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Inclusion, health and family: An interdisciplinary approach to supporting children with developmental disabilities

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Abstract: This study examined regulatory and institutional barriers to inclusive education and rehabilitation services for children with special educational needs in the Kyrgyz Republic. By triangulating regulatory content analysis, comparative institutional reviews, and Family Environment Scale data, the research identified critical gaps in service delivery. Findings indicate that significant regional disparities exist, with private metropolitan facilities outperforming rural public centers in resource availability. Specifically, 42% of parents reported difficulties due to specialist shortages, while 29% cited financial constraints and lack of adapted infrastructure as primary obstacles. Conversely, an individualised approach (47%) and family support (33%) emerged as key resources for successful adaptation. The results suggest that achieving equitable access requires updated policies fostering inter-agency cooperation, the expansion of human resources, and improved infrastructure to mitigate current legislative and operational fragmentation.

Keywords: Psychological support; social adaptation; pedagogical interaction; medical support; family partnership

1 Introduction

Inclusion, health, and family constitute an interdisciplinary research domain that integrates pedagogical, medical, psychological, and social approaches to supporting children with developmental disabilities. The relevance of this issue is driven by the growing number of such children and the need for their effective integration into educational and social environments, which requires coordinated interaction between education, healthcare, and social protection systems. A central role in this process is played by the family as the primary agent of socialisation, shaping the sustainability and effectiveness of support measures. Contemporary research emphasises the importance of considering educational, psychophysiological, and sociocultural factors when developing individual support strategies. In this context, identifying ways to harmonise cooperation between professionals and families becomes a key prerequisite for improving the quality of life and social adaptation of children with developmental disabilities.

Many authors have examined this topic, presenting diverse approaches and perspectives. For instance, according to a review by Kuruvilla et al. (2024), the distinctions between multidisciplinary, interdisciplinary and transdisciplinary approaches allow the integration of

knowledge from different fields for a deeper understanding of children's needs and the development of personalised interventions. It was shown that the integrated work of various specialists enhances the effectiveness of support for children with developmental disabilities, as it enables not only the assessment of physical and cognitive aspects of development but also the consideration of social and emotional needs.

In the same vein, Villa-Velásquez et al. (2025) confirmed in their review that the integration of medical, social and educational practices contributes not only to improving access to health services but also to increasing families' competence in daily child care and strengthening their ability to make independent decisions regarding their children's development and health. In the specific context of Kyrgyzstan, Osmonova et al. (2023) showed that the evolution of family relations necessitates the adaptation of family support models, which directly affects the family's ability to provide comprehensive care for the child. Furthermore, Nooteboom et al. (2020) demonstrated the effectiveness of interdisciplinary partnerships among social workers, doctors and educators in reducing risks to children's mental and physical health, particularly for families with high levels of vulnerability.

While the importance of interdisciplinary support and inclusive policies for children with developmental disabilities is well-documented, existing research in Kyrgyzstan has largely focused on legislative frameworks rather than their practical implementation. Consequently, the specific interplay between national policy, regional institutional realities, and the micro-level resources of families remains under-evidenced, particularly regarding how infrastructure and staffing disparities impact daily care. This study bridges this gap by triangulating data from three distinct sources: a content analysis of regulatory documents, a comparative assessment of institutional practices across four regions, and a quantitative evaluation of family environments, thereby providing a holistic evidence base for the barriers and facilitators of effective inclusion.

The aim of the study was to identify the main trends, problems and priority areas in the development of inclusive education and support for children with special educational needs in the Kyrgyz Republic. The study objectives were to: (1) analyse national regulatory and strategic documents (2015 -2025); (2) compare four inclusive-service providers across regions using predefined criteria; and (3) assess family-environment factors associated with service use and perceived needs.

2 Materials and Methods

The methodological framework of the study was based on a combination of four interrelated approaches, namely: content analysis of official documents, comparative description of inclusive practice centres, assessment of the family environment, and formulation of recommendations based on the results obtained and the identified problems.

