

Pedagogical strategy for the comprehensive care of children diagnosed with stuttering in primary education

Estrategia pedagógica para la atención integral a niños diagnosticados con tartamudez en la enseñanza primaria

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ABSTRACT

Background: results from studies and everyday practice have demonstrated the need for comprehensive actions in the treatment of stuttering in primary education.

Objective: to design a pedagogical strategy for comprehensive and interdisciplinary care for children diagnosed with stuttering in primary education.

Methods: a qualitative research study was conducted between September 2021 and December 2024 at the "Marta Abreu" Central University from Las Villas in coordination with the Municipal Public Health entity of Santa Clara, Villa Clara. Theoretical methods were used: analytic-synthetic, inductive-deductive, historical-logical, systemic approach, and modeling; and empirical methods: document review, observation, survey, in-depth interview, methodological triangulation, and expert criteria. Mathematical processing was used and data are expressed in figures.

Results: deficiencies were found in the understanding of stuttering (dysfluency) and in the procedures or skills for its treatment, the existence of attitudes that do not correspond to the child's needs, and a separation between the work of the speech therapist from the school and the phoniatrician from the healthcare area.

These findings motivated the design of a pedagogical strategy for comprehensive care in primary education, which was evaluated using expert criteria.

Conclusions: the designed pedagogical strategy offers a new vision by proposing stages and comprehensive actions based on the involvement of the speech therapist and the phoniatrician in primary education. It was accepted for its methodological rigor by the consulted specialists.

MeSH: stuttering; strategies; quality of life; education, higher; education, medical

RESUMEN

Fundamento: los resultados de estudios y la práctica cotidiana han demostrado la necesidad de realizar acciones integrales para el tratamiento de la tartamudez en la enseñanza primaria.

Objetivo: diseñar una estrategia pedagógica para la atención integral e interdisciplinaria a niños diagnosticados con tartamudez en la enseñanza primaria.

Métodos: se realizó una investigación cualitativa, entre septiembre 2021-diciembre 2024, en la Universidad Central "Marta Abreu" de Las Villas en coordinación con la entidad de

Salud Pública Municipal de Santa Clara, Villa Clara. Se emplearon métodos teóricos: analítico-sintético, inductivo-deductivo, histórico-lógico, enfoque de sistema y la modelación; y empíricos: revisión documental, observación, encuesta, entrevista en profundidad, triangulación metodológica y el criterio de especialistas. Se utilizó el procesamiento matemático y los datos se expresan en figuras.

Resultados: se constataron deficiencias en el dominio de la tartamudez o disfemia y en los procedimientos o habilidades para su tratamiento, la existencia de actitudes que no se corresponden con la necesidad del niño y la separación de la labor del logopeda y el foniatra del área de salud; lo que motivó el diseño de una estrategia pedagógica para su atención integral en la enseñanza primaria, la cual fue valorada por criterio de especialistas.

Conclusiones: la estrategia pedagógica diseñada ofrece una nueva visión al proponer etapas y acciones integrales desde la incidencia del logopeda y el foniatra en la enseñanza primaria. Fue aceptada por su rigor metodológico por los especialistas consultados.

DeSC: tartamudeo; estrategias; calidad de vida; educación superior; educación médica

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INTRODUCTION

Among the innumerable achievements of Cuban education, reiterated in the Third Educational Improvement, the importance given to differentiated attention to special educational needs (SEN) with emphasis on language and oral communication disorders stands out.

Stuttering or dysfluency is present in various social groups: cultural, racial, ethnic, and economic. It is defined as a fluency disorder of speech that affects communication. It is complex and can pose a significant challenge for many speech-language pathologists

(speech therapists) and other health and education professionals. It manifests mainly as speech with interruptions and alterations in fluency that affect the continuity, speed, and rhythm of discourse. Repetitions of sounds, words, or phrases, sound prolongations, blocks or pauses are observed, and all this may be accompanied by involuntary movements associated with speech, and signs of effort.⁽¹⁾

It is considered an alteration in fluency and speech pattern inappropriate for the child's age and language skills; it affects communication -a necessary condition for their existence-social interaction, and comprehensive preparation for life.⁽²⁾ This variation in speech shows that a person blocks on words, repeating a vowel or being unable to pronounce them.

