Optimizing Cerebral Palsy Children's Health Intelligence Through the Rori Algorithm Approach

Nilawati Tadjuddin*
Univeritas Islam Negeri Raden Intan Lampung
INDONESIA

Deri Firmansah
Universitas Islam Negeri Raden Intan Lampung
INDONESIA

Shoffi Maulia Sari
Universitas Islam Negeri Raden Intan Lampung
INDONESIA

Nahlaaisyah
Universitas Islam Negeri Raden Intan Lampung,
Indonesia

Article Info	Abstract
	This study examines the implementation of the RORI Algorithm (Responsive–Observative–Reflective–Integrative), a four-stage therapeutic approach designed to help caregivers identify the needs of children with Cerebral Palsy (CP) and develop applicable home-based interventions. The research aimed to explore its application in educational services for children with CP in Lampung, Indonesia, and to assess its contribution in addressing the shortage of educators and promoting equitable access to inclusive education. The study was conducted from June to September 2024 in Bandar Lampung, South Lampung, and Pesawaran, with the main activities centered at Arrusydah II Kindergarten. Participants included children with CP, parents, teachers, and caregivers from the CP community, selected purposively and verified through observation. Findings indicate that the RORI Algorithm effectively stimulates cognitive functions, strengthens motor coordination, and enhances children's participation in therapy and inclusive learning activities. The method offers adaptive interventions that support caregivers and reinforce inclusive education. The RORI Algorithm holds potential for broader application as a holistic approach to improving the quality of life for children with CP, with recommendations for further large-scale research.

INTRODUCTION

Inclusive education is a strategic effort to ensure the rights of children with special needs (CWSN) to receive equitable and meaningful education (Nugraheni et al., 2022). One group of CWSN that often experiences limited access to education is children with Cerebral Palsy (CP) (Rahman et al., 2024). Cerebral Palsy is a neurological condition that affects movement, muscle tone, and body coordination due to brain damage that occurs before, during, or after birth (Esra & Gessal, 2022; Rosdiana et al., 2023). Children with special needs, such as those with CP, continue to face serious challenges in accessing adequate education in Indonesia (Faisyahril et al., 2023; Nursuada et al., 2024). Cerebral Palsy is a permanent neurological disorder that affects movement and muscle coordination, often accompanied by cognitive and sensory impairments (Sopandi & Nesi, 2021). In practice, children with CP require an educational approach that is not only academically adaptive but also integrated with consistent therapy and emotional support (Zakiyah, 2024).

One aspect that has received relatively little attention in the education of children with Cerebral Palsy (CP) is the optimization of health intelligence, which refers to a child's ability to

recognize, respond to, and manage their bodily condition and overall health in a functional manner. The development of health intelligence in children with CP remains limited, both in inclusive education curricula and in daily therapeutic practices. If this aspect is not optimized from an early age, children with CP risk experiencing long-term dependence in performing basic daily activities and may face difficulties in participating in the learning process. In Indonesia, studies that specifically address systematic strategies for enhancing health intelligence in children with CP remain relatively scarce. For children with CP, this aspect includes the ability to recognize body positioning, regulate movement, and understand as well as perform care routines either independently or semi-independently. According to Rakesh et al. (2024), strengthening health intelligence from an early age can improve quality of life and accelerate a child's adaptation to social and educational environments. This is further supported by Haby et al. (2023), who state that health intelligence serves as a bridge between physical capacity and functional independence within the context of inclusive education.

According to data from the World Health Organization (WHO), approximately 2 to 2.5 per 1,000 live births are diagnosed with Cerebral Palsy (Gayatina et al., 2024). In Indonesia, based on data from the Data and Information Center of the Ministry of Health in 2022, the number of children with CP continues to rise, with an estimated total of more than 500,000 cases nationwide (Rahayuwati et al., 2022). In Lampung Province, inclusive education institutions capable of providing comprehensive services for children with CP remain limited (Setiahati et al., 2024). Field observations and information from the Social Affairs Office and the Education Office indicate that schools in various regencies such as East Lampung, Way Kanan, and Tulang Bawang, still face a shortage of educators with a special education background or specific training in handling CP (Nasution et al., 2024). Meanwhile, the number of children with CP requiring educational services continues to grow in line with the increasing number of reported cases and heightened parental awareness of the importance of education (Mardiansah et al., 2024).

