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〔報告〕

早期英語教育によって表出性言語障害となった幼児に対する遊戯療法の効果

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The Effect of Play Therapy on a Japanese Child Suffering from Expressive Language Disorder Brought on by Early English Education

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要　旨

とし子（仮名）は，早産（24週）で出生した超早産児である．とし子は，脳性麻痺や知的障害がないにも関わらず，2歳2ヶ月（修正月齢23ヶ月）になっても母親をふくめて誰に対しても発語がなく，主治医は彼女が言葉の遅れがある可能性を示唆した．主治医は，とし子に母親からばかりではなく社会からの言語刺激を与える必要があるとして，筆者らのプレイルームを紹介した．高等教育を受けた母親は，とし子をバイリンガル児に育てようとしていた．

遊戯療法の第Ⅰ期において，筆者らは，とし子が赤ちゃん人形でままごとをして遊んでいることを認めた．しかし，とし子は，運動技能を要求されるような，例えば跳びはねたりバランスを維持したりするトランポリンやラージセラピーボールの上ではねるなど体全体を使う遊具を嫌った．筆者らは，アニメーションキャラクターの声が聞こえるおもちゃの電話を用意した．そのころから，とし子はトランポリンや大きなセラピーボールの上で遊び始め，家庭では「パパ，ママ，じじ」とか「ブーブ」などの1音節の擬態単語を声に出せるようになった．

遊戯療法の第Ⅱ期において，とし子はトランポリンや大きなセラピーボールの上でのダイナミックな動きに伴って，1音ずつの単語が出てくるようになった．とし子は，家庭で両親など周りの人々が言った言葉やTVで聞いた言葉を真似するようになった．

第Ⅲ期に入ると，とし子は，買い物ごっこ遊びに興味があると言い始めた．第Ⅲ期のおわりには，買い物ごっこ遊びを通じて，筆者らは，とし子と相互的な言語コミュニケーションが可能となった．つまり，筆者らは，遊戯療法において，色々な身体的刺激を与えることによってとし子の表出性言語障害を治療することに成功した．

遊戯療法による日本語教育がとし子の表出性言語障害に治療的効果があったことから，日本人の両親が幼児期において子どもをバイリンガル児に育てるという試みは，子どもの言語発達に害を与える可能性があることを示唆する．

キーワード：表出性言語障害，遊戯療法，早期英語教育

Abstract

The objective of this case report is to demonstrate the use of a concrete measure for acquiring the native

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language (Japanese) for an extremely low birth weight infant suffering from expressive language disorder. Toshiko (pseudonym) was born prematurely, after a gestation period of only 24 weeks. Until the age of two years two months, 23 months (adjusted age) Toshiko had spoken no words to anyone, including her mother, leading to a diagnosis that she probably suffered from a speaking delay, regardless of no symptoms and signs of cerebral paralysis and mental retardation.

Toshiko's doctor suggested that Toshiko should be exposed to verbal stimuli other than her mother's speech, and introduced Toshiko and her mother to our play therapy facility. Toshiko's mother is highly educated, and intended to raise Toshiko to be Japanese/English bilingual.

In the first period of play therapy, we observed Toshiko playing "house" using a baby doll. We made use of a toy phone through which an anime character's voice could be heard. Toshiko gradually started playing on the trampoline and large therapy balls, and she began saying combinations of single syllable mimetic words like "pa-pa", "ma-ma", "ji-ji" ("grandpa") and "bu-bu" ("car") .

In the second period of play therapy, Toshiko was able to speak a few syllables to herself as she jumped on the trampoline and played on the large therapy balls. Toshiko often parroted the words of her parents and other people around her, including newsreaders on the television.

In the third period of play therapy, Toshiko began saying that she was interested in make-believe shopping. By the end of the third period, by means of the shopping role-play, the therapy team had established two-way verbal communication with Toshiko. In summary, we succeeded in treating Toshiko's expressive language disorder by using several physical stimuli in the course of the play therapy sessions.

Keywords : Expressive language disorder, Play therapy, Extremely low birth weight infant, Acquisition of Japanese

Introduction

In the Diagnostic and Statistical Manual of Mental Disorders Ⅳ (DSM-Ⅳ),expressive language disorder (ELD) is described as a rare psychological disorder in children[1]. Children with ELD are fully capable of speech and understand language, but in certain social situations they fail to speak when they would otherwise be expected to. They function normally in other areas of behavior and learning, though they appear severely withdrawn and possibly unwilling to participate in group activities. ELD is like an extreme form of shyness, with the intensity and duration varying depending on the child. For example, there are cases where children have remained completely silent for years, both in and out of the home.

