SPECIAL ARTICLE: Korean Practice Guideline for Autism Spectrum Disorder
J Korean Acad Child Adolesc Psychiatry 2024;35(1):22-28
https://doi.org/10.5765/jkacap.230011

eISSN 2233-9183

Basic Management Strategies by Life Cycle for Treatment of the Persons With Autism Spectrum Disorder

Jung-Woo Son[1] and Seok-Hyun Nam[2]

[1]Department of Neuropsychiatry, College of Medicine, Chungbuk National University, Cheongju, Korea
[2]Department of Psychiatry, Jeonbuk National University Hospital, Jeonju, Korea

Interventions for targeted symptoms are important when setting treatment strategies for individuals with autism spectrum disorder (ASD) and developmental disabilities. Especially, the goal should be to achieve individual "niche construction" by allowing them to select and adjust an environment where they can demonstrate their special characteristics and strengths. In addition, these choices should vary depending on the stage of development of each person with ASD and developmental disabilities. It is necessary to establish a detailed and systematic plan for diagnosis and treatment necessary for infants and toddlers, school placement in school age, and employment or self-reliance in adult transition period to establish customized treatment strategies that fit the individual level of people with ASD and developmental disabilities.

Keywords: Autism spectrum disorder; Developmental disabilities; Treatment; Individual treatment plan; Life cycle.

Received: February 11, 2023 / **Revised:** August 14, 2023 / **Accepted:** December 3, 2023

Address for correspondence: Jung-Woo Son, Department of Neuropsychiatry, College of Medicine, Chungbuk National University, 1 Chungdae-ro, Seowon-gu, Cheongju 28644, Korea
Tel: +82-43-269-6187, Fax: +82-43-267-7951, E-mail: mammosss@hanmail.net
Address for correspondence: Seok-Hyun Nam, Department of Psychiatry, Jeonbuk National University Hospital, 20 Geonji-ro, Deokjin-gu, Jeonju 54907, Korea
Tel: +82-63-259-3220, Fax: +82-63-275-3157, E-mail: namoses1@hanmail.net

INTRODUCTION

Many attempts have been made to explain autism spectrum disorder (ASD) as a unified theory [1,2], but the expression patterns of ASD are very diverse. Although many people are familiar with the categorical approach that individuals with ASD are distinctly different from neurotypicals, experts are also aware of the dimensional approach to understand psychological and behavioral characteristics in a continuous line between neurotypical and autistic aspects [3,4]. Individuals with ASD have their own strengths. For example, people with high autistic tendencies have a high ability to "systematize" [5].

Therefore, intervention on target symptoms is important when establishing treatment strategies for individuals with ASD, but more importantly, the goal should be to establish "niche construction" [6] where they can demonstrate their characteristics and strengths. In other words, uncomfortable sensory stimuli in treatment rooms and education spaces should be minimized, and prior stimuli should be adjusted in various intervention situations, which should vary depending on either the developmental stage of the person with ASD or the family's situation. In addition, it must be emphasized that the treatment and intervention of individuals with ASD should be appropriately performed according to the life cycle. This is not necessarily a task. Many recent studies are proving that much more could be done to improve life outcomes for the highly heterogeneous group of people with ASD [7].

Therefore, the authors intend to present the general principles of treatment for individuals with ASD and the principles of intervention strategies for each life cycle through this review.

GENERAL PRINCIPLES OF TREATMENTS

There is much research on the effect of ASD intervention, but most of them did not have control groups or consider different kinds of bias. In recent years, randomized controlled trial (RCT) studies have been increasing [8], but only a few RCT studies have been conducted on individuals with ASD in Korea [9]. In addition, there is a lack of data on the provision of step-by-step treatment services according to the life cycle. Therefore, this guideline not only provides information with proven treatment and intervention effects with RCT as

much as possible, but also refers to additional information from evidence-based research results, even if randomized controlled methods were not applied to these research, mentioned in authoritative academic societies, journals, and foreign guidelines. To communicate practical knowledge for the individuals with ASD and their families, the following eight general principles are recommended.

The planning and implementation of all treatments should be carried out differently and most appropriately depending on the characteristics of each person with ASD

The causes and manifestations of ASD are so heterogeneous that there is no single treatment that is equally effective for all. "Customized" treatment interventions and social support should be made in consideration of the diversity of manifestation, differences in social skills, differences in strengths and interests, and the environment surrounding the individual.