Students with dysfluency experience great social pressure, which is why their abilities may be inhibited from developing to their full potential. They express themselves with negative emotional reactions: anxiety, escape behaviors, avoidance of certain situations, withdrawal, depression or stress, shyness, hesitation, indecision, insecurity, inclination towards self-analysis, general restlessness, and fear of certain people and speech sounds.⁽³⁾

The attention to stuttering has a multidisciplinary and interdisciplinary character, offering a wealth of profound pedagogical and clinical research with multiple outcomes to reach a corrective and/or compensatory treatment, in addition to providing knowledge about the emergence of the disorder and all its conceptualization.

Consequently, the Ministry of Education (MINED) and the Ministry of Public Health (MINSAP) guide joint work to materialize the necessary multidisciplinary and interdisciplinary character, materialized in agreements and based on the humanistic nature of society, the care for childhood and youth, and the fulfillment of the purposes of the Convention on the Rights of the Child, endorsed in Article 294, Chapter V of Decree-Law No. 25 of 2020.⁽⁴⁾

From the pedagogical area, stuttering should be attended to by the Speech-Language Pathology specialist (speech therapist), who should diagnose and carry out the Comprehensive Educational Care (AEI) with the active participation of the rest of educational agents, through guidance and dynamic treatment for the student. In the health area, it will

be attended to in specialized Phoniatics consultations, where the disorder will also be diagnosed and guidance will be provided to the family and educational agents for its treatment.

Despite the existence of an agreement between both sectors, deficiencies are observed in the joint work of the speech therapist and the phoniatician in their multi-directional actions, as sometimes the health specialist detects the disorder and the family attends the clinical consultation on their own, without informing the school of the guidance offered by the health specialist based on the speech therapist's comprehensive diagnosis. This causes a lack of control in the comprehensive treatment of the child, impacting the school group, teachers, family, family doctor, school institution, and community. Therefore, the objective of this research is: to propose a pedagogical strategy for the comprehensive care of children diagnosed with stuttering in primary education.

METHODS

This qualitative research was conducted between September 2021 and December 2024 at the Universidad Central "Marta Abreu" de Las Villas and the Municipal Public Health entity of Santa Clara, Villa Clara, Cuba. The population consisted of five students with stuttering in different grades from the "Hurtado de Mendoza" primary school in the aforementioned city.

Methods from the theoretical level were employed:

Analytic-synthetic: allowed obtaining general knowledge about stuttering, its possible causes, typologies, and manifestations, and synthesizing information from applied instruments and reviewed literature.

Inductive-deductive: made it possible to determine the understanding of stuttering in children with this special educational need and the procedures and attitudes of teachers and family; to arrive at generalizations and the conception of the pedagogical strategy.

Historical-logical: facilitated the study of the evolution and historical development of stuttering and the changes that can occur with integrative actions.

Systemic approach: facilitated the establishment of the stages and actions of the pedagogical strategy.

Modeling: its use contributed to shaping the pedagogical strategy for the comprehensive care of children diagnosed with stuttering.

From the empirical level:

- Document analysis: of the Primary Education Curriculum Plan, Guidelines related to SEN of the National Education System, their treatment in primary education, and patient clinical histories.
- Observation: to observe the behavior of children with stuttering and the students in the groups where they are integrated.
- In-depth interview with family members: allowed determining the knowledge, skills, and attitudes of families regarding stuttering.
- Questionnaires to involved teachers: helped verify teachers' opinions about the knowledge, skills, and attitudes they should possess regarding stuttering.
- Expert criteria: a total of 13 specialists with over 15 years of experience were consulted; psycho-pedagogues, speech therapists, phoniaticians, doctors (in medicine and pedagogical sciences), master's degree holders, graduates, all with principal teaching categories, to evaluate the accessibility, relevance, design, and methodological rigor of the pedagogical strategy for comprehensive care of children diagnosed with stuttering.
- Methodological triangulation: facilitated the determination of strengths and deficiencies related to stuttering from the methods used.