In recent years, early English education programs which target infants and kindergarten-aged children have become popular in Japan[2,3], with parents hoping that their children, by starting at an early age, will become bilingual. The decline in the birthrate in Japan has led to greater competition between kindergartens, and one of the methods of attracting enrollments has been to offer English lessons from a very early age. That is to say, the directors have to run the kindergartens with this distinct feature[4].

However some reports[5,6] have suggested that it is difficult for Japanese parents to bring up truly bilingual children even if the parents have lived in an English-speaking country. There are some who believe that the acquisition of English during infancy is harmful for Japanese children, and that it is important for children to establish a foundation in their mother tongue[7].

This case report not only presents concrete techniques of play therapy used in the physical and emotional development of a girl with ELD brought on by English language education during infancy, but also demonstrates that the process of acquiring Japanese varies according to changes in the physical content of play, from playing "house" to dynamic physical movement.

Ethical considerations arising from privacy issues in case reports

In order to carry out this study we first obtained verbal consent from the patient's guardians. On completion of the report we provided her guardians

with a draft for the purpose of having them make corrections to any errors of fact. Finally we explained and obtained formal written consent to have the report included in this journal. Certain elements not affecting the results (past history, identity of family members) were altered in order to protect the patient's privacy.

Case presentation

Toshiko (a pseudonym) was a two-year old girl who was already diagnosed as ELD-in spite of normal intelligence she had not spoken since she was born (see Table 1) .

1. Case History

Toshiko was a very premature infant, born after a gestation period of only 24 weeks. At birth she was 29 centimeters long and weighed 719 grams. Toshiko was admitted to a neonatal intensive care unit (NICU) for six months where she was cared for in an infant incubator.

At three months old Toshiko had grown to 39 centimeters and 1438 grams, and by six months she measured 53 centimeters and weighed 4320 grams. By her first birthday she was 66.4 centimeters long and weighed 7000 grams, and by age two she was 78.8 centimeters tall and weighed 9100 grams. Toshiko's rate of growth was within the normal range for low birth weight infants in Japan. After six months Toshiko was able to suckle, and was discharged from the NICU. Once every three months Toshiko received follow up treatment at the pediatric and neonatal intensive care units of a local general hospital.

Until the age of two years two months Toshiko said no words to anyone, including her mother, leading to a diagnosis that she probably suffered from a speaking delay. However, she appeared to understand words spoken to her by her mother and doctor. Brain MRI (magnetic resonance imaging) revealed no abnormalities. Toshiko's doctor suggested Toshiko should be exposed to verbal stimuli other than her mother's, and introduced Toshiko and her mother to our play therapy room.

At present Toshiko has no siblings. Toshiko's father is high-ranking bureaucrat with a demanding job who often works late. Toshiko's mother is a highly educated full-time homemaker. Toshiko's mother intended to raise Toshiko to be bilingual. To this end, Toshiko was exposed to two main sources of input. Toshiko's mother usually spoke to her in Japanese, but from the age of one Toshiko watched TV shows and DVDs in English. As a result, Toshiko received more English language stimuli than Japanese. Toshiko's mother was concerned that being born prematurely had left Toshiko with some kind of brain damage, which somehow affected her by delaying her language development.

2. Physical and psychological assessment

At the age of two years and two months, Toshiko did not speak any recognizable words; however, she was observed trying to transmit her intentions through babbling sounds like 'an-an'. Toshiko was able to understand our instructions. For example, when asked to fetch a toy brick of a certain color from a box containing many bricks she was able to carry out the task. She was also able to dance in time to music and appeared to enjoy doing so.

Table 1　Diagnostic criteria for Expressive Language Disorder

A. The scores obtained from standardized individually administered measures of expressive language development are substantially below those obtained from standardized measures of both nonverbal intellectual capacity and receptive language development. The disturbance may be manifest clinically by symptoms that include having a markedly limited vocabulary, making errors in tense, or having difficulty recalling words or producing sentences with developmentally appropriate length or complexity.

B. The difficulties with expressive language interfere with academic or occupational achievement or with social communication.

C. Criteria are not met for Mixed Receptive—Expressive Language Disorder or a Pervasive Developmental Disorders.

D. If Mental Retardation, a speech—motor or sensory deficit, or environmental deprivation is present, the language difficulties are in excess of those usually associated with these problems.

