. The PRISMA methodology is used, which evidences the search in scientific databases such as: Scopus, Scielo and Google Scholar; collecting scientific information regarding the characteristics of children participating in early stimulation programs, applied methodological strategies, comparative effects and the benefits in child development that answer the questions developed with the PICO methodology based on the support of 31 articles selected for the analysis. The search results indicate that infants who participate in early stimulation programs acquire accelerated development in the receptivity of external stimuli that allow the flourishing of their motor, linguistic and social skills. The strategies employed should be multisectoral, using the play-work methodology that facilitates the participation of the child, family and community. The benefits would include strengthening skills and developing cognitive, physical, socioemotional, and identity dimensions, bridging sociocultural gaps that reinforce the importance of comprehensive childhood care; mitigating potential diagnoses in child development; and, if present, promoting the conscious intervention of early stimulation programs focused not only on prevention but also on intervention.

**Keywords**: Programs, Early stimulation, Child development

# INTRODUCTION

From a global approach based on the agencies that represent and support full childhood, we can mention the United Nations Early Childhood Fund – UNICEF (2023). In its study of the timeline in 20 years from 2003 to 2023, it states that children who receive early stimulation programs, in their adult life earn an average salary of 25% more than those who do not receive it and their academic performance is higher, the figure of 4,542,356 children from 0 to 5 years of age participating in these programs worldwide in a situation of extreme poverty is mentioned with these proven results (Soplin et al. 2022). However, the United Nations Educational, Scientific and Cultural Organization (UN) (2022) in its world conference on early care mentions that: "1 in 4 children between 0 and 5 years of age have never received any type of early stimulation program worldwide", which leads to the violation of the child's right to care (Encalada et al. 2024).

Early stimulation programs apply a set of structured activities designed for child development in the early stages of human life based on pedagogical and neuroscientific principles in the following areas: cognitive, physical, social and emotional according to Ramos and Méndez (2021). Timely stimulation, especially in children with neurodevelopmental risks or disorders, aims to reduce the severity of the delay and favor the attention deficit characteristic of this diagnosis, taking into account that early stimulation programs promote sensitive interaction between parents and children, strengthening affective bonds and facilitating an environment conducive to their development with the use of appropriate stimuli, contributing to brain plasticity in the early years, and then maximize their abilities in adult life (Torres 2024).

Latin America develops various policies, plans and strategies that guarantee early childhood care by adapting to the reality of the country, according to the study carried out by Simbaña (2023) where they mention countries such as Argentina, which has the National Early Childhood Plan and the National Early Childhood First Strategy focused on the comprehensive development and rights of children up to four years of age in vulnerable situations. However, Colombia has implemented the Comprehensive Early Childhood Care Strategy from Zero to Forever and the National Family Welfare System, offering modalities such as child development centers, homes or programs to different population groups. In Ecuador, policies are developed through the Plan Toda una Vida and the Development Plan for the New Ecuador, which guarantees rights in various realities of the country. And in Costa Rica it establishes the National Network of Child Care and Development, focused on the quality of services offered, Peru maintains Early Childhood guidelines and the National Plan of Action for Children and Adolescents that prioritizes the care of the family and community. In Chile, it implements programs such as the Chile Crece contigo Institutes, focused on comprehensive care in early stages.

Based on the public policies of Ecuador and Piaget's approaches to attachment theories and cognitive development, they mention the importance of the caregiver to correctly direct child progress, as well as the theories that support the integral development of children. Among them we can mention: the theory of neurobiological development by Ramón y Cajal that emphasizes the accelerated development in the neuronal synapses in the early years as a basis for the development of children. learning, Bronfenbrenner's ecological theory that highlights the importance of the immediate environment, mainly the family, Vygotsky's theory of learning focus on social interaction, Skinner's behaviorist direction, Ausubel meaningful learning, Gardner's multiple intelligences that lead to early stimulation by applying activities that promote cognitive, linguistic, motor and socio-emotional development, without neglecting the socio-emotional theory which raises the importance of parenting styles, maternal sensitivity and the quality of family relationships in emotional development, all respectively strengthen the understanding of the mechanisms that favor a safe childhood cited by Orozco et al. (2022).

Early stimulation programs emphasize intervention with intersectoral strategies in conjunction with the health, education and social protection sectors to guarantee equitable and quality access to early intervention in children, closely relating this information to the Sustainable Development Goals (SDGs) of the 2030 Agenda where they contribute to the fulfillment of SDG 4 (Quality Education). by guaranteeing access to and service to early care and attention, especially for vulnerable groups. Likewise, with SDG 1 (Zero Poverty) and SDG 10 (Reduced inequalities) by promoting child care resulting in equity in dignified living conditions for all children, integrating policies that ensure healthy, safe and stimulating environments that support SDG 3 (good health and well-being) which strengthens the right of the child

to physical development, Cognitive emotional based on social sustainability (Solís, 2018).