As dimensions to determine the current state of stuttering, the following were indistinctly considered in the methods:

Cognitive dimension

- Knowledge about stuttering
- Knowledge of procedures to prevent or treat it

Procedural dimension

- Skills or abilities for the treatment of stuttering

Attitudinal dimension

- Disposition for the treatment of stuttering

Based on the results (strengths and deficiencies) of the employed methods and considering the theoretical criteria of De Armas *et al.*,⁽⁵⁾ a pedagogical strategy for the comprehensive care of children diagnosed with stuttering in primary education is proposed. It is to be developed in four stages with their respective short, medium, and long-term actions, with the uniqueness of its execution from all educational spaces, from the logo/phoniatriy laboratory, under the supervision of the involved specialists.

The conception and design of the strategy start from diagnosing the current state of the problem, which enables the planning, implementation of actions, and their evaluation.

In the diagnosis, document review, observation, in-depth interview, survey, and methodological triangulation were carried out, all of which contribute to determining the level of knowledge, skills, and attitudes regarding stuttering.

In the planning, integrative, specific, and joint actions between the speech therapist and the phoniatrician (from the health area) towards the institution's teachers, the family, the diagnosed students, the school group where they are integrated, the institution, and the community were projected.

The implementation was carried out in spaces and schedules conceived and agreed upon by the speech therapist and the phoniatrician, prior agreement with the school institution and the health specialist's schedule.

The evaluation of the design and methodological rigor of the pedagogical strategy for the comprehensive care of diagnosed children was carried out using expert criteria, considering the procedure proposed by Portal Iznaga⁽⁶⁾ for evaluating a theoretical-methodological conception for the development of civism in the Bachelor of Education, through actor criteria.

Thirteen professionals with over 15 years of experience were selected through non-intentional probabilistic sampling: psycho-pedagogues, speech therapists, phoniaticians, doctors (in medicine and pedagogical sciences), master's degree holders, graduates, all with principal teaching categories. Two instruments were provided to them: one for self-evaluation, proposed by López Fernández,⁽⁷⁾ -related to experts and foresight in pedagogical research-, to determine the specialist condition; and another to evaluate the design and the proposal in general based on indicators of methodological rigor: dependence, credibility, auditability, and transferability.

Ethical considerations

In the Helsinki assembly, Finland, October 2024, its principle seven establishes the main objective of research involving human participants: to generate knowledge to understand the causes, development, and effects of diseases; to improve preventive, diagnostic, and therapeutic interventions and ultimately, to promote individual and public health. In this sense, the authors adhere to this precept and consent was also requested from all participants in this research.

RESULTS AND DISCUSSION

In the diagnosis of the current state of the problem, the documentary review of the Primary Education Curriculum Plan refers to the comprehensive formation of the personality of all students, attention to their differences, and respect for all. Similarly, the Guidelines for all educational levels related to SEN in the National Education System guide actions to be developed for the care of children diagnosed with stuttering.

The care provided by the health specialist is reflected in the clinical histories; however, the speech therapist's guidance is not recorded.

The observation of students diagnosed with stuttering is directed at verifying manifestations of dysfluency and their behaviors; repetitions of sounds, words, syllables, or phrases, prolonged sounds, pauses, and silences, manifestations of withdrawal, shyness, and little communication with classmates were observed.

In the groups where students with stuttering are integrated, little mastery regarding knowledge was observed, and communication relationships were altered as anxiety prevails for them to finish speaking; affectively, mockery and bullying by some students towards them were manifested.

These results coincide with the research of Díaz-Rodríguez *et al.*,⁽³⁾ who conducted a study on authentic leadership as a method for the cohesion of students with dysfluency, in which a similar situation is observed with these students by their group peers in the school institution with negative emotional reactions in the affected ones: anxiety, escape behaviors, avoidance of certain situations, withdrawal, and depression or stress; among others.