Coding note : *If a speech—motor or sensory deficit or a neurological condition is present, code the condition on Axis Ⅲ.*

3. Intelligence assessment

We carried out development testing using the Shinpan K-shiki Test[8] when Toshiko was two years and two months old. The Shinpan K-shiki Test (SKT) consists of three independent developmental assessments : (1) Posture-Movement (P-M), (2) Cognition-Adaptation (C-A), and (3) Language-Social (L-S). A development age is calculated for each of the three areas covered by the SKT, and the values are compared with the chronological age.

Toshiko's overall developmental age was 1 year and 10 months. Toshiko had difficulty in walking up and down stairs holding on to the railing. As a result, she had a low score in the area of posture and movement (see Table 2) .

In the Shinpan K-shiki Test (SKT), Toshiko was able to point to pictures in the SKT storybook in response to questions from the therapy team, indicating that in the language-social area, she possessed normal intelligence for a child her age. Toshiko's results for the SKT showed that despite her lack of speech, there was no delay in the areas of cognition-adaptation and language-social, and she had the development expected of a child her age.

We observed Toshiko playing "house" using a baby doll. We also observed that Toshiko played "house" using a toy cooking set－carrying out such movements as putting on a pot and ladling out soup. Toshiko gave a toy bottle of milk to her baby doll and combed the doll's hair. When Toshiko rode a tricycle and the therapy team pushed her along, she appeared to enjoy it. Despite a lack of verbal replies, Toshiko perfectly understood what we said to her, and in our assessment Toshiko does not have autism. We carried out play therapy for 50 minutes every week. When we carried out play therapy, Toshiko's mother observed her daughter at play, and sometimes she participated in our therapy team.

4. Play therapy

The process and results of our play therapy from April X (year) to February X+1 (year) are broken into three periods and reported as follows.

1) First Period: In the presence of our team, Toshiko played by herself using miniature cars and dolls, and made babbling sounds.

At the beginning of the play therapy program we led Toshiko to the play therapy room by holding her hand; however, she gradually became able to make her way to the room by herself.

When we let Toshiko choose which toys she wanted to use in the play therapy session, she usually chose the same toys. Toshiko's favorite toy was a small folding garden, which had a river, trees and two miniature dogs. At the beginning of play therapy sessions Toshiko immediately went to the place where the garden toy was kept and opened it. Each time, she placed the miniature dogs in the same favorite place in the garden.

She also played with the Thomas the Tank Engine mini locomotives and railway set and Tomica miniature cars at every session. Toshiko turned on the main power supply switch by herself and paid close attention to the locomotives and miniature cars as they ran on the railway and roads respectively. If it became difficult for Toshiko to move something by herself, we gave her assistance and she did not seem to mind, remaining focused on her play.

Toshiko responded positively to advice such as "Please bring us the miniature cars" and "Look! The locomotive stopped". However, Toshiko did not follow suggestions such as "Why don't we play over here?" and she continued playing in her own way.

Toshiko did not jump on the trampoline and

Table 2 The score of SKT on 23 months (adjusted age) X.12.30

Chronological age (CA)		Two years and two months		
Adjusted age in months		23months		
Developmental Age (DA)			Developmental quotient (chronological age)	Developmental quotient (adjusted age in months)
	1) Posture-Movement (P-M) lesion	One year and five months	65	74
	2) Cognition-Adaptation (C-A) lesion	Two years old	92	104
	3) Language-Social (L-S) lesion	One year and eight months	77	87
	Overall	One year and ten months	85	96

large, one meter diameter therapy balls; that is to say, she disliked the play equipment which involved exercise. When we tried putting Toshiko on the trampoline or large therapy balls she immediately looked frightened and climbed down. Toshiko was not interested in playing with life-size, self-balancing punching dolls made from soft vinyl plastic, even though we demonstrated how to use them.

Initially, Toshiko was unable to say anything except babbling sounds like "an-an", but eventually she became able to say the word "No". When Toshiko was looking at picture books and came upon an illustration of food she disliked, or when a member of the therapy team mentioned the name of an anime character Toshiko disliked, Toshiko was able to say "No!" firmly. Toshiko's mother informed us that Toshiko used the word "No" at home as well. During play therapy Toshiko started showing negative feelings through her attitudes to others, for example when a therapist made an effort to assist her, Toshiko would brush the therapist's hand away.

We deliberately repeated words that would be easy for Toshiko to pronounce, for example to increase her vocabulary we would use onomatopoeic words like "bu-bu" when pushing toy cars around.