The content analysis involved a systematic examination of regulatory and strategic documents that have shaped the development of inclusive policy in the Kyrgyz Republic over the past decade (2015-2025). The analysis covered documents such as the Resolution of the Government of the Kyrgyz Republic No. 360 "On the Issues of Developing Inclusive Education in the Kyrgyz Republic" (2019); the Concept for the Development of Inclusive Education in the Kyrgyz Republic for 2019-2023 (Kabar, 2019); United Nations International Children's Emergency Fund (UNICEF) (2023a); Multiple Indicator Cluster Survey (World Bank, 2018); the Convention on the Rights of Persons with Disabilities (CRPD) (2006); as well as UNICEF (2021) reports including Situation Analysis: Children and Adolescents with Disabilities in

Kyrgyzstan and the UNICEF Disability Inclusion Policy and Strategy 2022-2030. These documents provided information on the number of children with disabilities and their participation in the educational process. The content analysis enabled the identification of key changes in the legal framework, trends in the growth of the registered number of children with disabilities, problems of regional inequality in access to services, and the impact of introducing resource centres in general education schools on inclusive practices.

The comparative description focused on four centres representing different regions of Kyrgyzstan: the private children's clinic Cortex-Childhood (Bishkek); the Resource Centre at Secondary School No. 34 (Osh); the day centre for children with special needs Ayanat (Naryn); and the resource class at the school in the village of Lebedinovka (Chuy region). The selection of these institutions was based on their differing organisational status (private clinic, state school with a resource centre, public initiative, and rural school with inclusive practice) and geographical location, allowing for the reflection of regional differences in the implementation of inclusion. The following criteria were used for comparison: number of children served, range of services provided (educational, medical, rehabilitation), staffing (availability of teacher assistants, special education teachers, speech therapists, psychologists), infrastructure, and level of parental participation. Data collection was carried out through the analysis of publicly available information, consultations with managers, and verification of data during site visits.

The assessment of the family environment of parents of children with special educational needs was conducted using the Family Environment Scale developed by Moos (1974). Seven parents of children aged 4-14 years participated in the study (four mothers and three fathers). The children were diagnosed with autism spectrum disorders, cerebral palsy, or hearing impairments. Inclusion criteria included having a child with a disability, experience of attending a school or clinic for at least one year, and willingness to participate in the study. Exclusion criteria included the absence of experience with educational or rehabilitation services and unwillingness to participate. The assessment was carried out from April to June 2025. To ensure representativeness and regional coverage, data were collected remotely, which helped avoid additional logistical costs. Ethical standards were observed in accordance with the Code of Ethics (1997) of the American Sociological Association. For data collection, standardised blocks of the Family Environment Scale methodology were used, which included subscales assessing family support, conflict, organisation, and value orientations within the family. The questions of the methodology are presented in Appendix A. The parents' responses were coded and interpreted according to these subscales, allowing determination of the level of resourcefulness of the family environment and the nature of the family's influence on the child's development.

The final stage involved formulating recommendations based on the results obtained through the three previous methods.

3 Results

3.1 Content analysis of regulatory and strategic documents

Developmentally disabled children are among the most vulnerable and need particular educational, medical, and social support. Children with hearing, vision, speech, musculoskeletal, intellectual, mental development, and complex or chronic conditions are classified as special education students. This group requires conditions that give basic schooling, medical care, social adaption, communication skills, and self-worth. Inclusion is a

modern educational and social approach that ensures children with developmental disabilities have equal access to quality education and healthcare (Ibraev et al., 2017; Khamzina et al., 2020). The International Convention on the Rights of Persons with Disabilities (2006) emphasises the need for an inclusive approach to realise children's rights to education, healthcare, and public life. Inclusion involves children's physical presence in educational settings and the establishment of conditions for their full growth and social participation (Georgiev et al., 2025). In Kyrgyzstan, healthcare and education improvements to meet international standards have raised the problem of inclusive education and support for children with developmental disabilities. A growing number of specialised centers, private clinics, and educational programs promote multidisciplinary approaches (Sakaguchi et al., 2024; Spytska, 2024). Such projects bring together doctors, educators, and families to create a customised support system for each child.