The main challenges in inclusive education for children with CP in Lampung are the shortage of professional educators and the limited availability of adaptive learning methods that actively involve caregivers. Several previous studies, such as the research conducted by Munawar, suggest the need for alternative approaches in educating children with CP, which do not solely rely on the role of professional teachers but also engage families and caregivers. In regions with limited human resources, such as Lampung, this need becomes increasingly urgent (Munawar, 2022). Maulidin's research indicates that active parental involvement in the learning process of children with special needs can significantly enhance their motivation and academic achievement (Maulidin, 2024). Furthermore, a study by Ningsih et al. revealed that collaboration among teachers, therapists, and families has a positive impact on the development of social skills and independence in children with cerebral palsy (Ningsih et al., 2025).

Nevertheless, although various approaches to educating children with Cerebral Palsy emphasize medical and pedagogical interventions by professionals, there is still a lack of studies that develop algorithm-based models designed to be implemented by caregivers or non-professional educators particularly in regions with limited human resources and access to inclusive services, such as Lampung Province. This highlights a research gap, especially in developing methods that can empower individuals outside the formal teaching profession to play an active role in inclusive education. One innovative approach developed to address this challenge is the RORI Algorithm Method. This approach is the result of an interdisciplinary integration between special education and adaptive learning technology, grounded in the concepts of pattern recognition, functional observation, and intervention responses based on a child's individual profile. RORI stands for Responsive–Observative–Reflective–Integrative, representing the four stages in the therapeutic algorithm that enable caregivers to identify the specific needs of children with CP and to design applicable intervention steps at home.

The study conducted by Paramesti et al., is among the early research works relevant to addressing the urgency of the RORI Algorithm approach as a solution for interventions with children with Cerebral Palsy (Paramesthi et al., 2021). In that study, online training using the *Friendly Brain–Heart Education* approach which is conceptually aligned with RORI successfully improved caregivers' skills by up to 90%, particularly in understanding the needs of the child and performing intervention procedures independently. These findings indicate that an algorithm-based approach can have a significant impact and can be adapted by non-professional caregivers. Therefore, this research

reinforces the need for further investigation into the effectiveness of the RORI Algorithm, particularly in the context of empowering families and ensuring equitable access to inclusive education in regions with a shortage of professional educators, such as Lampung.

The RORI Algorithm Method emerges as an alternative approach designed to map the individual characteristics of children with CP and develop responsive learning and intervention strategies. This approach combines elements of observation, behavioral pattern analysis, and actionable recommendations that can be implemented by caregivers or educators without professional training. Although it has been tested on a limited scale, there has been no in-depth academic study on its application in regions such as Lampung, where the shortage of inclusive educators and limited access to therapy remain major challenges.

Based on this background, three research questions are formulated: (1) How is the RORI Algorithm Method applied to enhance the health intelligence potential of children with Cerebral Palsy in the Lampung region? (2) How does the RORI Algorithm Method empower non-qualified caregivers to conduct independent home-based therapy for children with CP? (3) What is the contribution of the RORI Algorithm Method in supporting the implementation of inclusive education for children with Cerebral Palsy in Lampung Province?

This study aims to examine the application of the RORI Algorithm Method in educational services for children with Cerebral Palsy in Lampung, as well as to assess the extent to which this method can address the shortage of educators and promote equitable access to inclusive education services. The expected benefits of this research are to contribute to the development of alternative educational models for children with CP, to provide empirical evidence on the effectiveness of the RORI Algorithm Method that can be utilized by educational institutions and families, and to encourage the formulation of inclusive policies that involve community participation, particularly caregivers.