In particular we made use of a toy phone through which an anime character's voice could be heard. When we pressed the push-dial on the toy phone, Toshiko responded to the character's voice, pressing the buttons on the phone over and over again and laughing out loud. From that time on, at home, Toshiko began saying combinations of single syllable mimetic words like "pa-pa", "ma-ma", "ji-ji" and "bu-bu".

Toshiko would not get on the trampoline of her own accord, but when we placed her on it she was able to remain in a seated position even when the trampoline was shaking, and sometimes she tried to stand up on her own. With the therapy staff supporting her body, Toshiko became able to jump in time to music while standing on the trampoline.

2) Second Period: In the presence of the therapy team Toshiko spoke some syllables to herself accompanying her movements on the trampoline and the large therapy balls.

Even when we placed Toshiko on the large therapy ball and moved it from side to side, she kept her composure as she played, and showed no signs of fear. On one occasion Toshiko said the names of several colors. Toshiko pronounced only one syllable of the name of the color, for example for red (*"aka"*) she said "ka" and for yellow (*"kiiro"*) she said "ki".

When reading a picture book with the therapy staff Toshiko said the sound "ba" when she saw a picture of a *banana* and "mi" when she saw a *mikan* (a type of mandarin). When we pointed at some illustrations in a picture book, Toshiko pronounced each syllable of the word separately, for example usagi (rabbit) she said "u-sa-gi", mikan became "mi-ka -n" and kuma (bear) she said as "ku-ma".

According to her mother, Toshiko often parroted the words of her parents and other people around her, including newsreaders on the television. The level of Toshiko's mischievous behavior increased.

When Toshiko chose a toy to use in play therapy, she selected it and said "this!". She also pointed to the large therapy ball and said 'Over there'.

3) Third period: In the presence of our team, Toshiko was observed using sentences, and spoke with the therapy team while playing make-believe.

In January of X+1 (year) Toshiko carried a pair of her favorite slippers from the entrance of the playroom and presented them to one of the members of the therapy team. Toshiko became used to playing with a talking picture book. When she pressed a picture in the book it made a sound－the sound of the first syllable of the object's name. This talking book is designed to teach children the 50 sounds of the Japanese language. Using the talking book Toshiko gradually learned to give detailed explanations of situations, for example "A bee is sitting on the *kotatsu*". From that time onward Toshiko acquired language at a rapid rate. Toshiko's mother informed us that Toshiko had begun speaking all day long.

Toshiko used the building blocks in the playroom to play make-believe shopping with the therapy team. Toshiko would push the box containing the blocks into the playroom, overturn it and make cars out of the blocks. When we asked Toshiko the question

"Where are you going?" Toshiko would reply "Shopping". When we asked Toshiko where she wanted to go to shopping, she answered "I want to go to *Fuji* shopping center".

During the first period of therapy Toshiko was observed making cars out of blocks; however, when we suggested going for a drive she did not respond. In the third period of therapy, Toshiko began saying that she was interested in make-believe shopping.

During the make-believe shopping, Toshiko "drove" the car made from blocks to Fuji shopping center－represented by the box that had been holding the building blocks. At the "shopping center" Toshiko selected blocks on which were painted pictures of her favorite foods and put them in her toy shopping cart. Remembering times when she had gone shopping with her mother, during the make-believe shopping Toshiko reproduced the action of swiping a bar code, making a "beep" sound as she did so.

During the make-believe shopping, after buying a block with a picture of fruit on it, Toshiko said to herself "I need a shopping bag". Toshiko and the therapy team went looking for something to use as a shopping bag. In searching, Toshiko came across other toys she liked, and began playing with them. Despite playing with the other toys, Toshiko remembered the shopping bag, and when she had finished playing she said "Fukuro!" (Shopping bag) and recommenced her search.

Toshiko was observed to enjoy the make-believe shopping and after playing with other toys she would always say "Let's go shopping!" When Toshiko was playing with the car made from blocks and using a doll as the driver and the doll fell from the car, Toshiko said "Sorry!" Toshiko was also observed operating the wooden block car over the laps of the therapists. These behaviors of Toshiko's were not observed during the first or second periods and were only observed during the third period of therapy.

From the third period of therapy onwards, Toshiko was observed to enjoy playing games with the therapists. In one interaction, a therapist would conceal a small toy in one hand, and making it easy for Toshiko to follow, and using a rhythmic tone, would chant "Which hand is the toy in?" Toshiko would indicate which hand she thought the toy was in, and when she indicated the correct hand and the therapist revealed the toy, Toshiko was visibly delighted. When the therapist indicated in which hand Toshiko held the toy, Toshiko opened her hand to reveal the toy, smiling widely as she did so.