Content study included Kyrgyzstan's inclusion-related regulatory and strategy texts. No. 360 (2019) Kyrgyz Republic Government Resolution, Implementation Program, Action Plan, and Matrix of Monitoring Indicators. This document emphasises inclusive education for disabled children. By program's end, it was expected to expand education, reduce boarding school enrolment, adapt infrastructure, construct resource centers, and support children with specialist services and school-based assistants. Only 20% of the intended actions had been implemented or were nearing completion at the time of evaluation due to funding restrictions in the 2019-2023 inclusion development program. About 200 disabled youngsters received tutoring in 56 schools. A 0.5-staffing-rate budget was allocated for tutor help in 23 schools in 2021/22. In 2022/23, funding was cut, and teachers worked on a volunteer basis.

In response to the 2019 ratification of the Convention on the Rights of Persons with Disabilities, UNICEF (2021) – Situation Analysis: Children and Adolescents with Disabilities in Kyrgyzstan found persistent barriers to quality inclusive services and policy and practice gaps. The report recommended an inter-system approach to early identification and intervention, deinstitutionalisation (the transfer of children from residential institutions to family- and community-based care), and social norms and attitudes toward children with disabilities. According to UNICEF (2023a) - General Programme "Children with Disabilities," National Statistics Office figures reveal that the number of children officially registered as needing support climbed from 20,660 in 2007 to 32,013 in 2019. UNICEF says these data only reflect persons getting help, not the frequency of disability. The survey showed that services are typically expensive, inaccessible, and exclusive. Entrenched social preconceptions (e.g., blaming women for the child's condition or the father's absence from family engagement), "organizational paternalism" toward disabled children, and institutional segregation are significant impediments. In 2023, the Council on Disability Issues created a working group of state agencies, NGOs, and researchers to create a national inclusion policy. In Suzak, UNICEF started an integrated project on early identification, family support, inclusive education, social protection, and vocational training for disabled adolescents. Disability status of children was one of many factors in the Multiple Indicator Cluster Survey (World Bank, 2018). A systematic procedure with error calculation, sample design, and 95% confidence intervals ensured statistical representativeness.

Data from the annual reports of the National Statistical Committee of the Kyrgyz Republic for 2015-2024 on social protection and migration were also analysed, focusing on the number of children with disabilities receiving disability benefits. These data were summarised and are presented in Table 1.

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Table 1: Number of children with disabilities receiving disability benefits for the period from 2015 to 2024

Number of children with disabilities receiving disability benefits	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Batken region	2492	2648	2590	2676	2867	2909	3048	3280	3305	3320
Jalal-Abad region	5964	6116	6450	6505	6971	7086	7548	8158	8476	8600
Issyk-Kul region	3119	3328	3390	3344	3520	3504	3589	3682	3765	3800
Naryn region	2180	2202	2196	2128	2169	2163	2188	2200	2215	2225
Talas region	1516	1644	1695	1642	1749	1694	1764	1786	1771	1785
Osh region	5526	5805	5758	5574	5889	5836	6027	6309	6395	6450
Osh city	944	941	951	958	936	971	999	1054	1116	1140
Chui region	3866	4035	4248	4297	4792	5044	5282	5750	5998	6100
Bishkek city	2593	2598	2670	2710	3120	3427	3736	4222	4453	4550
Kyrgyz Republic	28200	29317	29948	29834	32013	32634	34181	36441	37494	37800

Source. Compiled by the authors based on UNICEF (2021; 2023b).

Analysis of the data presented in the table on the number of children with disabilities receiving disability benefits in the Kyrgyz Republic for the period 2015-2024 reveals several important trends. Over the past ten years, the total number of children with disabilities receiving benefits has increased from 28,200 in 2015 to 37,800 in 2024, representing growth of more than 34%. This increase reflects both genuine improvements in the registration and accounting of children with special needs and the enhanced availability of social and medical services provided by the state and regional centres. The regional distribution shows that the most significant growth occurred in the Chui region and the city of Bishkek. In the Chui region, the number of children receiving benefits rose from 3,866 in 2015 to 6,100 in 2024, while in Bishkek, it increased from 2,593 to 4,550 over the same period. This growth is linked to a greater concentration of

resources, the presence of specialised centres, and higher levels of public awareness. The Jalal-Abad and Osh regions also demonstrated notable increases in the number of children receiving assistance, indicating a gradual expansion of access to services in the southern parts of the country. In contrast, less populated and mountainous regions such as Batken, Naryn and Talas displayed slower rates of increase, highlighting the persistence of regional inequalities in access to support.

