

THE MODEL OF COMBINATION BETWEEN MEDICAL AND EDUCATIONAL INTERVENTION FOR CHILDREN WITH DEVELOPMENTAL DISORDERS IN VIETNAM – THROUGH CASE STUDIES

Special education must be interdisciplinary in order to ensure the comprehensive quality of education for children with special needs in general and children with developmental disorders in particular. For children with developmental disorders such as autism spectrum disorder, attention deficit hyperactivity disorder, learning disabilities, etc., regular education interventions are important as they provide children with essential knowledge and help them practice necessary skills before utilizing these skills in their social integration process. This article introduces intervention models used in an educational institution in combination with medical therapy and the effects of this combination in two case studies of children with developmental disorders. Through concrete evidence and results of clear case studies, the article desires to contribute to a clearer illustration of the combined model of health and education used in interventions for children with special needs in general and especially for children with developmental disorders in Vietnam.

Key words: children with special needs, children with developmental delay, children with autism spectrum disorder, children with attention deficit hyperactivity disorder (ADHD), educational intervention, medical therapy

Every child, including children with developmental disorders, needs to develop comprehensively, both physically and mentally. In line with Maslow's hierarchy of needs, people's lower-level needs, such as physiological needs, safety needs, and social belonging, should be met before their higher-level needs, such as esteem and self-actualization, can be met (Maslow's Hierarchy of Needs, 1943). Therefore, before implementing interventions for children with developmental disorders, we should take care not only of the child's abilities, needs, and interests but also take into account issues related to the mental health of the child with behavioral and emotional disorders. Only when these problems are solved and supported, the child will be able to learn to develop language and perception.

Theoretically, the effectiveness of intervention for children with disabilities, including children with developmental disorders, will be further enhanced by the effects of educational and medical therapy. Some studies in the world have provided clear evidence, such as: the most effective approach is to call on the collective knowledge and expertise that various team members bring to the educational planning process (Hunt, Soto, Maier, & Doering, 2003); young children with significant multiple disabilities bring a variety of combinations of physical, medical,

educational, and social-emotional challenges to each learning environment (Snell & Brown, 2011); medical, physical, learning, and social emotional needs should be addressed in developing interventions for young children with multiple disabilities (Horn & Kang, 2012), and so on. However, the current situation in Vietnam shows that due to the lack of systematic coordination between health and education institutions, there are some consequences, such as: many children with disabilities/developmental disorders are diagnosed with disabilities by healthcare institutions only yet receive no intervention afterwards; a lot of children are provided with educational interventions but do not receive adequate medical attention, which results in many behavioral and emotional problems that have a negative impact on the effectiveness of educational interventions. A large number of localities, especially in remote and mountainous areas, do not have adequate health and education facilities to perform tasks such as diagnosis, evaluation, or intervention for children. As a result, lots of children have no opportunity to be diagnosed or learn to continue their participation in social integration. Many families of children with disabilities/developmental disorders do not receive necessary support in childcare and education, such as psychological counseling, financial support, information on facilities implementing healthcare services and educational interventions with special education specializations, etc. For example, according to an informal survey, only five out of over 100 facilities implementing interventions for children with special needs in Hanoi combine education with medical therapy.

Therefore, reinforcing educational institutions with healthcare services is an important and necessary model in the care and intervention process for children with disabilities/developmental disorders to ensure the most comprehensive effects for children with disabilities/developmental disorders and their families.

Content

Children with developmental disorders

According to the Diagnostic and Statistical Manual of Mental Disorders, Revision 5 (DSM-5), children with developmental disorders are a group of children with the following disorders:

- Intellectual Disability,
- Communication Disorders,
- Autism Spectrum Disorders,
- Attention Deficit/Hyperactivity Disorder,
- Specific Learning Disorder,
- Motor Disorders.

Children with developmental disorders have a delay in at least two of the skills in the basic areas of human development during the human developmental process, including: cognitive/thinking skills, social and emotional skills, speech and language skills, fine and gross motor skills, and activities of daily living. In addition, children's developmental problems are associated with other disabilities, such as: speech and language disorders, hypertonia, epilepsy, developmental coordination disorder, learning disorder, hyper mobility, ADHD, genetic/chromosome disorder, sensory and auditory processing disorder, or autism.

The model combining educational intervention and medical therapy***Meaning of the combination of educational intervention and medical therapy***

Children with developmental disorders always have medical problems and learning disabilities, and these impairments may occur in cognition, motor, and sensory functions as well as in combination with each other. Some studies showed that four areas of need – medical, physical, learning, and social emotional needs – should be addressed in developing interventions for young children with multiple disabilities (Horn & Kang, 2012), including children with developmental disorders. Therefore, interventions for these children undoubtedly require a combination of both medical and educational interventions.