By the end of the third period, by means of the shopping role-play, the therapy team had established two-way verbal communication with Toshiko. From the third period onwards, Toshiko made rapid gains in language acquisition, and entered kindergarten in April X+1 (year).

We carried out a second round of SKT in July of X+1 (year) (see Table 3).

In our play therapy using trampoline and large-therapy boll designed to improve her capability of movement, Toshiko was gradually able to keep her body balance on unstable objects. Even though her score in the posture-movement area was lower than that of standard CA, her scores in both the cognition-adaptation and language-social areas were appropriate for her age. Toshiko's results for the SKT showed that despite her eight months' delay in posture-movement area, her ability of cognition-adaptation and language-social were already caught up with her expected CA.

Table 3　The score of SKT on 30 months (adjusted age)　　X+1.07.24

Chronological age (CA)		Two years and eight months		
Adjusted age in months		30 months		
Developmental Age (DA)			Developmental quotient (chronological age)	Developmental quotient (adjusted age in months)
	1) Posture-Movement (P-M) lesion	Two years old	75	80
	2) Cognition-Adaptation (C-A) lesion	Two year and six months	94	100
	3) Language-Social (L-S) lesion	Two year and six months	94	100
	Overall	Two year and six months	94	100

Discussion

1. The relationship between the change in Toshiko's play and the development of her speech.

In the first period of therapy, when Toshiko was two years old, she did not look at the therapists and did not try to engage them emotionally.

It is our view that at the beginning of therapy, Toshiko felt a psychological distance between herself and the members of our therapy team, and that generally she lacked concern for others.

In the first period of play therapy, the therapists became actively involved in Toshiko's solitary play routine, in which she played with a dollhouse and a Thomas the Tank Engine mini locomotive and railway set. Based on information from Toshiko's mother, the therapists tried to attract Toshiko's attention and play with her by using "talking" soft toys based on Toshiko's favorite animated characters. Little by little, through playing with these "talking" soft toys, Toshiko began making friends with the therapists.

From that time on, Toshiko also began reading picture books with the therapists and learnt to ride on the trampoline with their assistance. At that time Toshiko's speech still only consisted of simple utterances like "iya" ("no"), "ma-ma" ("Mum") and "bu-bu" ("car").

In the second period of play therapy, not only did Toshiko read picture books with the therapists, she was observed demonstrating a large degree of physicality in her play, incorporating dynamic movements-for example, jumping on the trampoline, throwing balls, and punching self-balancing dolls. Toshiko was observed to require the therapists' help with actions that she was not able to do by herself-for example, riding on the large therapy ball. When something enjoyable happened, Toshiko smiled at the therapists and her mother, and in our view this demonstrated a diminishing psychological distance between her and the therapists.

As Toshiko became more dynamic during the play therapy, she began to say single syllables of certain words, for example for red ("aka") she said "ka", and for yellow ("kiiro") she said "ki", and the sound "ba" when she saw a picture of a banana and "mi" when she saw a mikan (a type of mandarin) . In addition, when we pointed at some illustrations in a picture book, Toshiko gradually began to say the name of objects, pronouncing each syllable of the word separately, for example the word *usagi* (rabbit) she said as "u-sa-gi", *mikan* became "mi-ka-n" and *kuma* (bear) she said as "ku-ma".

Nakagawa[9] reported that the following consecutive factors were necessary requirements in developing the ability to speak : 1) imitation of movement and speaking, 2) developing skilled hand and finger movement, 3) finger pointing, 4) reciprocal play, 5) expressing one's feelings through movement and facial expression. Nakagawa[9] also indicated that enjoyable play involving use of the whole body, and based on emotional development derived from a stable relationship between child and mother, might play an important role in promoting those consecutive steps.

We realized that Toshiko began to progress from babbling to saying complete words during the sessions in which she was involved in full-body movement play with the therapists.

In the third period of the play therapy, Toshiko was observed to no longer play with the dollhouse and railway set with which she played extensively during the first period.

Little by little Toshiko began saying the names of objects and describing her feelings, for example when she was riding the large therapy ball, and came to show an interest in the chart listing the 50 *hiragana* and was also observed using wood blocks in make-believe shopping play.

During shopping play therapy Yoshiko gradually began to progress from saying '*momo*' (peach) to full sentences like 'I bought a peach', which involves using a subject, verb and object, and using an appropriate expression for TPO. (Time, Place, Orientation) . Because the make-believe play centers on the relationship between Toshiko and the therapists, the therapists felt that the psychological distance between them and Toshiko was much reduced. In our view Toshiko's change in playing style from a solitary pattern to one incorporating emotional engagement with others corresponded to her growth and development.