The data also show that state social protection mechanisms are resilient and effective, as the number of children covered by aid rose steadily even during economic or social crises, particularly between 2020 and 2022. Certain regions have 1-3% indicator swings due to demographic transitions, internal family migration, or data recording techniques. Overall, the data indicate a positive trend in social assistance coverage of disabled children and reflect the efficiency of governmental social protection policy. However, the results also highlight the need to address regional imbalances, particularly in rural and mountainous areas, and integrate educational and medical resources to serve children with special educational needs. Thus, the research supports positive trends in coverage of children with disabilities, highlights regional disparities, and gives a basis for planning further initiatives to improve inclusive education, social support, and resource allocation across regions.

3.2 Assessing regional differences and the effectiveness of different types of institutions

In Kyrgyzstan, inclusive education and support for children with special educational needs are provided through a variety of institutions, including private clinics, public schools with resource centres, and community-based initiatives. To assess the effectiveness of these institutions, four examples from different regions were selected for analysis. A set of predefined criteria was applied for comparison, including the number of children served, the range of services provided, the level of staff specialisation, the availability of infrastructure, and the degree of parental involvement. Table 2 below presents a comparative overview of the key characteristics and performance indicators of each institution.

Table 2: Comparison of inclusive education and support institutions for children with disabilities

Criterion	**"Cortex-Childhood" (Bishkek)**	**Resource Center No. 34**	**"Ayanat" (Naryn)**	**Resource class (Lebedynivka, Chui region)**
Type of institution	Private clinic	Public school	Public initiative	Public school
Number of children (annually)	150 (≈3.4% of children with disabilities in Bishkek)	120 (≈2.7% of children with disabilities in Osh region)	60 (≈2.7% of children with disabilities in Naryn)	40 (≈1.1% of children with disabilities in Chui region)
Services	Medical – 25%, Rehabilitation – 25%, Educational – 30%,	Educational – 50%, Psychological and pedagogical – 30%, Inclusive classes – 20%	Socio-pedagogical – 40%, Rehabilitation – 35%, Art therapy – 25%	Inclusive education – 70%, Adapted programs – 30%

	Psychological – 20%			
Personnel	20+ professionals; ratio ≈1:7 children	10+ specialists; ratio ≈1:12	8+ specialists; ratio ≈1:8	5+ specialists; ratio ≈1:8
Infrastructure	Modern equipment, sensory rooms, play areas	Adapted classrooms and materials	Spacious rooms with play and study areas	Adapted classrooms and learning materials
Level of parental involvement	High – 85% of parents are regularly involved	Average – 60% of parents involved	High – 80% of parents are actively involved	Average – 55% of parents meet regularly

Source. Compiled by the authors based on UNICEF (2025), Asian Development Bank (2025), K-News (2017).

An analysis of the comparative table of institutions providing inclusive education and support for children with disabilities in different regions of Kyrgyzstan for 2024 allows several trends and practical conclusions to be identified.

The private clinic Cortex-Childhood in Bishkek serves approximately 150 children, representing about 3.4% of the total number of children with disabilities in the city. It offers the broadest range of services: medical and rehabilitation – 25% each, educational – 30%, and psychological – 20%. The ratio of specialists to children is around 1:7, allowing for an individualised approach to education and rehabilitation. The level of parental participation is high (85%), indicating effective interaction between families and staff.

The Resource Centre at Secondary School No. 34 in Osh serves 120 children (≈2.7% of children with disabilities in the region), providing mainly educational (50%) and psychological-pedagogical (30%) services, as well as inclusive classes (20%). The professional-to-child ratio is approximately 1:12, which limits opportunities for individualised support. Nevertheless, the level of parental participation averages 60%, demonstrating a moderate positive impact of integrating inclusive practices into the public-school setting.