A combination model of educational intervention and medical therapy at the Kazuo Inclusive Educational Development Research Center in Vietnam

The Kazuo Inclusive Educational Development Research Center was established in 2017 in Hanoi, the capital of Vietnam. In order to promote the effectiveness of educational interventions and medical treatment, the Kazuo Center combines educational and medical activities to help children with disabilities, especially those with autism spectrum disorders, intellectual disabilities, and delays in language, etc., increase the chances of social and educational integration, helping them develop to their fullest potential.

With the aim of creating a child-focused educational environment based on the foundation of Japanese education values, Kazuo is committed to creating a quality environment and the most optimal conditions to help all children with disabilities maximize their ability. At the Kazuo Center, every child with a disability will be diagnosed and his or her skills and abilities will be evaluated, based on which the best medical therapy and education interventions, which are appropriate to an individual child, will be built. Each child in the Kazuo Center will be an independent, confident, and progressive individual.

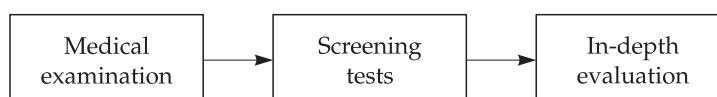
Also, the Kazuo Center has links with other centers and professional facilities in the whole country to provide the best services in terms of medical, pharmaceutical, and educational services for children and young families, such as the Nhi Viet clinics, the National Hospital of Pediatrics, intervention centers in the capital city of Hanoi and in some neighboring provinces, such as Vinh Phuc, Thai Binh, Hai Phong, Bac Ninh, etc.

With the motto „Children are the light of humanity“ the Kazuo Center always aims at the progress and development of each child; each child’s light will help light up the progress and development of the whole society and mankind.

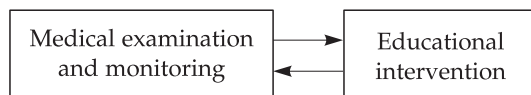
Coordination of educational intervention and medical therapy at the Kazuo Center

Interventions for education and medical treatment are coordinated at all stages at the Kazuo Center as shown in the following relationships:

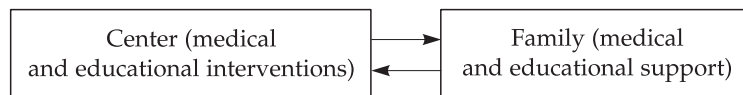
Process of diagnosis and evaluation



Interventions (individuals and groups)



Coordination between the family and educational intervention



Typical case studies

CASE STUDY 1

General information about the child

Full name: D.T.Q, male

Date of birth: 02/11/2012

Medical history: He is the second child in the family, his older sister is in college. His mother had him when she was 35. Normal birth at 38 weeks, weight 3.4 kg, no abnormal problems at birth. He cried right away. He has no problems with digestion but has trouble sleeping; he finds it hard to sleep and often does not take a nap.

Developmental history: Physically, all his developmental milestones are relatively normal. He knew how to handle things from 4 months; however, he did not know how to play properly, did not know how to observe and follow a pattern. In terms of language, he only speaks several single words and two-word phrases. He looked in the direction of the hand when he was about 30 months.

Self-care skills: He demonstrates almost all self-care skills but does only what he likes.

He was diagnosed and checked at the National Hospital of Pediatrics at 23 months and was diagnosed with attention deficit hyperactivity disorder.

Educational history: He started preschool in his locality when he was 24 months. He did not receive any interventions then.

Characteristics of the child

The results of the evaluation of the child with the Japanese Kyoto Scale of Psychological Development 2001 (Kyoto Scale) when the child was 4 years 11 months (assessed on 03/10/2017) are contained in Table 1.

Table 1

Results of child 1 on the Kyoto Scal

Field of Development	Score	Developmental age (DA)	Developmental quotient (DQ)
Postural-Motor (P-M)	84	57 months (4 years and 9 months)	96.7
Cognitive-Adaptive (C-A)	207	28 months (2 years and 4 months)	48.4
Language-Social (L-S)	62	24 months (2 years)	41.9
Total	353	27 months (2 years and 3 months)	46.8

The total result reveals that he has a moderate developmental delay in comparison with his actual age. In three basic areas of development, the Postural–Motor field is the best – the result is within the normal range. The Cognitive–Adaptive field and the Language–Social field indicate a moderate developmental delay.

In addition, he has some worrying behavioral problems, such as running or climbing and not sitting still as required; repeating others' words, not using the language actively; finding it hard to take a nap, beating his friends and scratching himself; screaming, crying, and beating his relatives (father, mother) at home.

A combination of medical therapy and educational intervention

He began receiving interventions at the Center in October 2017 by joining full-day classes, combined with five one-hour sessions of intervention per week.

