



Review Article/บทฟื้นฟูวิชาการ

Young Children with Autism Spectrum Disorder: Application of Behavioral and Educational Approaches of Early Intervention Practices

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Abstract

The increased prevalence of autism spectrum disorder (ASD) and its detection during the first 3 years of life have substantial relevance for early intervention. Recent estimates concerning the prevalence of autism spectrum disorder (ASD) suggest that at least one in 88 children be affected. These groups of young children have important service needs. According to many researchers, intervention at early stage in the child's development may have a greater chance for success for young children with autism, whilst the behavioral and educational approaches are cited as the fundamental method of early intervention practices. The involvement of parents in implementing intervention strategies designed to help their young autistic children has long been accepted as helpful. The purpose of this article is to summarize current scientific information on the behavioral and education approaches of early intervention for young children with ASD and their families as these approaches are viewed as one of the effective approaches to teach young children with ASD.

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Introduction

The greatest change in the diagnostic demographic of developmental disabilities in the last 30 years is the emergence of autism spectrum disorder (ASD) as a primary disability condition. ASD is currently one of the most common forms of developmental disabilities⁽¹⁾. Many aspects of children's difficulties gradually come to the notice of parents during the first 3 years of the child's life, undermining their confidence in their ability as parents, as well as causing concern about what the difficulties mean⁽²⁾. Young children with ASD lack understanding of how to initiate and respond to joint attention with another person, have difficulties in social timing of communication, and may not understand other people's intentions as expressed through language and gestures⁽³⁾. They have difficulty with organizing their responses, and with inhibition of repetitive behaviors and interests. Although in the past ASD was considered to be a rare disorder, now that the underlying characteristics and varying severity of the disorder are more widely recognized by health professionals, teachers, and parents, and thus detection rates for ASD have increased considerably.

The young children need help to develop early skills in establishing joint attention, imitation of others, communicating interest and meaning as well as immediate needs understanding other languages, getting on with and enjoying the company of other people, and so on. This broad agenda has drawn a broad range of approaches to early intervention with controversial claims for their efficacy^(4,5).

Application of behavioral and educational approaches in early intervention practices

Over the last 25 years, a small number of programs have worked intensively on researching early interventions with young children with autism and their families. These programs have been open in

publishing and sharing information about the characteristics of children served, the methodologies used, and the child and family outcomes. Although the programs vary in their philosophical approach and strategies, they include several common elements⁽⁶⁾.

While behavioral and educational interventions have become predominant approach for treating children and adults with autism^(7,8), in recent years several intensive intervention programs for children with autism have been developed utilizing a systematic behavioral approach, often referred to as applied behavioral analysis (ABA). Many of the current forms of speech and language therapy and many other educational interventions for young children with autism are based upon somewhat similar behavioral principles⁽⁹⁾.

Basic principles of behavioral and educational intervention approaches

Behavioral therapies include specific approaches to help individuals acquire or change behaviors⁽¹⁰⁾. All behavioral therapies are based upon some common concepts about how humans learn behaviors. Behavioral therapies, which are sometimes also called behavioral modification methods, can be divided into three general approaches: operant conditioning, respondent conditioning, and cognitive approaches. In treating children with autism, operant conditioning approaches are typically used⁽¹¹⁾.

At the most basic level, operant conditioning involves presenting a stimulus (antecedent) to a child, and then providing a consequence (reinforcer or punisher) based on the child's response.

- A reinforcer is anything that, when presented as a consequence of a response, increases the probability of frequency of that response.
- A punisher is a consequence that decreases the probability or frequency of that response.



Things that function as reinforcers and punishers are different for each child. Part of operant conditioning approaches is to perform a functional assessment of possible reinforcers or punishers to determine which are most effective in shaping a child's behaviors⁽¹⁰⁾.

While all behavioral therapies have some basic similarities, specific behavioral techniques vary in several ways. Some techniques focus on the antecedent conditions and involve procedures implemented before a target behavior occurs. Other techniques focus on the consequence of a behavior and involve procedures implemented following a behavior. Still other technique involves skill development and procedures teaching alternative, more adaptive behaviors. These strategies often consist of building complex behaviors from simple ones through shaping and successive approximations⁽¹¹⁾.

Using behavioral and educational approaches in practices for young children with autism

Behavioral and educational approaches for young children with autism often include elements of many of these behavioral intervention strategies⁽¹²⁾. As the child's autistic behavioral decreases and level of functioning improves, these programs may also incorporate some elements of other approaches, such as developmental and cognitive approaches.

Specific targets of the interventions are chosen based on the child's individual problems and deficits. Children with autism often exhibit behaviors that are considered maladaptive, and a reduction in these behaviors is often the first target of intervention⁽⁴⁾. After behavior problems are controlled, the targets of the intervention can shift to dealing with other aspects of autism, such as improving communication and social interaction⁽¹⁰⁾. In an intensive behavioral intervention program, goals will also change as the child improves or when there is a change in the environment.