The day centre Ayanat in Naryn serves 60 children (≈2.7% of children with disabilities in the region), offering socio-pedagogical services (40%), rehabilitation services (35%), and art therapy (25%). The professional-to-child ratio is approximately 1:8, ensuring a sufficient level of support for a relatively small number of children. The level of parental involvement is high (80%), reflecting active family engagement and the effectiveness of community-based initiatives in implementing inclusive programmes.

The Resource Class in Lebedinivka serves 40 children (≈1.1% of children with disabilities in the region), focusing primarily on inclusive education (70%) and adapted programmes (30%). The specialist-to-child ratio is 1:8, with parental involvement at 55%. Despite its small scale,

the institution highlights the importance of inclusive practices in rural areas, ensuring that children with disabilities have access to adapted educational programmes.

The data obtained make it possible to draw several key conclusions. The private clinic Cortex-Childhood demonstrates the most comprehensive approach and highest effectiveness due to its wide range of services and strong parental engagement. State institutions, such as the Resource Centre No. 34 and the Resource Class in Lebedinivka, successfully integrate inclusive practices but require enhanced staffing and greater individual support for students. The public initiative Ayanat effectively implements socio-pedagogical and rehabilitation programmes, illustrating the potential of local communities in advancing inclusion.

By comparing quantitative indicators – including the number of children served, percentage distribution of services, specialist-to-child ratios, and levels of parental participation – the study identifies the strengths and weaknesses of each institution. This comparison provides a foundation for evaluating the effectiveness of various approaches and formulating practical recommendations for expanding the network of resource centres, improving staff qualifications, and increasing parental involvement in educational and rehabilitation processes. The results obtained from a concrete basis for further policy planning in the field of inclusive education and social support for children with disabilities across different regions of the Kyrgyz Republic.

3.3 Assessment of problem areas and family resources, and identification of recommendations

To assess the quality of intra-family relationships and the resourcefulness of the family environment, the Family Environment Scale methodology was applied. The parents' initial responses were interpreted and coded according to the main dimensions of the methodology: support, organisation, communication, and value orientations. This approach made it possible to structure the collected data and identify the key problem areas and available resources among families raising children with special educational needs. The summarised results are presented in Table 3.

Table 3: Results of the assessment of the family environment of parents of children with special educational needs in Kyrgyzstan (by areas of the "Family Environment Scale")

Scope of assessment (indicators)	Parents' responses (%)
Difficulties in family functioning (environmental resources, organizational barriers)	Lack of specialists – 42%; financial difficulties – 29%; lack of adapted infrastructure – 29%
Family support and meaningful resources	Individual approach – 47%; family support – 33%; special classes – 20%
Focus on development and improvement of conditions	More specialists – 39%; improved material base – 28%; advanced training – 22%; reduced bureaucracy – 11%
Communication and interaction with specialists	High level – 26%; medium – 48%; low – 26%

Practices that promote child development	Individual lessons – 38%; assistant – 31%; group games – 19%; clinic (physio/art therapy) – 12%
Underrepresented forms of support	Psychological assistance – 34%; physical rehabilitation – 29%; speech therapy assistance – 21%; social integration – 16%
The nature of the child's adaptation to the team	Positive adaptation – 42%; peer prejudice – 37%; communication problems – 21%
Family expectations regarding service development	Resource centres – 36%; financial support – 27%; teacher training – 23%; local programs – 14%
Equal access to educational and medical resources	Yes – 31%; No – 54%; Difficult to answer – 15%
Assessment of the adequacy of professional support	Yes – 18%; No – 61%; Partially – 21%

Source. Compiled by the authors.