The urgency of this research lies in the fact that children with Cerebral Palsy in various regions of Lampung have yet to receive appropriate educational services due to the limited number of teachers and the lack of learning methods that support their condition. Considering that education is a fundamental right of every child, adaptive and applicable approaches such as the RORI Algorithm have become an urgent necessity. The novelty of this study lies in the development and application of an algorithm-based method designed for use by non-professional educators in the context of educating children with Cerebral Palsy. To date, there has been little research that systematically addresses such an algorithmic model, particularly in regions with limited resources such as Lampung Province.

METHOD

This study employs a qualitative research approach aimed at providing an in-depth and holistic description of phenomena experienced by children with special needs (CWSN), particularly those with Cerebral Palsy (CP). This approach enables the researcher to understand the social context, emotional experiences, and real-life interactions of children with CP, their parents, and teachers in daily life. Qualitative research produces data in the form of written or spoken words from informants and observable behaviors (Hadi et al., 2020). Therefore, this approach was chosen because it is capable of capturing the deeper meanings of the intervention process without limiting the subjects to specific statistical variables or predetermined quantitative hypotheses.

This research was conducted in Lampung Province, focusing on three areas: Bandar Lampung City, South Lampung Regency, and Pesawaran Regency. One of the main locations for training and intervention activities was TK Arrusydah II in Kedamaian, Bandar Lampung. The series of research activities took place from June 30 to September 2024. The study population consisted of children with Cerebral Palsy who are members of the CP community in Lampung Province. The sample was selected purposively through direct coordination with the head and secretary of the CP community. The research subjects included children with CP, parents, teachers, and caregivers actively involved in the training and implementation of the RORI Algorithm Method. The researcher ensured the appropriateness of the sample through preliminary observations and direct verification in the three focus areas of the study.

This study utilized two types of data: primary and secondary. Primary data were obtained directly from interactions with children with CP, parents, and teachers through interviews, participatory observations, and Focus Group Discussions (FGDs). These data contained information on the physical, cognitive, social, and emotional conditions of children with CP, as well as their responses to the RORI Algorithm Method. Meanwhile, secondary data consisted of supporting documents such as scientific journals (including SINTA-indexed journals), books, training records, activity documentation, and therapy implementation archives.

Data collection was carried out using four main techniques. First, FGDs were conducted to explore the collective perspectives of parents and teachers regarding the effectiveness of the RORI Algorithm Method. Second, semi-structured interviews were employed to obtain in-depth data on parents' experiences in accompanying children with CP during the therapy process. Third, participatory observation was conducted with the researcher directly involved in therapy activities and the daily lives of children with CP to observe changes that occurred. Fourth, documentation was used to collect photographs, videos, activity reports, and other relevant archives as complementary data.

Data analysis was conducted using the Miles, Huberman, and Saldaña model, which comprises three components: (1) Data reduction, the process of sorting and simplifying data from interviews, observations, FGDs, and documentation so that the analysis focuses on the core research issues; (2) Data display, presenting data in the form of tables, matrices, or descriptive narratives to reveal patterns, relationships, and trends in the findings; and (3) Conclusion drawing and verification, an interpretive process carried out progressively and verified through triangulation of sources and methods to produce conclusions that are valid and defensible.
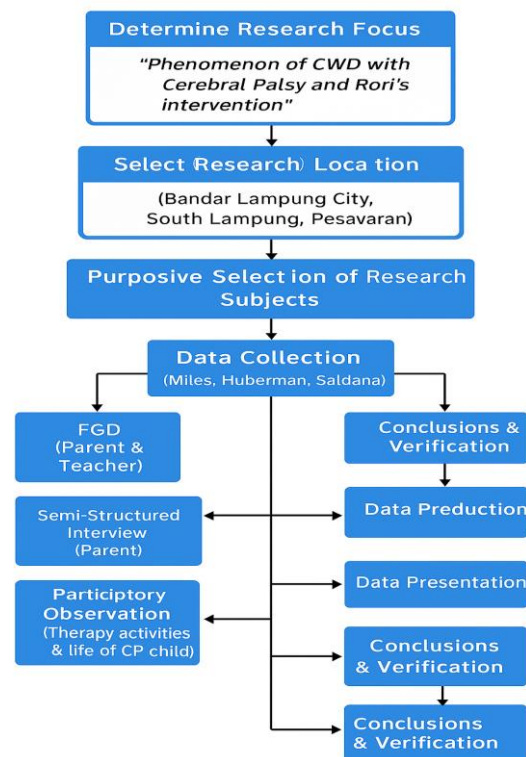