Comprehensive development in early childhood is fundamental, since it encompasses all dimensions of child development: physical, social, cognitive and identity that will be activated in early stimulation programs that will guarantee total well-being and promote a solid foundation for growth. Care from an interdisciplinary perspective ensures that no aspect that promotes care and protection of the child is left unused, since everything is in favor of a full childhood that favors not only learning but also health. If we talk about interdisciplinarity in intervention in early stimulation programs. Working together with different disciplines such as psychology, health, law and social management jointly addresses the needs of each child by promoting project practices that favor care and education (Nájera et al., 2022).

The lack of implementation of early stimulation programs generates problems that affect the integral development of children, increases malnutrition, inadequate management of pathologies related to health, hygiene and care, affecting physical development that is directly related to growth and cognitive delay in early childhood due to the failure of educational practices that promote early stimulation, good nutrition, timely attention and acquisition of basic skills through multisensory stimulation affecting future school performance and their social and cognitive abilities. The lack of comprehensive care creates social and cultural gaps, with the most affected being children in vulnerable situations who are at greater risk of Minoan diseases and future health problems, since the insufficiency of promotion of healthy lifestyles leads to childhood obesity, hypertension and chronic diseases generating additional burdens for the health system. hence the lack of articulation between public policies and active practices of early care that translate into concrete actions, and that are not limited only to prevention, but also to early detection and intervention (Suárez et al., 2021).

The applicability of early stimulation programs enhances child development in early childhood; Various studies agree that the quality and timeliness of intervention during the first five years of life can make a significant difference in learning, socialization and mental health. However, there are questions that require systematic review, in this study it is proposed to answer the questions addressed through the PICO methodology (population, intervention, comparison and result) starting from P: What are the characteristics presented by infants from 0 to 5 years old who participate in early stimulation programs?, I: What strategies have been applied in these stimulation programs?, C: What are the effects on child development in children who attend early stimulation programs and those who do not attend at ages 0 to 5 years?, and A: What are the benefits observed in children who have participated in early stimulation programs?

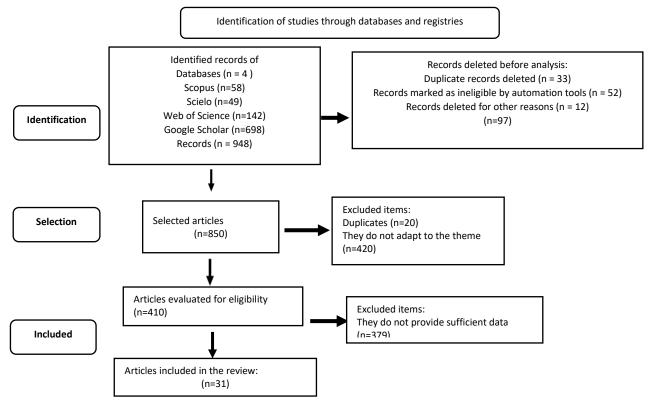
### **METHODOLOGY**

This article responds to a systematic review that allows a research to be carried out where available evidence is rigorously collected, evaluated and synthesized (Pardal, 2020). On the subject of early stimulation programs in child development whose main objective was to answer research questions, using structured methods of search, selection and analysis in relevant studies of scientific articles in indexed journals such as Scopus, Scielo and Google Scholar, allowing to obtain quality scientific evidence. The Prisma methodology can be adapted to the educational field to systematize and analyze existing literature, guided by the exhaustive and structured review of relevant

research, trends and knowledge gaps, where rigorous steps can be followed to select quality and reliable research (Meriles 2024). A PRISMA flow scheme is highlighted as a visual illustration of the procedure for the selection of documents with respect to the number of records detected, which have been screened and incorporated into the systematic review in response to the key questions to clarify the research in a scientific way in Figure 1. As well as the use of the PICO methodology, which is a popular and structured approach to formulate research questions, fundamental to obtain answers with effective search strategies in databases (Hosseini et al. 2024).

An exhaustive search was carried out in several scientific databases with the purpose of comparing the characteristics of infants from 0 to 5 years of age who have participated in early stimulation programs and those who have not, taking into account the strategies applied, benefits and effects on the integral development of children. from January to June 2025. In SCOPUS, Scielo and Google Scholar, the Boolean operators "OR" were used with search terms: Program "OR" Intervention, using inclusion criteria that cover publications from the last 5 years, limited to open access scientific articles in Spanish, Portuguese and English; focused on the area of education, psychology and health, taking into account that there is talk of early stimulation programs in the infant. Publications prior to 2020 were excluded; as well as book chapters, books, lectures and conferences. In Scielo and Web of Science, the operator "AND" was used with the terms program and "Early stimulation". Finally, the Google Scholar search was done where the term Early Stimulation Programs for Child Development was searched, without specifying additional operators. This search strategy allowed obtaining a clear picture and answers with scientific rigor based on research carried out in contexts that help the integral development of the child. For the creation of the flow chart, the phase of identification, selection and inclusion was used.

Fig. 1: Diagram of the article search and selection process, with PRISMA guidelines.



Elaboration: Group of researchers.