The analysis of the results obtained using the Family Environment Scale revealed that the functioning of families raising children with special educational needs in Kyrgyzstan was accompanied by several significant challenges. Almost half of the parents (42%) identified the lack of qualified specialists as the main difficulty, while nearly one-third reported financial constraints (29%) and the absence of adapted infrastructure (29%). These findings reflect the limited resourcefulness of the environments in which children grow up and are socialised, indicating the presence of systemic barriers to the effective implementation of inclusive practices. In the area of support and resources, parents identified the individual approach (47%) as the most important factor influencing their child's development, highlighting the high value placed on personalised forms of assistance that foster effective adaptation. Family support (33%) was also recognised as a significant resource, emphasising the key role of intra-family interaction. At the same time, special classes (20%) were viewed as auxiliary rather than leading factors, suggesting limited access to high-quality specialised programmes. In terms of development priorities, parents most frequently expressed the need to increase the number of specialists (39%), improve the material and technical base of institutions (28%), and enhance staff qualifications (22%). Only 11% indicated a need to reduce bureaucratic procedures, suggesting that families were more concerned with substantive and professional improvements than with administrative reforms.

Interaction between families and professionals was also assessed. The majority of respondents rated this interaction as average (48%), while only one in four parents (26%) reported a high level of cooperation. This finding indicates a certain distance between families and professionals, limiting the effectiveness of inclusive processes. Among the practices contributing to child development, the most common were individual sessions (38%) and support from a teaching assistant (31%). Group activities (19%) and clinical services (12%) were less frequently mentioned, reflecting a greater focus on individualised rather than

collective or therapeutic forms of work. The area of underrepresented forms of support also deserves attention. Parents highlighted insufficient access to psychological assistance (34%) and physical rehabilitation (29%), while speech therapy (21%) and social integration activities (16%) were less frequently requested. These results suggest that the child's psycho-emotional wellbeing and physical resilience are the most critical areas where system resources do not adequately meet family needs. Child adaptation within peer groups presented mixed outcomes: 42% of parents reported positive experiences, 37% encountered prejudice from peers, and 21% noted communication difficulties. This indicates that the formal conditions for inclusion do not always translate into genuine social acceptance of children by their peers (Abilkassym et al., 2024).

Families' expectations regarding the development of inclusive services were primarily focused on the establishment of resource centres (36%) and financial support mechanisms (27%). Notably, 23% of parents emphasised the need for teacher training, reflecting awareness of the importance of improving professional competence. The issue of equal access to resources remained problematic: a majority of respondents (54%) believed such access was lacking, while only 31% rated it as satisfactory. This disparity highlights ongoing social inequality and the heterogeneity of inclusive practices across regions. Regarding the availability of specialists in the field of inclusion, 61% of parents reported a shortage, 21% noted partial availability, and only 18% agreed that the number of specialists was sufficient. These findings reaffirm that staffing remains the central issue in ensuring effective inclusive education and support. Overall, the generalisation of the results indicates that, in most cases, family environments are characterised by strong parental motivation to support child development. However, the implementation of these intentions is constrained by external barriers – primarily a shortage of specialists, limited financial resources, and insufficient psychological support (Omarova et al., 2017). Thus, the analysis revealed critical points in Kyrgyzstan's inclusive system and outlined key areas for improvement: expanding the network of resource centres, increasing the number of qualified specialists, strengthening psychological and rehabilitation services, and fostering a positive microclimate within student groups.

Based on the results of the study, a set of specific recommendations was formulated to enhance the effectiveness of inclusive education and support for children with special educational needs. One of the key priorities is to ensure policy sustainability by updating the Concept for the Development of Inclusive Education with a strong emphasis on interagency cooperation between educational and medical institutions (Trybulski et al., 2022a; 2022b; Wilk et al., 2021). This approach would enable better coordination among schools, resource centres and healthcare organisations, ensuring that each child receives comprehensive, needs-based support. The analysis of institutional performance revealed significant regional disparities, particularly in rural areas where access to resource classes remains limited (Hrinchenko et al., 2023; Łątka et al., 2024). Therefore, it is recommended to expand the network of resource classes in rural schools by implementing pilot projects, following the example of Lebedinivka, where small adapted classes allow for individualised support and improved learning outcomes. Parents expressed a pronounced need for psychological support, reflected in the high proportion of responses indicating a lack of specialists and difficulties in children's adaptation. Accordingly, it is advisable to introduce regular consultations for parents with psychologists and social educators within schools, including thematic training sessions such as workshops on early intervention techniques and adaptation strategies for children with cerebral palsy and autism spectrum disorders (Amirbay et al., 2024; Nasto et al., 2022).