Figure 1. Flowchart of the Qualitative Research Procedure on RORI Intervention for Children with Cerebral Palsy

In Figure 1, it is clearly illustrated that the research process begins with determining the research focus, which addresses the phenomenon of children with special needs (CWSN) with Cerebral Palsy (CP) and the implementation of the RORI intervention. Once the focus is established, the researcher selects the research locations, covering three areas: Bandar Lampung City, South Lampung, and Pesawaran. Subsequently, purposive sampling is conducted, involving CP children, parents, teachers, and caregivers relevant to the research focus. Prior to data collection, the researcher conducts preliminary observations and subject verification to ensure suitability. Data collection is carried out through various methods, including Focus Group Discussions (FGD) with

parents and teachers, semi-structured interviews with parents, and participatory observations of therapy activities and the daily lives of CP children. All collected data are then analyzed using the Miles, Huberman, and Saldaña approach, following the stages of data reduction, data display, and the continuous process of conclusion drawing and verification to ensure the validity of the findings.

RESULTS AND DISCUSSION

This study explores in depth the implementation of the RORI Algorithm method and examines changes in the condition of children with Cerebral Palsy (CP) before and after the intervention, based on the experiences of field participants. The findings are presented according to three main focal points: the enhancement of intelligence potential and health of CP children, the empowerment of non-qualified educators, and the contribution of this method in supporting the implementation of inclusive education in Lampung.

Implementation of the RORI Algorithm Method in Enhancing the Intelligence Potential and Health of Children with Cerebral Palsy in the Lampung Region

This study demonstrates that the consistent application of the RORI Algorithm Method has made a significant contribution to improving the intelligence potential and health of children with Cerebral Palsy (CP) in the Lampung region. The approach employed in this method is holistic, encompassing integrated stimulation of the children's motor, cognitive, and emotional aspects. In the motor domain, observational findings indicate improvements in movement coordination, muscle strengthening, reduction of tremors, and the ability to maintain body posture. The children have also begun to perform more purposeful movements and exhibit the ability to distinguish between the left and right sides of their bodies.

A comparison of conditions before and after the implementation of this method clearly highlights its significant impact. Prior to the intervention, the observed children with CP exhibited considerable limitations in motor control, such as the inability to maintain balance, high muscle stiffness, and minimal responsiveness to simple motor instructions. Following regular RORI therapy sessions, the children began to display more purposeful, flexible, and responsive movements. For instance, one child who previously could only sit with assistance is now able to maintain a sitting position independently for a longer duration. This indicates a progressive partial recovery of neuromotor functions.

This improvement indicates that the physical stimulation applied through the RORI Method is capable of activating neuromotor pathways that were previously weak or not functioning optimally. This finding is consistent with Ruswanti and Hasibuan, who state that the brain has the ability to adapt and form new connections through structured training, including in individuals with neurological disorders such as CP (Ruswanti & Hasibuan, 2025).

In the cognitive aspect, the children began to demonstrate an understanding of simple instructions, improved concentration, and gradual language recognition. Their responses to verbal stimuli also became faster and more targeted. Prior to the implementation of the method, most of the children had difficulty maintaining attention for more than two minutes and were unable to consistently recognize basic instructions. After the RORI intervention, they began to show signs of processing simple information, such as recognizing their own names, following one to two verbal commands, and displaying enthusiastic expressions during stimulation sessions. This serves as an early indicator of the activation of more optimal basic cognitive functions. This finding suggests an improvement in basic cognitive function as a result of balanced stimulation of the left and right brain hemispheres applied in this method (Fitriyanti et al., 2024). This enhancement also supports Vygotsky's view, as discussed in the study by Rahma and Rosita, regarding the zone of proximal development (ZPD), which posits that a child's cognitive development is optimized in an environment that is supportive and involves interaction with competent adults or caregivers (Rahma & Rosita, 2024).