#### **RESULTS**

Below are the tables that synthesize the data collected, which have allowed answers to the research questions asked, after an exhaustive analysis of the reviewed articles.

Table 1: Final sample selected from 31 articles

Database	No.	%	Interval in years
Scopus	5	16.13	
Web of Science	0	0.0	2020-2025
Google Scholar	4	12.90	
Scielo	22	70.97	
Total	31	100	

Note: The descriptions presented are from the repositories

As detailed in table 1 of the final selected sample, the research covers a total review of 31 articles, various scientific databases were used, highlighting Scielo with 70.97%, Scopus with 16.13%, Web of Science with 0.0% and Google Scholar with 12.90% articles that were published between 2020 and 2025.

Table 2: Keywords and number of publications

Keywords	No. Publications	%
Program	9	29.04
Early stimulation	11	35.48
Child Development	11	35.48
Total	31	100

Note: The descriptions presented are from the repositories

As we can see, Table 2 presents the keywords and the number of publications of the selected articles with the theme, where 29.04% refer to the strategies used in early childhood programs. In particular, 35.48% explicitly mention the benefits of early stimulation and the characteristics of development in children from 0 to 5 years old, of which 35.48% make clear the effect on integral development in infants who attend or do not attend early stimulation programs.

Table 3: Answers to question 1 component characteristics

Evidence of relevant contributions in response to the question: What are the characteristics of infants from 0 to 5 years of age who participate in early stimulation programs?

No.	Base	Author	Relevant contribution	
1	Scielo	(Ramos &	Positive emotional bonds that generate sensory,	
		Méndez, 2021)	language and motor development allowing	
			progressive autonomy.	
2	Scielo	(Guaranda and	Development in their cognitive skills such as	
		Samada, 2023)	language and socialization such as communication	
			with peers and adults.	
3	Scielo	(Sagnay, 2024)	High brain plasticity, receptivity to stimuli and	
		·	learning, promoting harmonious development in	
			the areas of growth.	

4	Scielo	(Orozco et al.,	Rapid and diverse development of motor,
		2022)	linguistic, cognitive and social skills receptive to
			affective and sensory stimulus.
5	Scielo	(Pardo, 2023)	Greater ability to express, recognize and regulate
			emotions at the social level, favoring school
			adaptation.
6	Scielo	(Saltos et al.,	They excel in the development of perception,
		2024)	attention, postural control, coordination, social
			adaptation, security, and positive bonds.
7	Scielo	(Álava and	Capacities and skills to solve situations of daily life
		Moreno 2020)	and greater predisposition to learning.
8	Scopus	(Cristovo and	Cognitive and motor development through
		Pieczkowski	instructions that favor the progress of language
		2025)	and motor skills.
9	Google	(Vaca, 2025)	Development of skills for autonomy with lasting
	Scholar		and synergistic effects.
10	Google	(Carreño and	It enhances abilities and prevents the slow
	Scholar	Calle 2020)	development of cognitive, motor and social skills.

Note: The descriptions presented are from the repositories

In the context of this systemic review, and in reference to Table 3, an exhaustive analysis was carried out of 10 articles that represent 32% of the 31 articles searched, of which they address the characteristics that a child from 5 years of age presents in their child development when being part of early stimulation programs where they develop high brain plasticity and a remarkable receptivity to sensory stimuli. cognitive, which promotes a harmonious development in the areas of growth with positive emotional bonds and development of their motor, linguistic, cognitive and social skills. Favoring perception, attention, coordination, postural control and personal security.

Table 4: Responses to question 2, strategy component Evidence of relevant contributions in response to the question: What strategies have been applied in stimulation programs?

No.	Base	Author	Relevant contribution
1	Scielo	(Astudillo &	Promotion and intervention strategies,
		Leppe, 2020)	individual and group care, educational
			workshops and delivery of multisectoral
			inputs and strategies.
2	Scielo	(Narváez et al.,	Playful strategies and active listening
		2022)	activities in reading that favour brain
			stimulation for children's integral
			development.
3	Scielo	(Bedoya &	Strategies for self-observation and
		Herrera, 2022)	professional reflection, genogram,
		·	interdisciplinary and community work,
			home interventions and circular questions.
4	Scielo	(Vicente et al.	Educational intervention strategies and
		2023)	parental training, dyadic therapy and group
			and individual accompaniment, home visits
			and care in health centers and didactic

			materials for intervention and affective relationship.
5	Scielo	(Bósquez and Chica, 2024)	Playful and pedagogical strategies focused on play, active and participatory learning with teacher training in innovative approach methodologies.
6	Scopus	(Redondo and Arias 2024)	Effective communication strategies, mindfulness techniques, conscious breathing exercises, and emotional awareness activities.
7	Scielo	(Vélez & Meza, 2025)	Playful strategies and traditional games to involve the family in parenting and activities based on the educational context, creation of environments rich in stimuli and implementations of interdisciplinary programs.
8	Scielo	(Bedoya and Herrera. 2022)	Intervention strategies in the family environment, training, training for parents, strengthening of the affective bond, use of recreational activities and games and integration with the community and professional support.