2. The relationship between the change in Toshiko's mother's attitude and the development of Toshiko's speech.

In his reports concerning interviews with children suffering from ELD, Tatara[10] indicated that therapists should talk to the child's mother to get information about the child's problems and everyday activities. Tatara[10] also reported that because children with ELD are directly influenced by their parents' actions, a change in the parents' attitude towards rearing their child has a high possibility of improving their child's condition.

The growth and development of extremely low birth weight infants (ELBWIs) should not be evaluated simply based on the date of birth but in relation to a defined estimated date of childbirth (EDC) . In particular, the KST intelligence scores for ELBWIs should be evaluated not only for the child's real age but also for the child's adjusted age in months. The adjusted age in months is the number of months from the EDC to the date on which the SKT was carried out.

Toshiko was born after a gestation period of 24 weeks, that is to say four months premature, or 16 weeks before the EDC. Infants who are born prematurely tend to experience slow physical growth and neurological development; however, this pace of development is regarded as consistent for premature infants. Low birth weight is well established as a cause of delay in language development. To estimate the level of acquisition of language and the characteristics of language delay among ELBWIs, language developmental examinations should typically be carried out. There is a wealth of research on language delay in English speaking countries ; however, in Japan there has not yet been sufficient research.

Ozuru[11] indicates in research based on SKT results that ELBWIs suffer from general language development delay in their first 24 months (adjusted age) and furthermore, that they have impaired communication skills and vocabulary/grammar until 36 months (adjusted age). The assessment of the development of ELBWIs showed that the developmental index was significantly lower for ELBWIs' whose birth weight was 750 g or less, compared to ELBWIs with a birth weight 1000 g or over. Furthermore, it is suggested that of the three development areas, (1) P-M lesion, (2) C-A lesion, and (3) L-S lesion, ELBWIs showed greatest delay in (3) L-S lesion.

Otomo et al[12] reported that where an infant was born after only 24 weeks' gestation, like Toshiko, and the ELBWI suffered no neurodevelopmental impairment such as cerebral paralysis, they generally first spoke at approximately 24 months (adjusted age). Though Toshiko suffered no brain damage, she was not able to speak until the age of 36 months (adjusted age). Because ELBWIs generally have slow language acquisition, Toshiko's particularly slow language development was not immediately noticed.

The present study[13] does not demonstrate a clear conclusion as to whether the delay in language development in ELBWIs decreases the closer to school age the child becomes. As the child nears school age, the accumulated effects of family circumstance and academic background at kindergarten have an influence on the acquisition of language, so the direct relationship between low bodyweight at birth and ability to acquire language becomes unclear. These facts suggest that the long-term prognosis for acquiring language depends to a large degree on the environment in which the child grows up.

When we enquired into Toshiko's mother's attitudes towards Toshiko's acquisition of language, we discovered that Toshiko's mother tried to raise her daughter to be bilingual. Whether a child is an ELBWI or not, listening stimuli play an important role in infant language acquisition. The study of a two-year old infant with delayed language development revealed that the more rapidly the child's mother spoke, the greater the negative impact on the infant's vocabulary and development of language expression skills. Spoken English is more rapid than spoken Japanese, and the crucial key to understanding spoken English is the stress (accent) and speed of the English spoken. Although Toshiko was exposed to spoken English, the structure of English grammar differs from Japanese. Although ELBWIs generally suffer from delayed language development and weak

vocabulary and communication, we consider that Toshiko's mother's actions in attempting to raise her daughter bilingually had a huge impact on Toshiko's acquisition of her native tongue, Japanese.

Some reports[13,14] suggest that for a child to acquire its mother tongue, there are three necessary steps: (1) hearing the sounds of the mother tongue in the year immediately following birth, (2) listening to his/her parents' voices during the period from one year to one and a half years old, and (3) practicing talking by watching and imitating how their own parents speak. Toshiko's mother usually spoke her daughter in English, using colloquial expressions such as "Hello", "Good morning" and "How are you?" In addition, to supplement her own speech, Toshiko's mother also had Toshiko listen to English language learning materials such as children's educational CDs and DVDs, for 30 minutes a day. During a period crucial for the acquisition of her mother tongue (Japanese),Toshiko was instead exposed to English as spoken by her mother and the English spoken on educational CDs and DVDs.