In the emotional aspect, the children exhibited greater affective stability, becoming calmer, expressing emotions more consistently, and beginning to build social interactions with peers and caregivers. The safe and empathetic environment fostered during the RORI therapy sessions also contributed to these outcomes. Prior to therapy, many children experienced emotional tension,

marked by continuous crying, tantrums, or refusal of physical contact. After several weeks, they began to display more stable emotional expressions, such as smiling during interactions, spontaneously touching the caregiver's hand, and laughing when engaged in play. This improvement reflects strengthened feelings of security and the development of healthy attachments to their surrounding environment.

Physical touch, verbal attention, and consistent routines foster a sense of security that serves as a crucial foundation for developing healthy emotional attachments, aligning with attachment theory as described in the study by Koenarso et al. (2024). Furthermore, the use of multisensory stimulation, as emphasized by Novianti in the sensory integration theory, also strengthens emotional and behavioral regulation in children with CP (Novianti et al., 2020).

Positive impacts were also experienced by caregivers, including both parents and other guardians. The method was designed to be easily implemented at home without requiring professional expertise, with brief digital training enabling caregivers to understand and independently practice the therapy. Prior to receiving training, many caregivers admitted to feeling uncertain about providing appropriate stimulation and tended to adopt a passive role. Some even delegated the full responsibility for therapy to schools or specific institutions. However, after participating in digital training based on the RORI Method, they began actively documenting the child's progress, recording responses to each exercise, and developing their own daily routines. This reflects a significant transformation from a passive role to becoming the primary actors in the therapeutic process.

Active involvement of caregivers not only enhances the quality of stimulation received by the child but also boosts their confidence in fulfilling this role. This reinforces the self-efficacy theory presented in Rahayu et al., which states that an individual's perception of their own abilities greatly influences their engagement and consistency in taking action (Rahayu et al., 2023). This concept is also relevant to the principles of family-centered care, in which family involvement plays a crucial role in the success of interventions for children with special needs (Prasetia et al., 2022).

Contextually, the RORI Algorithm Method serves as an adaptive and relevant solution in regions such as Lampung, where access to conventional therapy services remains limited. With a design that is simple yet comprehensive, supported by community engagement, this approach aligns with the principles of community-based rehabilitation outlined by Hastono et al., which emphasize empowering communities in supporting children with special needs (Hastono et al., 2021).

Thus, the implementation of the RORI Algorithm Method has proven effective in holistically enhancing the motor, cognitive, and emotional aspects of children with CP, while simultaneously empowering caregivers to create an environment that supports the child's development. This success opens up broad opportunities to adopt the method as both an intervention strategy and a family empowerment approach in various regions with similar conditions.

The RORI Algorithm Method's Contribution to Empowering Caregivers Without Special Qualifications

This study clearly demonstrates that the RORI Algorithm Method makes a significant contribution to empowering caregivers to take a more active role in the therapy of children with Cerebral Palsy (CP), even without requiring formal qualifications or complex specialized training. The strength of this method lies in its ability to train caregivers with limited knowledge and resources to independently carry out therapy at home.

Caregiver empowerment is supported by the use of digital technologies such as video tutorials and e-books, which facilitate flexible and independent learning of simple yet effective therapy techniques. Many caregivers reported an increase in self-confidence after participating in this technology-based training, indicating that this method promotes the enhancement of self-efficacy, as explained by Afifah and Nasution, where direct experiences of success serve as a primary source for building self-belief in carrying out therapy (Afifah & Nasution, 2023).