Note: The descriptions presented are from the repositories.

In the context of the systemic review of Table 4, 8 articles representing 26% of the searched articles were reviewed. From this it can be said that the strategies used in the Early Stimulation Programs are comprehensive and multisectoral, combining individual and group care and parental training and professional intervention. It should be noted that these strategies include playful, tactile active listening activities designed for the integral development of the infant incorporating assertive communication techniques, mindfulness and emotional awareness. Without neglecting the participation of the family, training of caregivers and teachers that enhance the education of interventions in educational, community and health contexts.

Table 5: Response to question 3 component comparison Evidence of relevant contributions in response to the question: What are the effects on integral development in children who attend early stimulation programs and those who do not attend at ages 0 to 5 years?

No.	Base	Author	Relevant contribution
1	Scopus	(Katzkowicz	Stimulation programs in children under
		and Querejeta	40 months of age do not always have
		2020)	positive effects on gross motor skills in
			relation to those over 40 months,
			especially considering the intensity or
			duration that could generate impairment.
2	Scopus	(Giraldo rt al.,	The interventions of the programs
		Romero 2023)	contribute to the development of
			language, logical and social skills that

			help reduce delays and give early warnings in cognitive and socio- emotional development.
3	Scielo	(Orozco et al. 2022)	They develop greater capacity for behavioral regulation, social skills, vocabulary and verbal processing and mature their cognitive motor skills, associate a lower risk of developmental delay, reduce the possibility of presenting difficulties in integral development in relation to those who do not go.
4	Scielo	(Grande et al. 2023)	Children who do not participate in early stimulation programs tend to have problems in academic performance and those who attend their progress in motor, social and emotional skills are evident.
5	Google Scholar	(Vergara et al. 2020)	Children who do not attend the program show motor development according to their age, however, those who attend are more developed in both fine and gross motor skills.
6	Google Scholar	(Arrocha 2023)	Children who are part of stimulating environments from their first years of life are more perceptive to the visual, sound and cognitive stimuli of the human being.

Note: The descriptions presented are from the repositories.

In the context of the systematic review of Table 5, the analysis of 6 articles is made, representing 19.35 % of 31 articles. Children who participate in early stimulation programs show a higher level of neurodevelopment, specifically in sensory perception, language, and cognitive functions. The effects are positive on motor skills, especially in children over 40 months, who demonstrate greater capacity for behavioral regulation, improvements in vocabulary, verbal processing and motor maturation, reducing the risk of affecting their integral development in childhood. On the other hand, the effects of children who do not receive early stimulation programs show a lower evolution in their emotional, cognitive and social development that lead to significant delays in the development of language, logical and social skills. Table 6: Response to question 4 result component

Evidence of relevant contributions to the answer to the question: What are the benefits observed in children who have participated in early stimulation programs?

			1			
No.	Base	Author	Relev	ant contribut	ion	
1	Scielo	(Herrera y	The benefits observed include the		he	
		Gonzales,	devel	opment of so	cial, cognitiv	e, motor
		2023)	and linguistic skills and improvements in		ements in	
		,	auton	omy and pro	blem solving	, since these
			progr	ams facilitate	the formatio	n of neural

			connections that strengthen creativity and imagination.
3	Scielo	(Perpignan and Pando 2020)	They favor adaptation to the school environment and reduce disruptive behaviors, promoting positive emotional development with the caregiver, developing sensory, language and motor functions.
4	Scielo	(Alonso Álvarez and Pazos Couto 2020)	Development of spatial perception, balance and spatial awareness that favor the experiential relationship with space and time, helping emotionally, cognitively, and socially.
5	Scielo	(Rubio, 2023)	Behavioral changes, improvements in attention difficulty, and age-appropriate emotional self-regulation.
6	Scopus	(Bernal et. al, 2020)	Improvements in inhibitory control and emotional regulation, increased relaxation, positive behavioral effects on social adaptation and impulse management that integrate the educational environment in a peaceful way.
7	Scielo	(Sandoval et al. 2023)	Lack of access or participation in programs can imply less acquisition of skills, delay in motor development, and less preparation for school learning.

Note: The descriptions presented are from the repositories.

In the context of the systematic review of Table 6, the analysis of 7 articles is carried out, which present 23% of the 31 articles searched. Early stimulation programs offer a significant cost-benefit investment that profoundly impacts the integral development of the infant, where in their initial stages of life they facilitate the formation of neural connections that strengthen creativity and imagination. Its benefits are significant in social, cognitive, motor and linguistic skills where they improve autonomy, spatial perception, balance, behavior modification and resolution of problems of daily life according to the complexity for their age.