Since he did not take any drugs before, products made from herbs were recommended. He was prescribed Clam and Focus, imported from the US, which have no side effects during treatment, with the following dosage:

Clam (for children who have anger issues and trouble falling asleep): 1 ml once a day, 30 minutes before breakfast.

Focus (for children who have trouble focusing, lack alertness, or have mental fatigue): 1 ml once a day, 30 minutes before dinner.

These medicines have fruit flavors, so they are easy to drink. Q's medication is always monitored by the doctor. The family also coordinates with the Center on monitoring, observing, and recording the child's behaviors, and responds to the Center.

The effectiveness of educational intervention and medical treatment

Q's sleep improved from the 15th day of drug treatment. After one month, his restlessness was reduced. By the second month, he no longer climbed, ran forward or screamed (his family also had the same comments). His repeating others' words has also decreased because the child has better eye contact and speaks more actively (though not much) during learning. He is more aware and more organized. In the third month, he started to observe and notice what the teacher did and imitated when he got home. His listening is also better.

At the intervention sessions, the child sat longer with the teacher, having better communication and eye contact. He was gradually doing better, following teachers' instructions and gradually accomplishing the goals set for him.

The comparison of the results between the first (Table 1) and second evaluation (Table 2) shows that Q has made certain progress. Although his developmental level does not correspond to his actual age, he shows stable progress in his development. The total developmental quotient in all the fields increased by 0.8 point. The developmental quotient in the Postural – Motor field remained almost the same, in the Cognitive – Adaptive field – increased by 2.3 points, and in the Language – Social field – by 1.2 points.

Table 2

Results of child 1 after six months of educational intervention

Field of Development	Score		Developmental age (DA)		Developmental quotient (DQ) Average = 100	
	1 st time	2 nd time	1 st time	2 nd time	1 st time	2 nd time
Postural–Motor (P–M)	84	86	57 months (4 years and 9 months)	63 months (5 years and 3 months)	96.7	96.9
Cognitive–Adaptative (C–A)	207	224	28 months (2 years and 4 months)	33 months (2 years and 9 months)	48.4	50.7
Language–Social (L–S)	62	73	24 months (2 years)	28 months (2 years and 4 months)	41.9	43.1
Total	353	383	27 months (2 years and 3 months)	31 months (2 years and 7 months)	46.8	47.6

CASE STUDY 2:

General information about the child

Full name: N.N.A, female

Date of birth: 12/11/2006

Medical history: She is an only child in the family. Normal birth and no unusual incidents at birth. She has both sleep and digestive problems. She has difficulty in eating, does not know how to handle a spoon, and only eats simple dishes (chopped chicken). She hardly takes a nap, experiences poor sleep quality, has sleep-wake problem all night but then sleeps all morning.

Developmental history: Physically, the child exhibited marked delays compared to her peers. Regarding the language, at the time of the evaluation, she could not speak any words, only had some gestures, such as pulling the hand. She used to get intervention in school, but it was rarely provided, and she had signs of regression after some time. When she came to the Center, she did not know how to do anything, including putting toys in the basket.

Self-care skills: She is hardly able to take care of herself. Her father said that she had difficulty in eating and drinking at home. Her gross and fine motor skills are poor.

Regarding her family: Her parents divorced; she is currently living with her father, who is quite busy and rarely spends time with her.

She was diagnosed and checked at the National Pediatrics Hospital at 30 months and was diagnosed with autism spectrum disorder and mental retardation.

Characteristics of the child

The results of the evaluation of the child with the Japanese Kyoto Scale of Psychological Development 2001 (Kyoto Scale) when the child was 11 years old (assessed on 03/12/2017) are contained in Table 3.

Table 3

Result of child 2 on the Kyoto Scale

Field of Development	Score	Developmental age (DA)	Developmental quotient (DQ)
Postural–Motor (P–M)	81	40 months (3 years and 6 months)	30.3
Cognitive–Adaptative (C–A)	121	494 days (one year and 3 months)	11.4
Language–Social (L–S)	22	12 months (one year)	9.1
Total	224	535 days (one year and 5 months)	13.2

The result reveals that she has a substantial developmental delay in comparison with her actual age. In three basic areas of development, the Postural–Motor field is the best, followed by the Cognitive–Adaptive field, and finally the Language–Social field. However, all three developmental areas are far behind her actual age.

In addition, she has some worrying behavioral issues, such as sitting alone almost all the time, sometimes standing up and walking around in the classroom without purpose. She often plays with her hair and ears with her hands. When bringing her to school, the father has to use a buggy and remind her to get out. The child will lose control when hearing a loud sound. She likes crumpling paper but only red paper. In the classroom, she will put all efforts to get any red paper, whether big or small pieces, from her friends. She does not take a nap at noon. She also has sexual self-stimulation behaviors, i.e. touching the genitals and stretching the legs (when lying) and usually putting her hands inside the pants to play with the genitals. She does not care about anything around her.