The simplicity of the RORI Algorithm method, which incorporates light motor movement techniques, gentle touch stimulation, and activities that require no special equipment, makes it easily adoptable by caregivers without formal educational backgrounds in therapy. Digital materials in the form of video tutorials and e-books provide clear visual demonstrations, enabling caregivers to understand and effectively practice therapy techniques, as supported by the findings of Azizah and

Budijastuti (Azizah & Budijastuti, 2021). The flexible learning schedule offered by these digital media also greatly benefits caregivers who must balance caring for their child with other activities, allowing them to conduct therapy at any time according to their circumstances and capabilities.

Furthermore, the use of digital technology expands access to training, particularly for caregivers in remote areas who have long faced challenges in obtaining rehabilitation services. Downloadable training materials that can be used offline address limitations in internet connectivity as well as additional costs such as transportation and lodging. This approach supports the principle of health service inclusivity promoted by the WHO's Community-Based Rehabilitation (CBR), which emphasizes interventions that are accessible to and controlled by the community itself (Shumba et al., 2020). Moreover, the provided supporting applications enable caregivers to independently monitor their child's progress in motor, cognitive, and emotional aspects. This participatory monitoring approach aligns with the concept proposed by Ekaputri et al., which advocates for collaborative intervention evaluation between caregivers and professionals, thereby strengthening the family's role in therapy-related decision-making (Ekaputri et al., 2024).

The effectiveness of the RORI method is also evident in the consistency and sustainability of therapy that can be carried out at home without full dependence on professionals. Regular therapy in a familiar and loving home environment fosters a strong emotional bond between the child and the caregiver, as highlighted in the study by Panjaitan and Mansoer (2020). This positive and continuous interaction also reinforces Vygotsky's scaffolding concept, in which appropriate caregiver support enables the child to progress beyond their own limitations within the zone of proximal development (ZPD).

From a socio-economic perspective, this method has a significant impact in reducing the financial burden on families. Without the need to attend paid therapy sessions outside the home, families save on transportation, accommodation, and in-person training costs, while gaining greater control over therapy schedules and quality. This aligns with the health empowerment model described by Vilasari et al. (2024), which emphasizes active individual participation in health maintenance to improve overall well-being.

Overall, the RORI Algorithm method, when combined with digital technology, not only addresses the limited access to conventional therapy services but also fosters a new paradigm in caregiver empowerment through an affordable, accessible, and structured approach. This innovation demonstrates that therapeutic interventions for children with special needs can be designed based on a low-tech, high-impact principle, producing significant positive outcomes, particularly for underserved communities. The success of this method underscores the importance of empowering caregivers as the main pillar in sustaining home-based therapy for children with CP, thereby enhancing their overall quality of life.

The Potential Application of the RORI Algorithm Method in Inclusive Education in Lampung

Inclusive education is an approach aimed at providing a fair, equitable, and welcoming learning environment for all students, including children with special needs such as Cerebral Palsy (CP). Fitria emphasizes that inclusive education must be grounded in the principles of equity and diversity, ensuring that every child, regardless of background, has the right to access education tailored to their potential (Fitria, 2024). In this context, the RORI Algorithm method emerges as an innovative alternative aligned with the philosophy of inclusion, as it adopts a holistic approach encompassing motor, cognitive, and emotional aspects.

Based on the findings from interviews with educators in Lampung Province, the majority of respondents stated that the RORI Algorithm method is highly feasible to be integrated into the inclusive education system, both at the primary and secondary levels. This supports the *family-centered practices* approach, which emphasizes the importance of family involvement in a child's education and therapy process (Gràcia et al., 2020). The implementation of the RORI method, which enables caregivers to conduct therapy directly at home, not only broadens the scope of inclusive education but also fosters continuity between formal interventions at school and informal therapy at home (Reliani et al., 2024).