#### DISCUSSION

This discussion is based on the systemic review that wishes to deepen on early stimulation programs and child development, the literature examined follows the rigorous criteria of the PRISMA methodology, offering a solid basis to understand the characteristics, strategies, effects and benefits of early stimulation programs in infants from 0 to 5 years old. The first question, what are the characteristics of infants from 0 to 5 years old who participate in early stimulation programs? It addresses the profile of high brain plasticity and a remarkable receptivity to stimuli, where children demonstrate greater receptive capacity and enthusiasm to learn through early coexistence, programs that facilitate the development of positive emotional bonds and significant progress in sensory, language and motor areas promote progressive autonomy maximizing the capacity of the infant and improving their adult quality of

life (Torres, 2024). Infants in early stimulation programs quickly develop motor, linguistic, cognitive, and social skills, being soulfully receptive to stimuli. (Orozco, 2022). In addition, their ability to express and recognize emotions on a social level is greater, which directly contributes to school adaptation (Pardo et al., 2023). Improving perception, attention, postural control, coordination, social adaptation, and personal safety are important characteristics in children that have been part of early stimulation (Salto Cubillo et al., 2024). Children who participate in these programs have a comprehensive harmonious development, with a greater predisposition for learning and an excellent ability to solve everyday situations (Álava & Moreno, 2020). These characteristics give way to the opportunity to direct neurodevelopment where all the authors manifest the positive of being part of these programs and of positively characterizing integral child development in children from 0 to 5 years old.

In relation to the second question, what strategies have been applied in stimulation programs?, the review highlights a comprehensive and multisectoral work approach that includes intervention, individual group care, educational workshops, and training not only for the caregiver but also for the family (Astudillo & Leppe, 2020). Parental training and home-based interventions strengthen the affective bond between parent and child, in agreement with the previous author and his emphasis on the family (Bedoya & Herrera, 2022). The use of playful, tactile and active listening activities is central to the development of the infant, where the stimulation of the cerebral hemispheres is directed through the understanding of the environment (Narváez & Fárez, 2022). Taking into account innovative strategies such as: Mindfulness, conscious breathing exercises, emotional activities are relevant for the integral development of the child since it regulates learning and their emotions according to Redondo and Arias (2024), a situation that calls more the passive part of integral emotional development unlike the previous author who focuses on the active. Another key strategic point is interdisciplinarity, since the collaboration of various disciplines such as psychology, health, law, and social management jointly addresses the needs of a child, promoting comprehensive care and not only based on education but also on care (Nájera et al., 2022). In agreement with this author, who also agrees with the involvement of the community through professional support, it enhances interventions in educational, community and health contexts (Bedoya Cardona & Herrera Rovera, 2022). These strategies are consistent with public policies that guarantee equitable and quality access to early care, contributing to the fulfillment of SDG 4 (Quality Education) by providing home visits that are called home-based, accompaniment and the use of teaching resources are key strategies of motivation and at the same time of follow-up that collaborate with the Sustainable Development Goals speaking the same language 193 countries that make up part of this 2030 agenda (Vicente et al., 2023).

Regarding the question, what are the effects on child development in children who attend early stimulation programs and in those who do not attend at the ages of 0 to 5 years? The evidence is clear, the children who participate show an excellent level of neurodevelopment in areas such as perception, language, and cognitive development compared to those who do not attend or are not stimulated at home (Gutiérrez & Ruíz, 2018). The programs contribute to the development of language, social skills and to being logical, thus helping to reduce developmental delays or generate early warnings in cognitive and socio-emotional development for early intervention (Giraldo et al., 2023) the two previous authors agree on the benefits, however, the first focuses on the positive and the second on the early intervention of the areas in

development and collaborate in early diagnoses. Infants develop greater capacity for behavioral regulation, social skills, vocabulary, and verbal processing that mature their developmentally associated cognitive skills (Orozco Restrepo et al., 2022). Taking into account the above, children who do not participate in early stimulation programs tend to present a lower progress in their language development that affects the cognitive and social (Pardo et al., 2019), as well as problems in academic performance since stimulation, care or timely intervention were not directed (Grande Fariñas et al., 2023). This inequality in the outcome raises awareness of the importance of early stimulation to mitigate possible developmental deficits that cause social and cultural gaps that affect children in vulnerable situations more, where both authors agree on the slow progress in development due to the absence of early intervention programs. Finally, regarding the question What benefits have been observed in children who participate in early stimulation programs?, the review rectifies that early stimulation programs are a significant cost-benefit investment that impacts the future of the human being (De Castro et al., 2019). They facilitate the formation of neural connections that strengthen creativity and imagination (Herrera & Gonzales, 2023). The benefits include the development of social, cognitive, motor and linguistic skills, as well as significant improvements in autonomy and problem solving that are factors that affect the school environment and thus help disruptive behaviors in the infant by promoting positive emotional development with the caregiver and the parent. since it also stimulates sensory, language, and motor functions (Perpignan & Pardo, 2020). These three authors emphasize the benefit in the activated development of cognitive, motor, social, and emotional areas in a short time in stimulated children. Among the benefits can be mentioned the development of spatial perception, balance and spatial awareness, which helps the relationship with time and space notions that infants find difficult to master, thus positively affecting their emotional, cognitive and social development (Alonso et al., 2020). This author also emphasizes the evidence of changes in behavior when there are situations of difficulty in attention and concentration, a situation that the previous authors have not mentioned (Rubio, 2023). These programs lead to improved inhibitory control, emotional regulation, and positive effects on social adaptation and impulse management, which are good indications for entry into the educational environment (Berbal et al., 2020). The latter author focuses on the long-term benefits that will yield results at school ages. The aforementioned contributes directly to the Sustainable Development Goals such as poverty reduction (SDG 1), quality education (SDG 4) and health and well-being (SDG3) where only Solís (2018) directs this agenda to comply with public policies in countries that are part of Latin America in relation to early childhood care.