The in-depth interview with the family allowed determining that they do not know what stuttering or dysfluency is as a scientific term—they call it "stammering"; they recognize as symptoms: interrupted speech, repetitions, and mouth contractions, or both symptoms. They consider they should not do the following: overprotection, provoke anxiety, impatience, dramatism, and alarm about the child's way of speaking, interrupt them when speaking; they should reduce demands and not be excessively attentive to them.

To raise knowledge, skills, and improve attitudes towards this SEN, they suggest: the creation of a place where they are trained on the topic and activities to be carried out at home, with the intervention of education (speech therapist) and health (phoniatician) specialists jointly, not separately, the realization of individual and joint activities with the children, their groups and teachers, recommendations on how to act and what to avoid.

These elements harmonize with the studies of Méndez-Miranda *et al.*,⁽⁸⁾ who favorably contribute family guidance for the prevention of stuttering in the fourth year of life, from the diagnosis of families about this disorder by applying a survey, which differs from the method used in this research where a structured in-depth interview is used to listen to their assessments, their feelings, and the authors' perception.

The questionnaire to teachers revealed that 85% considered their knowledge inadequate and 15% rated them adequate; none placed them in very adequate; similarly regarding pedagogical skills for its treatment. However, 100% assured having a willingness to receive training, suggesting as methods: on-the-job training by the speech therapist and phoniatrician, workshops, and methodological work.

Methodological triangulation allowed determining as strengths: state interest in the comprehensive formation of all children and the existence of regulations that guide the Ministry of Education-Ministry of Health work regarding SEN.

As deficiencies, the following are synthesized: deficiencies in the understanding of stuttering or dysfluency, in the procedures or skills for its treatment, the existence of attitudes that do not correspond with the child's needs, and the separation of the work of the speech therapist and the phoniatrician from the health area.

Some of these aspects coincide with the studies of Ochoa Jiménez,⁽⁹⁾ who presents a systematization about stuttering, its deficiencies, and implications in the classroom, general knowledge, and pedagogical strategies that can be developed.

As a result of this research, the pedagogical strategy is assumed as the projection of pedagogical direction that allows achieving a goal and transformations, with the establishment of short, medium, and long-term actions, aspects compatible with the judgments of Rodríguez del Castillo *et al.*,⁽¹⁰⁾ who socialize the general characteristics that a strategy as a scientific result in educational research should possess.

Pedagogical strategy for the comprehensive care of children diagnosed with stuttering in primary education

In the design of the strategy, four stages are considered, with a set of sequential and interrelated actions that, starting from the diagnosis, allow guiding the step to the expected state, a consequence of planning, implementation, and its evaluation, as illustrated in Figure 1.

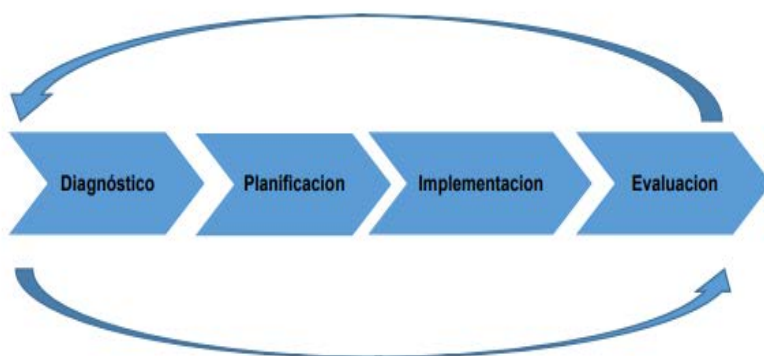


Fig. 1. Modeling of the stages of the pedagogical strategy for the comprehensive care of children diagnosed with stuttering in primary education

Source: own elaboration

An analogous study is contributed by García Manso⁽¹¹⁾ with a pedagogical strategy for speech-language care for university students diagnosed with stuttering, from the extensionist space, as a solution to the high incidence of language and communication disorders in students at this educational level; in her diagnosis, she found insufficient information in regulatory documents regarding the use of methods, procedures, activities, actions to organize and support speech-language care for university students who present a diagnosis of stuttering. In this aspect, it differs in this research, as in primary education there are general specifications. Furthermore, García Manso⁽¹¹⁾ points out the limited use of the strengths of the community speech-language pathology cabinet, which exists at this level, for the care of university students diagnosed with stuttering.