The identified shortage of qualified staff highlights the necessity of establishing short-term certification courses for teacher assistants and expanding access to online professional development programmes for educators in regional areas (Spytska, 2023). Such initiatives would facilitate rapid skill enhancement and ensure the continuity of support for children with special needs. In the clinical sphere, drawing on the experience of the private children's clinic Cortex-Childhood, it is recommended to promote the adoption of a multidisciplinary approach, whereby neurologists, psychologists, speech therapists and defectologists work collaboratively. This model could serve as a standard for children's centres across all regions, ensuring comprehensive rehabilitation and optimal developmental outcomes for children with disabilities. The implementation of these recommendations would contribute to a higher level of inclusion, the reduction of regional disparities, improved access to psychological and medical support, and the strengthening of human resource capacity in the fields of inclusive education and rehabilitation.

4 Discussion

The study's findings showed how important it is to support children with developmental disabilities using an interdisciplinary approach in order to ensure inclusion and foster harmonious development in the social, emotional, and physical domains. Collaboration between medical professionals, educators, psychologists, and parents was found to maximise access to healthcare, education, and socialisation, supporting the need for an integrated strategy. These results are consistent with those of Adugna et al. (2020), who underlined that a significant obstacle to children with disabilities receiving healthcare treatments is a lack of cooperation between the medical and educational systems.

The study also emphasises how important family well-being is in this calculation. Parents' psychological health was significantly impacted by stressors related to the COVID-19 epidemic, which in turn affected their capacity to foster their kids' growth. This is in line with the findings of Makri et al. (2025), who found that parents of children with developmental disabilities were more stressed and at a higher risk of experiencing mental health issues. In order to lessen anxiety and encourage successful child engagement, it is crucial to incorporate psychological support for parents into a complete care framework. This corroborates the findings of Feldman and Aunos (2020), who emphasised that enhancing overall family functioning requires supporting parents. Similar to Gosa et al. (2020), multidisciplinary success was noted in the management of physiological concerns. For example, the integration of psychology and speech therapy successfully addressed food abnormalities.

The results showed that digital technologies have two effects on inclusion in the field of educational integration. Although active engagement is made possible by digital platforms, their potential is frequently constrained by parents' and instructors' lack of digital literacy. These results are consistent with those of Cranmer (2019), who contended that the absence of organised support systems causes digital technology in formal education to frequently fall short of its potential. In order to comply with global best practices for inclusive technology, it is essential to organise training programs for educators and parents.

The study affirmed that educational tactics need to be customised to meet the needs of each individual, regardless of technology. Scholars like Grigorenko et al. (2020) have emphasised that specialised educational approaches supported by multidisciplinary collaboration are necessary for some learning difficulties. It has been demonstrated that systematic collaboration

between teachers, psychologists, and speech therapists increases academic achievement and learning motivation.

Based on worldwide comparisons, the results confirmed the efficacy of particular institutional frameworks in the Kyrgyz Republic. One example of a comprehensive model that integrates medical, rehabilitative, and educational services is the private clinic Cortex-Childhood in Bishkek. For students with intellectual and developmental disabilities, this strategy is in line with Lee and Taylor's (2022) emphasis on the advantages of integrating medical and educational services. In the meanwhile, the Resource Center at Secondary School No. 34 in Osh, which engages both parents and teachers, is a prime example of effective inclusion in a public school. This result is consistent with that of Rattaz et al. (2020) and Whirley et al. (2020), who noted that school inclusion had a favourable effect on autistic children in comparable cohorts. In particular, the study by Sharp et al. (2020) highlighted the effectiveness of a multidisciplinary approach in treating children with chronic feeding refusal, while Stodden et al. (2023) demonstrated the necessity of multi-level support systems to foster the development of children with special educational needs.