#### **CONCLUSION**

Infants exposed to early care programs are distinguished by their neuroplasticity in development and superior receptive capacity where they manifest a harmonious and at the same time accelerated progress in multiple domains. Carrying out the predisposition to learning, greater fluency in the acquisition of social, linguistic, cognitive and motor skills that exudes socio-emotional maturity allowing self-regulation through adaptive interaction with notable advances in sensory perception, sustained attention, postural control and coordination, which gives them an adaptive advantage and greater autonomy in the challenges of daily life.

The strategies implemented in the Early Stimulation Programs are characterized by their holistic, multisectoral, and interdisciplinary approach, designed to maximize the potential of child development. The effectiveness lies in direct interventions in primary caregivers and the promotion of constant stimulation together with the use of emotional awareness and mindfulness techniques in early childhood as essential components that are articulated with efforts between health, education and social services professionals, as well as the participation of the family and community. which thus guarantees sustainability as a profound impact of child development programs.

Statistically, the differentiation in the development of infants who participate in early stimulation programs and their non-participating peers is observed. The former demonstrate superior performance in cognitive functions, language development, sensory perception and motor skills with a lower incidence of developmental delays and behavioral regulation capacity. The absence of early interventions is associated with slow progress in emotional, cognitive, and social dimensions that can lead to a lasting deficit in essential skills and negative implications; taking for granted the transformative capacity of early stimulation programs to mitigate risks and promote integral development.

Early stimulation programs provide a multitude of tangible and sustainable benefits, consolidating themselves as a fundamental investment with a high social and economic return on future generations. The participating infants not only show excellent memory, attention, retention, imagination and creativity but also substantial improvements in autonomy and problem solving with low dependence on others, which augurs success in the school environment. The optimized development in spatial perception, balance and body awareness, prepares them for their first strokes, social bonds and to strengthen their executive functions as well as interpersonal relationships, establishing foundations for their well-being in the areas of development with resilient principles for well-being and success throughout life.

## Bibliographic Reference

- 1. Álava, Estrella Magdalena Espinar, and José Alberto Vigueras Moreno. 2020. "Experiential learning and its impact on current education". 2020 39(3). http://scielo.sld.cu/scielo.php?script=sci\_arttext&pid=S0257-43142020000300012
- 2. Alonso Álvarez, Yolanda, and José María Pazos Couto. 2020. "Perceived importance of motor skills in Early Childhood Education in the educational centers of Vigo (Spain)". *Educação e Pesquisa* 46:e207294.
- doi:10.1590/s1678-4634202046207294.
- 3. Arrocha, Belgium Esther. 2023. "Integral Child Development through Surprising Classrooms". Revista Contacto 3(2):82-97. doi:10.48204/contacto.v3n2.4431.
- 4. Astudillo A., Daniela, and Jaime Leppe Z. 2020. "Offer of programs for the integral development of early childhood: Exploratory review". *Revista Chilena de Pediatría* 91(4). doi:10.32641/rchped.v91i4.1336.
- 5. Bedoya Cardona, Ledy Maryory, and Ovidio Herrera Rivera. 2022a. "Techniques and strategies implemented in intervention with families in parenting issues". *Diversitas* 18(1). doi:10.15332/22563067.7878.
- 6. Bedoya Cardona, Ledy Maryory, and Ovidio Herrera Rivera. 2022b. "Techniques and strategies implemented in intervention with families in parenting issues". *Diversitas* 18(1). doi:10.15332/22563067.7878.
- 7. Bernal Ruiz, Francisca, Montserrat Rodríguez Vera, and Alonso Ortega. 2020. "Stimulation of Executive Functions and Its Influence on Academic Performance in First Grade Schoolchildren". *Interdisciplinary Journal of Psychology and Related Sciences* 37(1). doi:10.16888/interd.2020.37.1.6.