Objective of the pedagogical strategy

To contribute to the comprehensive and interdisciplinary care of children diagnosed with stuttering in primary education, which allows projecting this process in said educational level, from the establishment of actions that stimulate the transformation in the diagnosed children, from the real state to the desired state and the development of their personality.

Foundations of the pedagogical strategy

It is philosophically based on the analysis of the educational reality with a systemic and diverse approach; in the complexity of the speech-language pathology care process for primary school children diagnosed with stuttering within the framework of their social relationships.

From the pedagogical point of view, it is supported by the valuable advanced Cuban pedagogical thought in all stages and the need to educate all without distinction. Sociologically, it assumes that the linkage of socializing agents in achieving a quality speech-language pathology process, jointly with the health specialist, is a contemporary demand; so that family, teachers, school, and community can fulfill their role.

It is psychologically based on Vygotsky's postulates about the historical-cultural approach, in understanding the complex, dynamic, harmonious role of personality and the conception of respect for student diversity.

The pedagogical strategy is characterized by being:

- Contextualized. Responds to the specific needs of children diagnosed with stuttering.
- Participative and multi-directional. The speech therapist, phoniatrician, students, groups, teachers, family, school institution, and community members intervene.
- Flexible. If necessary, actions can be inserted or changed.
- Intersectoral. There is a link between education and health with common elements in the actions of the speech therapist and the phoniatrician, and at the same time actions that are specific to each specialist without losing their identity or specificity; it

may include specialists from the area of physical culture and sports, culture in general, and other community actors.

Planning of actions

Actions to be executed are conceived based on the results in the diagnosis. It aims to project the comprehensive actions to be executed in the short, medium, and long term: by the speech therapist and the phoniatician, teachers, children, the school group, the institution, and the community, according to the context.

Comprehensive actions to be developed:

- By the speech therapist: comprehensive characterization of children with stuttering and provision of their information, explanation of Speech-Language Pathology approaches, modification of psycholinguistic habits, creation of communicative defense mechanisms in children, and design of actions for students with stuttering and the groups.
- The phoniatician: should focus on describing the child's language and speech in the first consultation to explore types of language, pharmacological treatment for diagnosed children who need it or referral to another specialist, improvement of dysphonias, aphonias, problems with rough or strained voice, and medical guidance to the speech therapist.
- Speech therapist-phoniatician, together: use of the integral method in the multidisciplinary and integrated action of doctors, psychologists, teachers, educators, speech therapists, family, and the environment surrounding the child, development of intersectoral meetings and workshops about stuttering, creation of a logo/phoniaticy laboratory for the care of children and family, joint participation in specialized visits of diagnosed children and characterization in clinical histories. Additionally, preparation of teachers and families through guiding workshops and in family education spaces and development of research from case studies.
- Teachers: explain the need to develop sensitivity in the student collective in seeking the integration of children with stuttering or dysfluency or another SEN of any student, use didactic material for self-preparation, and participate in guiding and methodological workshops addressing stuttering or dysfluency and in logo/phoniaticy laboratory spaces

when necessary. They should proceed to use rhymes, poems, songs, and thematic axes to facilitate the corrective work of the speech therapist and phoniatrician, and the possibilities provided by curricular and extracurricular pathways.

Related to the previous action, the research results of Hierrezuelo Coroneaux,⁽¹²⁾ unlike this pedagogical strategy of an integrative and interdisciplinary nature, are directed only at preparing the speech therapist teacher in the use of psychotherapeutic techniques for students with stuttering, within the framework of the first cycle of initial education.