Kataoka et al.[13] report that recently, at pediatric clinics, there has been an increase in the number of children suffering from a new type of language delay. These children are characterized by the fact that they are barely able to speak and experience difficulties in social communication in the normal course of playing with other children, although their motor skills and intelligence are otherwise normal. Tuchiya's survey[15] into developmental environments revealed that in each case these children watched TV or DVDs for several hours a day. It is well established that a child's brain develops by receiving various kinds of stimuli. Some mothers have stated that they put their child in front of the TV because it keeps the child quiet and makes the job of looking after them easier.

However, Dimitri A et al.[16] indicates that where mothers do not provide sufficient verbal and non-verbal stimuli during this crucial period of language acquisition, the resulting delay in language development cannot be reversed. Frederick J et al.[17] also indicate that because the symptoms and signs of this new type of language delay resemble those of autism, it is highly possible that this new condition has been misdiagnosed as autism. When children are diagnosed with autism, they need to be explicity taught basic societal rules and conventions. However, children suffering from this new type of language delay can be treated by changing their everyday environment and providing them with sufficient communication time with their parents[13]. When people watch TV or DVDs they are passive and the information flow is a one way street.

It is well established in the United States that exposing children to TV and DVDs for extended periods during infancy results in language delay. It is generally suggested that for children to acquire language, verbal communication with their parents is the most important factor. When, during infancy, children continue to receive input in a one-way fashion, from TV and videos, there exists the potential for the development of their communication ability to be inhibited[18,19]. In Toshiko's case, even though the input was English, the fact that she did actually receive direct input from her mother suggests that there is potential for our play therapy to be successful in treating Toshiko's language delay problem.

Toshiko's mother raised Toshiko with the aim of her becoming bilingual, but as a result Toshiko ended up suffering from ELD. We carried out Toshiko's play therapy in the presence of her mother for the purpose of demonstrating how Toshiko's mother should give instruction in Japanese.

At the beginning of the play therapy, Toshiko's mother was strongly concerned about her daughter's failure to speak and about the possibility that Toshiko's acquisition of Japanese had been delayed. As a result, Toshiko's mother brought Toshiko to the weekly play therapy session, a round trip of more than two hours by car. During the course of the play therapy, whenever her mother discovered another word that Toshiko was able to pronounce, she eagerly tried to have Toshiko repeat that word. Toshiko's mother's enthusiastic attitude towards her daughter's language acquisition has continued.

At the beginning of the play therapy sessions, Toshiko's mother constantly offered her daughter advice on how she should play. Toshiko's mother was observed on many occasions telling Toshiko to be careful, and stopping the play therapy when Toshiko

was at risk of hurting herself. However, as Toshiko became more dynamic during the play therapy and began to pronounce several words, we observed a change in Toshiko's mother's attitude towards her daughter. Toshiko's mother was noticeably delighted by Toshiko's progress in beginning to speak a few words.

Whenever Toshiko and her mother came to the therapy play room, her mother had Toshiko say 'kon-ni-chi-wa' ("hello"). Toshiko's mother was observed encouraging Toshiko to say some words which she had been taught at home during the week-long period between each play therapy session.

Toshiko's mother agreed with the fact that her English coaching, in an effort to raise Toshiko as bilingual, was the cause of her daughter's ELD, and that Toshiko confused the process of acquiring two languages. She also agreed that from now on she would teach her daughter to speak Japanese only for the next two or three years.

In recent years, English education programs aimed at producing bilingual children from the time they are infants or kindergartners, have been becoming increasingly popular in Japan. Takano et al.[20] indicated that early English language education had several risks for Japanese infants who had not yet achieved a basic foundation of Japanese. One of the risks reported by Takano et al[20] is the possibility that even if children are able to say both "car" and "kuruma" ("car"),infant English education programs might cause a decrease in abstract thinking and the ability to construct complicated thoughts. Takano et al[21] makes the point that one other risk of early English education programs in Japan is that the popularity of these programs for kindergarten children is based on the parents' sense of inferiority, that is, that neither parent is fluent in English yet desire their children to be raised bilingually. These results in situations where two native Japanese speakers attempt to speak only English to their child, depriving the child of meaningful native speech and resulting in a failure to construct a normal, healthy, communicative parent-child relationship.

We cannot deny the possibility that Toshiko has been suffering from ELD caused by her mother's enthusiastic English coaching, utilizing English language CD-ROMs from a very early age. We consider that early English programs for infants might not only be effective for the acquisition of English and Japanese with the aim of producing a bilingual child, but also play a role in constructing the relationship between child and parents, so long as one of the parents is an English native speaker. The fact that our use of Japanese language coaching in play therapy was effective in treating Toshiko's ELD indicates that there may be a harmful effect in the use of CD-ROM materials in early infant English education.