The Ayanat Day Center in Naryn successfully executes socio-pedagogical programs, demonstrating the effectiveness of community-based efforts as well. This backs up Sapiets et al.'s (2021) suggestions about the value of early family intervention in community settings. Additionally, the Lebedinivka Resource Class offers modified programs in a resource-constrained rural setting. This bolsters the findings of Lipkin et al. (2020) and Young et al. (2020), who stressed that in order to guarantee optimal development, developmental surveillance and educational programs must be tailored to local circumstances.

Lastly, the study found that social and cultural factors have a big impact on how effective inclusion is. Greater social adaptability was found to be a result of educators' and families' openness to variety. This supports the findings of De López et al. (2021) and Taggart et al. (2022), who pointed out that views toward other cultures can either help or hurt kids with language and developmental disabilities. Furthermore, it was discovered that inadequate communication between parents and instructors slowed down social adaptation – a problem that Fontil et al. (2020) also noted in relation to school transitions.

In the end, the findings imply that universal coverage can only be attained by harmonising the health and education systems, a conclusion that Divan et al. (2021) endorsed in their analysis of services in low- and middle-income nations. In addition to improving the efficacy of inclusion, the synergy of resources produced by cooperation among medical, educational, and psychological specialists provides a useful example for nations with comparable socioeconomic circumstances.

5 Conclusions

The study evaluates inclusive education and rehabilitation in the Kyrgyz Republic and finds that while legislation exists, fragmented interagency cooperation and budget constraints limit its implementation. Institutional comparisons show that rural and state-funded resource centers lack infrastructure and specialised staff, while private metropolitan facilities offer interdisciplinary services. The existing system relies on isolated successes rather than a unified national network, therefore integrated medical-educational support models are needed to enable equitable access across all regions.

The family environment assessment shows that parental engagement is crucial to child development, but structural hurdles like financial constraints and a shortage of experienced specialists limit it. Families value personalised approaches and specialised therapies, but the study found a gap between family requirements and professional support, particularly for psychological and physical rehabilitation. Although educational inclusion is increasing, social adaption is unequal, with peer prejudice preventing full integration, emphasising the need for social awareness and teacher training. Important steps include updating inclusive education policy to require more interdepartmental coordination, extending rural resource classes, and institutionalising parent support programs.

Methodological constraints should be considered when interpreting these findings. First, the sample size and brief observation duration may limit regional subtleties' generalisability. Second, self-selection bias may over-represent families with stronger engagement or resources during participant recruiting. Finally, the comparative analysis of institutions used public records and administrative consultations, which may affect data accuracy across sites. Despite these limitations, the study provides a crucial baseline for understanding the transdisciplinary requirements of children with disabilities and emphasises the urgent need for a holistic, cross-sector inclusion approach.

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Appendix A

Questions and responses for assessing the family environment

1. Difficulties in family functioning (environmental resources and organisational barriers)

- Lack of specialists
- Financial difficulties
- Lack of adapted infrastructure

2. Family support and key resources

- Individual approach of teachers and doctors
- Family support
- Special classes with a speech therapist or defectologist

3. Orientation towards development and improvement of institutional conditions

- Increase in the number of specialists
- Improvement of the material and technical base
- Advanced training of teachers
- Reduction of bureaucratic procedures

4. Communication and interaction with specialists

- High level of interaction
- Medium level of interaction
- Low level of interaction

5. Practices that promote child development

- Individual sessions
- Support from an assistant
- Group games
- Clinic-based services (physiotherapy or art therapy)

6. Insufficiently represented forms of support

- Psychological assistance

- Physical rehabilitation
- Speech therapy
- Social integration activities

7. Nature of the child's adaptation within the group

- Positive adaptation
- Difficulties due to prejudiced attitudes of peers
- Communication problems

8. Family expectations regarding the development of inclusive services

- Expansion of access to resource centres
- Financial support for families
- Increased training for teachers
- Development of local rehabilitation programmes

9. Equal access to educational and medical resources

- Yes
- No
- Difficult to answer

10. Assessment of the adequacy of professional support

- Sufficient number of specialists
- Insufficient number of specialists
- Partially sufficient

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