Basic behavioral and educational approaches in early intervention practices

1. Intensive behavioral and education intervention programs

These programs have been demonstrated to produce positive gains in young children with autism, also have an extensive grounding in scientifically validated principles of behavior and learning⁽¹⁾. The program encourages monitoring and tracking behaviors. The intervention can be provided in variety settings. The intensive behavioral intervention can be applied not only by professionals but also trained paraprofessionals, parents, and others. Parents can be trained in using behavioral methods and can function as active participants in the intervention process⁽²⁾. After implementation of intensive behavioral therapy programs, parents' stress levels can actually decrease⁽³⁾. However, the down sides of this program require large number of well-trained individuals to administer the intervention and yet expensive.

Since intensive behavioral programs appear to be effective in young children with autism, it is recommended that principles of applied behavior analysis and behavioral intervention strategies be included as an important element of any intervention program. Several studies done by independent groups of researchers have evaluated the use of this program and recommended that the program should include a minimum of 20 hours per week of direct instruction by the professional^(4,5). It is also important that parents be included as integral members of the intervention team and should be trained in behavioral techniques and encouraged to provide additional hours of instruction to the child⁽²⁾.

2. Behavioral and educational intervention technique for maladaptive behaviors

Maladaptive behaviors are a defining characteristic of autism and may include such things as stereotypic behavior, disruptive behavior, aggression, and noncompliance⁽⁶⁾. Some maladaptive behaviors

for young children with autism may interfere with their socialization or learning, while other maladaptive behaviors may represent hazards to the child or others.

Reducing inappropriate behaviors is often one of the highest priorities for parents and one of the first targets for interventions⁽⁸⁾. As a first step, a functional analysis is often conducted to determine the function of particular inappropriate behaviors for the child. Then, behavioral strategies are devised to reduce maladaptive behavior by using differential reinforcement of appropriate behavior or punishment of inappropriate behaviors. In some cases, this may involve reinforcement of a substitute appropriate behavior that is incompatible with the maladaptive behavior.

It is also important to recognize that the specific behavioral techniques are not used in isolation, but are often combined with interventions to improve communication, social interactions, and other skills as part of an overall intensive behavioral intervention program⁽¹⁰⁾. Specific training of parents in techniques to reduce inappropriate behaviors and increase appropriate or adaptive behaviors is usually an important component of such programs.

3. Behavioral and educational intervention techniques to improve communication

Because communication deficits are a core element defining autism, specific language and communication training is often an important component of the curriculum in intervention programs for young children with autism⁽¹⁰⁾. Basic communication training for a child with autism often emphasizes functional use of language development such as the use of language in context including implicit and explicit communicative intent; nonverbal communication such as intonation, communicative gestures, and facial expressions; as well as social aspects of communication such as turn-taking.

Many behavioral techniques are used in teach-

ing communication and language skills to young children with autism; however, the specific strategies for language training vary depending on the individual child. Various behavioral or educational strategies have been found to be effective in increasing spontaneous language and teaching communication skills. For some young children with autism, sign language or visual communications systems may be useful tools in facilitating verbal language development, but the visual augmentative communication methods should not be used as primary method to substitute the use of verbal language⁽⁴⁾.

4. Behavioral and educational intervention techniques to improve social interactions

Because impaired social interactions are a characteristic of children with autism, behavioral techniques are often applied to increase a child's social initiations and appropriate responses, particularly with other children. It is particularly important to concentrate on a child's abilities to initiate social interactions with other children and to respond appropriately to their social initiations⁽¹¹⁾. Various behavioral strategies have been found to be effective in increasing reciprocal social interactions between children with autism and other children^(3,4). Techniques may include prompting the child to respond appropriately and reinforcing reciprocal social interactions and responses. Peers with age-appropriate development who are able to work with or provide peer modeling for children with autism are sometimes given training in behavioral procedures.

5. Parent training as part of behavioral and educational programs

Many intervention programs include a component of parent training⁽¹⁴⁾. The intensive behavioral intervention programs discussed previously all included parent training as an integral part of the entire program. Many typical and specialized preschools also include parent training as a part of their programs⁽²⁾. The specific behavioral strategies taught to parents



vary depending upon the particular program. Training parents of young children with autism may be useful because it involves that parents in choosing target behaviors on which to focus, teaches parents particular strategies to help them provide additional hours of intervention to their child, helps improve the interaction between the parents and the child with autism, and improves generalization of skills and behaviors to other settings⁽⁶⁾.

One useful method may be to train parents to focus on multiple cues from the child and use natural reinforcers in response to the child's attempts. This more naturalistic approach may be more effective in reducing parent stress and increasing parent happiness than more directive methods that train parents to teach their child one response at a time in discrete trials⁽²⁾.

Conclusion

In the field of early intervention for young chil-

dren with ASD, the increasing focus on effective intervention continues to challenge scientists, policy makers, and families to shift the boundaries of current research, policy, and practice. Researchers are making great strides in understanding the multiple factors that contribute to the increase in ASD prevalence, as well as methodology to help these young children to become normal⁽¹³⁾. With access to high-quality interventions in the toddler years, the possibility exists for the reduction in the severity of children's symptoms over the lifespan⁽¹⁾. Many of the promising approaches focused on early intervention practices that involve behavioral and education approaches as the key components which parents learn strategies to better support their children's development⁽¹⁴⁾. Since the efficacy research that emphasizes on the early intervention for young children with ASD has been relatively limited, it depends on each service provider to select any early intervention practices for these children.

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