Reference

1) American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders, fourth Edition. 1994.

2) Sugino, N., Koga, Y. and Kawashima, H.: A Longitudinal Study of English Language Activities at a Kindergarten : Focusing on Shifts in Instructional Practices. Annual Review of English Education in Japan, 15, 71－80, 2004.

3) Koga, Y.: Understanding Shifts of Instructional Focuses and Change in Classroom Interaction: A Longitudinal Study of English Language Activities at a kinder garden in Japan, Journal of Pan-Pacific Association of Applied Linguistics, 8 (2), 137－148, 2004.

4) Kodomo Eigo : February Issue. ARC Co. 2007.

5) Nakahashi, K. : Critical Period and English Education at an Early Age, The bulletin of the Nippon Veterinary and Zootechnical College, 55－60, 1996. (in Japanese)

6) Hayashi, K. : The Influence of Cognitive Development in EFL/ESL (L2) Learning and Environmental Variables,Communication, Cognition, and Second Language Acquisition an International Interdisciplinary Quarterly Journal, Belgium. 30 (1), 151－174, 1997.

7) Hayashi, K. : The Relationship between Vocabulary Development and Reading Comprehension, and its Pedagogic Implications for Vocabulary Development, Bulletin of the Faculty of Education, Wakayama University 52, 135－146. 2002. (in Japanese)

8) Ikuzawa, M, Matsushita, Y, and Nakase, A : Kyoto

Scale of Psychological Development 2001, Kyoto International Social Welfare Exchange Centre, 2002. (in Japanese)

9) Nakgawa, N.: Handicapped children who have been suffering from delay in acquisition of vocabulary-One hint on developing the words in the ordinary life, Budoo Co, 27－44, 1999.

10) Tatara, M.:Psychotherapy provides the backgrounds of developing vocabulary for the infants, Japanese journal of clinical psychology, 2 (1), 34－38, 2002. (in Japanese)

11) Ozuru, K.: Developmental Characteristics of Children with Very-Low-Birth-Weight at the Age of 3 years: From the Results of Kyoto Scale of Psychological Development, Journal of Chikushi Jyogakuen Junior College, 39, 47－61, 2004. (in Japanese)

12) Otomo, K., Wakaba, Y., Takahashi, M. et al.: Language Development in Very Low Birth Weight Children and Normal Birth Weight Children: Comparisons Using a Language Skill Questionnaire at 12, 24 and 36 Months of Age, The Japan Journal of Logopedics and Phoniatrics, 43, 160－172, 2002. (in Japanese)

13) Naoki, K.: Children with a New Type of Language Disability: Kids Who Television Don't Learn to Speak: The Journal of the Japan pediatric society 106, (10), 1535－1539, 2002

14) Zimmerman, FJ., Christakis, DA., Meltzoff, AN.: Media Viewing by Children Under 2 Years Old, Archives of Pediatrics and Adolescent Medicine, 161 (5), 473－479, 2007.

15) Michiko, T.: The Child and the Media: Effective Clinical Interventions in Problems Associated with Early TV and Video Viewing, Journal of the National Woman's Education Center of Japan, 5, 35－46, 2001.

16) Dimitri, A., Christakis, Frederick, J.Zimmerman, David L. DiGiuseppe, and Carolyn A. McCarty: Early Television Exposure and Subsequent Attentional Problems in Children, Pediatrics, 113, 708－713, 2004.

17) Frederick, J., Zimmerman and Dimitri, A. Christakis: Associations Between Content Types of Early Media Exposure and Subsequent Attentional Problems, Pediatrics. 120, 986－992, 2007.

18) Zimmerman, FJ., Glew, GM., Christakis DA, Katon W: Early Cognitive Stimulation, Television Watching, and Subsequent Bullying Among Grade -School Children, Archives of Pediatric and Adolescent Medicine, 159 (4), 354－388, 2005

19) Shimada, S., Tasaka, Y.: A Longitudinal Study on Developmental Patterns in Very Low Birthweight Children during the First Six Years of Life, Bulletin of Center for the Research and Support of Educational Practice, 2, 105－116, 2006.

20) Takano, Y. and Noda, A.: A temporary decide of thinking ability during foreign language processing, Journal of Cross-Cultural Psychology, 24, 445－462, 1993.

21) Takano, Y. and Noda, A.: Internal language dissimilarity enhances the decline of thinking ability during foreign language proceeding, Language Learning, 45, 657－681, 1995.