The strength of this method lies in its flexibility, allowing caregivers to implement it without relying on specialized assistive devices or medical facilities. Moreover, the collaborative approach between teachers and caregivers is a crucial component in ensuring the effectiveness of its

implementation. In line with the study by Novitasari et al., which highlights the importance of family involvement in children's education, intensive communication between teachers and caregivers enables the adaptation of learning strategies that are responsive to each child's individual condition (Novitasari et al., 2020). This aligns with the principle of *differentiated instruction* (Dack & Ann Tomlinson, 2025), which adjusts the content, process, and learning products to meet the diverse needs of students.

Educators in Lampung highly appreciate the active involvement of caregivers, particularly because consistent therapy conducted at home can strengthen children's motor and cognitive skills. This, in turn, makes the learning process at school more effective and enables children with CP to be better prepared to participate actively in class. Prior to the introduction of this method, most teachers reported that children with CP exhibited a high level of dependence and had difficulty following even simple lessons. However, after consistent home-based intervention, these children began to participate in basic classroom activities such as listening to stories, responding to questions through gestures or expressions, and even showing interest in group activities. Such changes have been considered highly beneficial for their integration into inclusive classrooms. This approach reinforces the role of schools as family partners in building an inclusive educational ecosystem.

Nevertheless, the implementation of the RORI method is not without structural and resource-related challenges. One of the main obstacles identified is the lack of adequate inclusive education facilities, such as physical therapy rooms or appropriate learning aids for children with CP. This situation is further exacerbated by the limited number of teachers who have received specialized training to work with children with special needs. Amaliyah emphasizes that teacher training is a key element in the success of inclusive education (Amaliyah et al., 2025). Without adequate training, teachers will face difficulties in implementing adaptive and responsive approaches.

In addition to the limitations of facilities and training, the high workload of teachers also hinders the optimal implementation of this method. Therefore, the presence of support personnel such as teacher assistants is essential to maximize the execution of the method. Local governments play a strategic role in bridging these challenges, among others, by providing regular training for teachers and caregivers both face-to-face and through digital media such as e-books and tutorial videos. This approach supports the utilization of blended learning in professional development for teachers and family empowerment, as recommended by the OECD in the context of post-pandemic education (Novriyanto et al., 2025).

Compared to conventional therapy approaches that position caregivers as passive actors, the RORI Algorithm method introduces a new paradigm focused on empowerment. This approach positions caregivers as active participants who play a central role in the child's therapy process, in line with the empowerment concept from the research by Rahmawati and Anggraeny, which emphasizes the importance of independence and active participation in decision-making to enhance family well-being (Rahmawati & Anggraeny, 2025). This approach not only saves time and costs but also increases caregivers' emotional involvement in the child's development.

Furthermore, the advantage of the RORI method lies in its ability to integrate therapy into daily activities without requiring expensive assistive devices. This makes it more inclusive, especially for families with limited access to healthcare services. The method also optimally utilizes digital technology to facilitate self-directed learning (Adigun et al., 2025), enabling caregivers to access therapy materials flexibly anytime and anywhere according to their needs.

Thus, the RORI Algorithm method demonstrates great potential as an adaptive and responsive innovation to the challenges of inclusive education, particularly in regions like Lampung that still face infrastructure limitations. The integration of inclusivity principles, multi-stakeholder collaboration, digital technology, and family empowerment makes this method relevant to be developed as a model of best practice in special needs education. The sustainability of this method's implementation heavily depends on the synergy between schools, families, and the government in the form of policies, ongoing training, and systemic support.

Based on the findings and discussions of this study, several recommendations can be proposed for application in home therapy practice, public policy development, and further research. First, caregivers and therapy practitioners are encouraged to actively integrate the RORI Algorithm method into the daily routines of children with Cerebral Palsy (CP) at home. This approach has been proven to have a positive impact on improving motor function, cognitive abilities, and emotional

well-being of the child without reliance on specialized therapy devices. To support this, technology-based training such as tutorial videos, e-books, and interactive digital learning platforms should continue to be developed to enable caregivers to conduct therapy independently and sustainably. Additionally, gentle physical interaction and consistent emotional support need to be an integral part of the therapy implementation, considering their important role in reducing anxiety and enhancing the child's affective stability.