- 8. Bósquez León, Diana Maribel, Luis Aurelio Cachupud Morocho, and Sonia María Chica Macay. 2024. "Playful Strategies: A Dynamic Approach to Foster Cognitive Development in Early Childhood Education". *Revista Scientific* 9(31):108-25. doi:10.29394/Scientific.issn.2542-2987.2024.9.31.5.108-125.
- 9. Carreño Acebo, María Elena, and Anny Gabriela Calle Poveda. 2020. "Fundamental aspects of early stimulation programs and their effects on the development of children from 0 to 6 years old". *RECIMUNDO* 4(1):499-520. doi:10.26820/recimundo/4.(1).January.2020.499-520.
- 10. Cristova, Aleandra Defaveri, and Tania Mara Zancanaro Pieczkowski. 2025. "Standardized expectations of child development: effects on families of children with disabilities". *Qualitative Research Journal* 13(33):94-114. doi:10.33361/RPQ.2025.v.13.n.33.835.
- 11. Encalada Ojeda, Sofía Carolina, Carmen Patricia Buenaño Urquizo, Jhoana Liseth Lamiña Allauca, and Mariuxi Vanesa Vilema Moyano. 2024. "The Lack of Early Stimulation in Children from 0 to 6 Years of Age". *Ciencia Latina Revista Científica Multidisciplinar* 8(2):8371-84. doi:10.37811/cl\_rcm.v8i2.11489.
- 12. Giraldo-Huertas, Juan José, Diana Carolina Sánchez, and Mario Fernando Gutiérrez-Romero. 2023. "Effects on the cognitive development of children at risk and multidimensional poverty of two interventions with primary caregivers". *Complutense Journal of Education* 34(1):157-66. doi:10.5209/rced.77229.
- 13. Grande Fariñas, Patricia, María Soledad Torán Poggio, Ana Vanessa Barquero Bolaños, and Linda Madriz Bermúdez. 2023. "Development of early care in Costa Rica: good practices applied to teacher training". *Innovaciones Educativas* 25(38):211-31. doi:10.22458/ie.v25i38.4511.
- 14. Guaranda Loor, Jesus Dalinda, y Yanet Samada Grasst. 2023. «Oral language development activities system for 5-year-old children». *Universidad Ciencia y Tecnología* 27(121):52-63. doi:10.47460/uct.v27i121.754.
- 15. Herrera-Occ, Milagros Consuelo, and Víctor Augusto Gonzales-Soto. 2023. "Symbolic Play in the Development of Competencies in Early Childhood". *Revista Docentes* 2.0 16(2):39-49. doi:10.37843/rted.v16i2.372.
- 16. Hosseini, Mohammad-Salar, Farid Jahanshahlou, Mohammad Amin Akbarzadeh, Mahdi Zarei, y Yosra Vaez-Gharamaleki. 2024. «Formulating Research Questions for Evidence-Based Studies». *Journal of Medicine, Surgery, and Public Health* 2:100046. doi:10.1016/j.glmedi.2023.100046.
- 17. Katzkowicz, Noemí, and Martina Querejeta. 2020. "Effects of early attendance at care and educational centers on child development: evidence for Uruguay". *Revista Desarrollo y Sociedad* (84):181-219. doi:10.13043/DYS.84.5.
- 18. Meriles, Dolly Alcoba. 2024. "PRISMA Editorial Article and metaanalysis in scientific research". 8(2). doi:DOI: 10.18310/2446-4813.2022v8nsup1p339-360.
- 19. Nájera, Cristina Orbe, María Teresa Benavides Borja, and Adriana Monesterolo Lencioni. 2022. "Received: 21 April 2022 Acceptance: 17 August 2022". 1(114):33-35. https://www.revistapuce.edu.ec/index.php/revpuce/article/view/486
- 20. Orozco Restrepo, Luz Angélica, Maria Fernanda Cardona Cañas, and Freddy Andrés Barrios Arroyave. 2022a. "Early stimulation in the home of infants attending a children's center". *Cuidarte Magazine*. doi:10.15649/cuidarte.2142.
- 21. Orozco Restrepo, Luz Angélica, Maria Fernanda Cardona Cañas, and Freddy Andrés Barrios Arroyave. 2022b. "Early stimulation in the home of infants attending a children's center". Revista Cuidarte 13(1). doi:10.15649/cuidarte.2142.