A combination of medical therapy and educational intervention

She started receiving interventions at the Center in November 2017 by joining full-day classes. In addition, due to family circumstances, she does not participate in any other intervention activities.

Since she did not take any drugs before, products made from herbs were recommended. She was prescribed Clam, Focus, and Shine, imported from the US, which have no side effects during treatment, with the following dosage:

Clam (for children who have anger issues and trouble falling asleep): 1 ml once a day, 30 minutes before breakfast.

Focus (for children who have trouble focusing, lack alertness, or have mental fatigue): 1 ml once a day, 30 minutes before dinner.

Shine (strengthening digestion in children): 1 ml once a day, 30 minutes before dinner.

These medicines have fruit flavors, so they are easy to drink. N.A.'s medication is always monitored by the doctor. The family also coordinates with the Center on monitoring, observing, and recording the child's behaviors, and responds to the Center.

The effectiveness of intervention and medical treatment

N.A.'s sleep improved on the 10th day. She took a nap at noon in the first month yet discontinuously.

In the second month, she stopped walking freely in the classroom (reduced restlessness), no longer looking for red paper (the teacher in class also enhances

alternative activities to prevent such behaviors). She observes and knows to follow her friends when they go in or out of the classroom. She knows to pick up things she drops. Her eating also improved with more chewing.

In the third month, she learned to eat with a spoon. She cried when her friends left the Center for home (clearer emotion). She took a nap almost every noon.

In the fourth month, she knew to make the bed (mattress and pillow) with her friends. She picked up toys when asked by the teacher. Her listening and understanding skills were better and she was able to concentrate and observe.

In the fifth month, she knew how to brush her teeth and change sanitary pads with the teacher's guidance. She also knew to greet her father and teacher when reminded by the teacher. She put her shoes in place when coming to the Center and put them on by herself when leaving the Center for home.

Besides, in the course of learning, she said the word „home“ five times (when she tried to follow her friends going home).

Because of family circumstances, the girl only attends classes and never participates in individual intervention sessions. Poor cognitive performance with many behavioral problems have resulted in little progress after six months, although we have seen some significant improvements in her performance.

Conclusion

The effectiveness of the combination of medical therapy and educational intervention in educational institutions has been proved through the above-mentioned case studies at an educational center, which reinforces the theoretical basis and practical evidence for the link between health and education. Given the current situation in Vietnam, as the number of children with developmental disorders tends to increase, it becomes clear that the introduction of models combining health therapy and educational intervention as well as implementation of various solutions in the care and education of these children will require more synchronization and an interdisciplinary approach. Therefore, the model of coordination between educational interventions and medical therapies at the Kazuo Center is a model that needs to be considered and widely implemented as it meets the actual needs of Vietnamese children with developmental disorders and their families.

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MODEL ŁĄCZĄCY INTERWENCJE MEDYCZNE I EDUKACYJNE W PRACY Z DZIEĆMI Z ZABURZENIAMI ROZWOJU W WIETNAMIE – STUDIA PRZYPADKÓW

Abstrakt

Kształcenie specjalne musi charakteryzować się interdyscyplinarnością, by zapewnić wszechstronną edukację dzieciom ze specjalnymi potrzebami, a zwłaszcza tym z zaburzeniami rozwoju. W przypadku dzieci z zaburzeniami rozwoju, takimi jak spektrum autyzmu, ADHD, trudności w uczeniu się, regularne interwencje edukacyjne są bardzo istotne, gdyż zapewniają im niezbędną wiedzę i umożliwiają ćwiczenie potrzebnych umiejętności, zanim wykorzystają je w procesie integracji społecznej. Artykuł przybliży modele interwencyjne stosowane w placówce edukacyjnej w połączeniu z terapią medyczną, a także omawia efekty takiego połączenia na przykładzie dwóch studiów przypadków dzieci z zaburzeniami rozwoju. Celem artykułu jest przedstawienie konkretnych dowodów oraz wyników studiów przypadków i tym samym przyczynienie się do stworzenia wyraźniejszego obrazu modelu łączącego aspekty zdrowotne i edukacyjne, stosowanego w Wietnamie w działaniach interwencyjnych skierowanych do dzieci ze specjalnymi potrzebami, a zwłaszcza tych z zaburzeniami rozwoju.

Słowa kluczowe: dzieci ze specjalnymi potrzebami, dzieci z opóźnionym rozwojem, dzieci ze spektrum autyzmu, dzieci z ADHD, interwencja edukacyjna, terapia medyczna