Second, in the context of inclusive education, it is recommended that educators, especially those in schools admitting students with special needs, receive specialized training to understand and implement the RORI Algorithm method. This method has the potential to enhance the participation of children with CP in classroom learning activities more actively and meaningfully. Therefore, integrating teacher training programs with home-based intervention approaches should be a priority agenda, particularly through collaboration between the education department and teacher training institutions. Collaboration between educators and caregivers is also crucial to creating a learning environment that is adaptive, inclusive, and supportive of the child's needs. Local governments, through relevant agencies, are expected to formulate policies that encourage strengthening teachers' capacity to systematically apply this method within the inclusive education curriculum.

Third, from a policy perspective, these findings underscore the importance of expanding access to effective and affordable home therapy for children with CP, particularly in regions with limited healthcare service facilities. The government, together with other stakeholders, is expected to design policies that promote equitable access to information and digital-based training for families across various areas, including remote regions. This can be realized through the provision of open online training platforms, financial support for underprivileged families, and incentives for parties that support the implementation of alternative therapies at the community level. Thus, the principles of justice and equity in obtaining therapy services can be fulfilled more optimally.

Fourth, although the results of this study demonstrate the short-term success of implementing the RORI Algorithm method, further research is needed to examine its long-term effectiveness. Subsequent studies can expand their focus to additional variables, such as the impact of therapy on social skills, child independence, or emotional relationships with family. Moreover, employing more varied methodological approaches, such as longitudinal studies and mixed methods, can provide a more holistic and in-depth understanding of the method's effectiveness. Research with a larger sample size and encompassing diverse socioeconomic backgrounds is also important to ensure the generalizability of the findings and to broaden the method's application globally.

Finally, it is important to consider the potential adaptation of the RORI Algorithm method in a broader context. Although this study focused on children with CP, similar approaches can be explored for children with other developmental conditions, such as Autism Spectrum Disorder (ASD) or sensorimotor disorders. This exploration would be highly valuable for testing the flexibility and relevance of the RORI method in addressing motor and cognitive therapy needs across different conditions. Cross-population studies are expected to contribute to the development of more inclusive, contextualized, and evidence-based therapeutic interventions.

LIMITATION

Although this study shows positive and significant results in enhancing the intellectual potential and health of children with Cerebral Palsy (CP) through the implementation of the RORI Algorithm Method, there are several limitations that need to be considered. First, the study was conducted within a limited geographical area, namely in Lampung, so generalizing the findings to other regions with different social, economic, and cultural characteristics should be done cautiously. Second, the limited number of participants and the variation in the severity of CP among the children mean that the results do not fully represent the entire spectrum of CP conditions. Third, the measurement of effectiveness still relies on qualitative observations and subjective reports from caregivers, and thus is not yet supported by more objective quantitative medical or neuropsychological data. Fourth, although the utilization of digital technology has proven helpful, access to technological devices and the internet in some remote areas remains a challenge, potentially hindering the equitable distribution of the method.

CONCLUSION

Based on the results of the conducted study, it can be concluded that the implementation of the RORI Algorithm Method contributes positively to enhancing the intellectual potential and health of children with Cerebral Palsy in the Lampung region. This method has proven effective in stimulating cognitive function, strengthening motor coordination, and increasing active participation of children in learning and therapy activities. Through a systematic technological and algorithmic approach, this intervention also provides a new, more adaptive, and enjoyable alternative for managing children with CP. Although there are some limitations such as the limited geographical scope, number of participants, and lack of long-term data, these findings still provide a strong foundation for developing innovative and applicable intervention models. Therefore, the RORI Algorithm Method has the potential to be implemented more broadly and integrated as part of a holistic approach to improving the quality of life for children with special needs, particularly those with Cerebral Palsy. It is recommended that future research be conducted on a larger scale with a more diverse participant pool in terms of age, severity of Cerebral Palsy, and social background to test the consistency and generalizability of the RORI Algorithm Method's effectiveness.

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