- 22. Orozco Restrepo, Luz Angélica, Fundación Universitaria Autónoma de las Américas, Maria Fernanda Cardona Cañas, and Freddy Andrés Barrios Arroyave. 2022. "Early stimulation in the home of infants attending a children's cen
- 23. ter". Cuidarte Magazine. doi:10.15649/cuidarte.2142.
- 24. Pardal-Refoyo, José Luis, and Beatriz Pardal-Peláez. 2020. "Annotations to structure a systematic review". *ENT Journal* 11(2):155-60. doi:10.14201/orl.22882.
- 25. Pardo-Patiño, Karen Vanessa, Leidy Carolina Cuervo, and Cristian Villanueva-Bonilla. 2023. "Cognitive, Emotional, and Educational Interventions for Children in Early Childhood. Systematic Review." *Revista Ecuatoriana de Neurologia* 32(2):86-97. doi:10.46997/revecuatneurol32200086.
- 26. Patricia, Castro Cárdenas Mirian, and Cevallos Cedeño Ángela María. 2021. "Brain stimulation and its influence on the learning of preschool children". 6(1). doi:10.5281/ZENODO.5512747.
- 27. Perpignan, Dr. Magalis Puente, and Dr. Aritza Suastegui Pando. 2020. "Influence of early stimulation on the psychomotor development of infants". 24(6). doi:On-line ISSN 1029-3019.
- 28. Ramos, Félix Lázaro Huepp, and Miladis Fornaris Méndez. 2022. "Early stimulation for child development The early stimulation for the childhood develop". https://www.redalyc.org/journal/4757/475769312006/html/
- 29. Redondo Redondo, Ciro Ernesto, Erika Yamila Melo-Romero, and Claudia Daniela Arias Muñoz. 2024. "Intervention program for the stimulation of socio-emotional competencies in children and adolescents". *European Public & Social Innovation Review* 9:1-22. doi:10.31637/epsir-2024-1053.
- 30. Rubio-Hernández, Francisco José. 2023. "Parental education programmes for parents with children up to six years of age. A systematic review". *Estudios pedagógicos (Valdivia)* 49(2):47-66. doi:10.4067/S0718-07052023000200047.
- 31. Sagnay Illapa, Beatriz Edelina. 2024. «Neurodidactics and its impact on child development». *Universidad Ciencia y Tecnología* 28(125):88-96. doi:10.47460/uct.v28i125.858.
- 32. Salto Cubillos, Mónica Alexandra, Tania Monserrath Calle García, Omar Paul Segarra Figueroa, and Johana Fernanda Tapia Urgiléz. 2024. "Child development from 0 to 5 years old in a contemporary and reflective view". Revista Scientific 9(31):22-45. doi:10.29394/Scientific.issn.2542-2987.2024.9.31.1.22-45.
- 33. Sandoval Figueroa, Carmen Maria, Flor Quispe Román, Rosa Ludeña Bazán, and María Galván Bermúdez. 2023. "Linked to Early Childhood: Systematization of an Experience of University Social Responsibility in the Context of the Pandemic". *Journal of Studies and Experiences in Education* 22(49):370-88.

Doi:10.21703/rexe.v22i49.1427.

- 34. Simbaña-Haro, Mario. 2023. "Early Childhood: Modalities of Care and Education in Latin America". *593 Digital Publisher CEIT* 8(6):236-53.
- 35. doi:10.33386/593dp.2023.6.2095.
- 36. Solís, Catalina Shirle Morán 2018. n. f. «SCENARIOS FOR ATTENTION». 2018 10(4):231-38. http://rus.ucf.edu.cu/index.php/rus
- 37. Soplin Rios, Judith Alejandrina, Melva Hernández García, Vanessa Cristabel Torres Namoc, and Rosely Denisse Espinoza Vásquez. 2022. "Early stimulation: its importance for children under three years of age". *Paidagogo* 4(1):85-102.
- 38. doi:10.52936/p.v4i1.105.
- 39. Suárez-Villa, Mariela, Yeis Miguel Borré-Ortiz, María Yaquelín Expósito, y María Del Carmen Pérez Almagro. 2021. «Educational practices in health: fundamental axis

- in the development of early childhood in integral development centers». *Salud Uninorte* 36(1):325-41. doi:10.14482/sun.36.1.155.412.
- 40. Torres Díaz, María Malena. 2024. "Early care in children with neurodevelopmental disorders in Ibero-America 2018-2022. A systematic review: Early Care in Children with Neurodevelopmental Disorders in Ibero-America 2018-2022: A Systematic Review". *Scientific Magazine* 9(31):230-50. doi:10.29394/Scientific.issn.2542-2987.2024.9.31.11.230-250.
- 41. Vaca Escobar, Patricio Neptali. 2025. "Contributions of early stimulation in the social and motor development of young children in children's centers". *Bastcorp International Journal* 4(1):429-39. doi:10.62943/bij.v4n1.2025.268.
- 42. Vélez Mendoza, Licette Diana, and Hipatia Alexandra Meza Intriago. 2025. "Early intervention strategies to promote language development in children in early education". *Multidisciplinary Scientific Journal SAPIENTIAE* 8(16):265-86. doi:10.56124/sapientiae.v8i16.015.
- 43. Vergara, Hugo Gabriel Angulo, Ángel Alipio Aguayo García, Gema Betzabeth Farfán Meza, and Senia Verónica Delgado Álvarez. 2020. "ANALYSIS OF INTEGRAL CHILD DEVELOPMENT FROM THE PERSPECTIVE OF PLAYFUL ACTIVITIES AT THE PRESCHOOL LEVEL". . . pp. 5(2). http://scielo.senescyt.gob.ec/scielo.php?script=sci\_arttext&pid=S2550-65872020000200045
- 44. Vicente, Jéssica Batistela, Talita Cristina Pegorin, Ana Laura De Oliveira Santos, and Maria De La Ó. Ramallo Veríssimo. 2023. "Child Development Interventions Based on the Touchpoints Model: Scoping Review." *Revista Latino-Americana de Enfermagem* 31:e4034. doi:10.1590/1518-8345.6732.4034.