Start treatment as early as possible

Due to the characteristics of parenting in Korean caregivers, there is a kind of irrational expectation of "Let's wait for now" even though the development of their sons and daughters has been delayed. However, other developed countries do not have this kind of phenomenon at all. Some doctors also make similar recommendation [10]. In recent years, young caregivers' observation level and desire to intervene in early treatment for children who are slow to develop are increasing, but some doctors or experts in Korea, who are more familiar with past "Diagnostic and Statistical Manual of Mental Disorder (DSM)" system, are rather passive in early treatment of toddlers or pre-school-age children who are strongly suspected of ASD. There are many research reports that children suspected of ASD acquire a much higher level of skills through early intervention [11,12], so early treatment and intervention are essential if any findings suggest ASD were found through early evaluation.

Through pre-treatment evaluation, determine which treatment and intervention will be useful

After evaluating medical problems accompanying ASD (e.g., epilepsy, etc.), characteristics of temperament, behavioral problems, and current developmental levels, it is necessary to determine which treatments and interventions will be useful. In particular, an accurate functional assessment of the capabilities of the individuals with ASD should be included. In addition, family situations and treatment-related environmental factors should be considered. The medium and long-term goals of intervention must also be determined in advance. In addition, an evaluation method that can monitor how much outcome the person with ASD has obtained through treatment intervention should be determined.

Consider the strength and generalization of treatment and intervention

It is recommended to refrain from multiple interventions that are sporadic or end in a short period of time [13]. It is also necessary to avoid setting the number of treatment sessions in advance and matching them. Treatment and intervention methods should be systematically performed, even if they proceed in different formats, and the effect should be maximized through communication between the personnel of each treatment and intervention as much as possible. In addition, it is not significant to have an effect only in a structured environment. In other words, generalization, which continues to be effective in real life, must be achieved.

Both the strengths and weaknesses of the ASD parties are considered, but the treatment is selected in consideration of the strengths

Because the treatment and intervention strategies of individuals with ASD vary depending on the age, developmental level, and environment, individual strength-related and weakness-related characteristics should be closely examined. In particular, experts in deciding treatment and intervention method should discover strengths that the parties and caregivers have not seen before, rather than focusing only on weaknesses such as symptoms or behavior problem of the individuals with ASD, and choose appropriate treatments.

Focus on making the environment friendly to each person with ASD

Creating a friendly environment for each person with ASD is very important because unusual sensory experiences are so common that 69%–93% of them are reported to show excessive sensitivity to hearing, sight, taste, or other sensation [14]. Considering this high frequency, it may be right to view sensory characteristics not from the perspective of "problem symptoms" but from the perspective of "kinds of characteristics that can be a strength in a comfortable and friendly environment." Through appropriate changes in the environment surrounding them, they will be able to acquire their own "niche construction" [6] and maintain their emotional stability for a long time.

If possible, establish an evidence-based, multidisciplinary treatment plan

Several guidelines for ASD recommend an evidence-based, multidisciplinary treatment model [10,15,16]. In other words,

in addition to structured educational and behavioral interventions, psychosocial interventions in the form of cognitive behavioral therapy can be effective for high-functioning individuals with ASD. Meanwhile, psychopharmacological intervention can be effective in accompanying emotional problems, excessively stereotypic behaviors, sleep problems, aggression, and self-mutilating problems. Experts should recommend evidence-based multidisciplinary treatment plans to the parties and their caregivers as much as possible, but at the same time, recommend treatment plans that take into account individual family and environmental situations.

Work together with the individuals with ASD and their families

Although clinical experts establish a number of effective treatment plans, the final decision makers are the individuals with ASD and their families. The family should be fully aware of information on various treatments and interventions and the practical effects of each intervention. Each family has its own circumstances. Therefore, if a treatment plan requires a serious change in their inherent situation, it should be corrected. Meanwhile, there are several conditions to consider when deciding to actively participate in treatment; for example, whether it is possible to enough time for treatment intervention in situations where school needs to be maintained, whether there is a support system to alleviate financial difficulties for various treatments, and what are the advantages of national disability registration. In response, clinical experts should be well aware of relevant information well and provide appropriate advice.