- The family: information on the comprehensive diagnosis of the child with stuttering, characterization of symptoms of different types of dysfluency, participation in logophoniatry cabinet or laboratory spaces when summoned, conducting interventions in the treatment of topics in family education school, use, if necessary, of "complementary" medicine, floral therapy as an alternative that improves stuttering in primary school children facing negative moods, for example: insecurity, panics, impatience, bad mood, etc., in correspondence with the studies of Lemoine Falagan *et al.*⁽¹³⁾ who propose floral therapy as an alternative for children with language disorder (stuttering), very important and viable in the current context of medical development to avoid resorting to traditional pharmaceuticals.

The incorporation of the family into orientation workshops is also important, compatible with this action, with the research of Figueroa Valdivia⁽¹⁴⁾ aimed at preparing families in correcting optical dysgraphia in second-grade students from those workshops.

It is included, therefore, as a group modality this interactive space in the family group, through techniques and methods for reflection, self-preparation through a family orientation manual (prepared by the speech therapist and phoniatrician) guiding and stimulating language, which includes recommendations of correct attitudes to treat stuttering, rejection of those that are harmful to its treatment, a variety of gymnastic (respiratory) exercises, varied repertoire of rhymes, sayings, poems, games, and manual work activities that allow developing language and adequate emotions.

- The children: reflective, diverse, psychological methods will be combined, therapeutic use of music, singing, rhythmic language, theater, painting, and dance, treatment of different forms of language in stages, use of a self-therapy program to reduce fears and avoidance behaviors of speech situations, performance of activities for breathing such as: blowing candles, inflating balloons, and extinguishing matches. Perform high-volume reading with intonation, oral narrations supported by story sheets of their interest for oral fluency and vocabulary, didactic use of games, activities that produce pleasure for children, and use of VIDEOVOZ language visualizers.
- School group: conducting workshops, educational talks, and exchanges with groups where children diagnosed with stuttering are included, contests about the importance of respect and coexistence, use of the potential of components of musical education, singing, rhythmic, body expression, creation and improvisation to develop feelings of solidarity and respect, development of exhibitions on International Language Day and International Voice Day (April 16), and elaboration of a group catalog on how to approach this SEN.
- Institutions: collaboration of both specialists in designing the school's educational project with actions for the correct use of language and their participation in the pedagogical handover in each of the cycles where there are diagnosed children.
- Community: conception of joint activities promoting health problems of the school institution with benefits for both, and activities of community organizations in support of the logo/phoniatriy cabinet or laboratory.

Implementation of the strategy

Actions will be implemented in spaces conceived by the speech therapist and phoniatrian with a comprehensive conception. The logo-phoniatriy cabinet or laboratory will direct actions for the treatment of stuttering in children, although other educational spaces are proposed. Other actions according to the context may be redesigned.

Evaluation of the strategy

The conformation, design of each of the stages, and methodological rigor were evaluated as very adequate. Specialists opined that the pedagogical strategy possesses dependence or logical consistency, as different researchers can collect similar data in the field and perform

the same analyses generating equivalent results; it possesses credibility, hence auditability or confirmability is corroborated. It is transferable or applicable as there is the possibility of extending the study's results to other populations. They express concern that the phoniatrician does not belong to the school institution, which requires specifications in the Ministry of Education-Ministry of Health agreement to perform their role in an integrative proposal for the treatment of stuttering.

Scientific contribution

A pedagogical strategy for the comprehensive care of children diagnosed with stuttering in primary education is contributed, with short, medium, and long-term actions; in four stages from all educational spaces, directed from the logo/phoniatry cabinet or laboratory.

CONCLUSIONS

A pedagogical strategy for the comprehensive care of children diagnosed with stuttering was designed with a new vision by proposing stages and comprehensive actions from the involvement of the speech therapist and the phoniatrician in primary education, which was rated as very adequate by the consulted specialists.

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Interest declaration

The authors declare no conflict of interest.

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