INTERVENTIONS ACCORDING TO STAGES OF THE LIFE CYCLE

Infancy and toddlerhood

When children are diagnosed with ASD, their caregivers often get puzzled because they do not understand what it means [17]. In such cases, clinical specialists should provide psychoeducation to demystify the disorder and other details, including its causes, clinical manifestations, prognostic factors, and treatment methods, for the family. They must also introduce available resources, such as guidebooks, leaflets, and credible websites of relevant organizations, to help the patients' caregivers understand ASD comprehensively [18]. When making treatment plans, the focus should not only be on defects and disorders in the individuals with ASD but also on customized intervention strategies by comprehensively examining the strengths of children, areas of development at a relatively normal level, and the areas of interests and available resources in the family, following the evaluation of children based on the normal developmental trajectory [8].

Interventions should be based on the evidence, and good prognosis can be expected by administering interventions as early as possible [19]. Interventions must target the core symptoms of ASD, including defects in social communication and interaction, limited interests, unique rules, stereotyping, and sensory information processing abnormalities, in addition to the derived emotional, adjustment, and behavioral problems. Diverse treatment methods are combined for each of the symptoms [20]. For infants and toddlers in particular, the focus should be on improving basic functions, including eye contact, naming response, mimicking, joint attention, demanding, language skills, and play skills, which can be intervened in structured and natural environments. In a structured environment, behavioral intervention specialists work with children on a one-on-one basis for their education; the same intervention principles can be applied to various situations in everyday tasks, including mealtime, playtime, and bed time, to generalize the function. The participation of the entire family is essential in this stage; the family should be diligently trained under the supervision of behavioral intervention specialist [8].

Prior to being diagnosed with developmental disorders, individuals with ASD have the same needs as those of the same age but without any disorders; thus, ordinary circumstances should be provided, including secure attachment, balanced meals, and good sleep quality [10]. In the individuals with ASD, comorbidities occur frequently, including gastrointestinal disorder, sleep disorder, metabolic diseases, and dental diseases, which should be appropriately addressed [21]. They also have the right to various educational benefits and to experience a broader world; therefore, it is necessary to make adjustments in communication, social, and physical environments relevant to children [17].

The families of these children may experience serious stress due to challenging behaviors and emotional outbursts in the individuals with ASD, the collapse of family life, discomfort and alienation of siblings, financial difficulties, physical and mental weakness, conflicts between caregivers, and the absence of information and resources [22]. Therefore, this should be intervened as well. In addition, the relevant information should be provided to allow access to all support services, including developmental rehabilitation services, disability registration, support services for people with developmental disorders, special education support services, and self-help groups or family meetings in local communities, such that the families can have psychological stability and be in a state support their children [23].

School age period

When the individuals with ASD reach the age to attend kindergarten or school, education allocation problems may be encountered. Similar to individuals with disabilities education improvement act (IDEA) in the United States, the Act on Special Education for Disabled Persons stipulated that the individuals with ASD must receive integrated education in a regular school with other persons of the same age which is suitable for the educational needs of each individual without any discrimination [24]. Their families want their children go to these kinds of school; however, regular teachers rarely receive the specialized education to effectively manage the individuals with ASD [25]. Therefore, partly inclusive schools that run regular and special classes together or special schools can be realistic alternatives for the individuals with ASD and their families. For inclusive education, the individuals with ASD can have the opportunities of social interaction and develop the generalization ability with which they can apply the acquired skills in everyday environments. Conversely, devoted special education is beneficial to children in whom an expansion of such skills is not expected yet owing to developmental levels, severity of symptoms, and challenging behavioral problems. However, there is no evidence to indicate that certain types of education services are superior to others [10]. Nonetheless, when a family chooses a schooling system, it is recommended that they make a decision after consulting a special education specialist rather than making an arbitrary decision or referring to a layman's advice.

It is important for special classes and schools to have well-trained specialists who can cater to the children's needs as per the individual characteristics of the individuals with ASD and the ages of development, as well as a special environment to implement it. It is necessary to prepare a program promoting socialization and linguistic development, and adjust visually and acoustically stimulating environments by considering sensory characteristics in children [23]. A universal design can be applied to all school environments so that anyone can use facilities easily, understand the timetable, participate in various activities, and communicate smoothly using visual materials [20]. For example, for children whose stereotypic behaviors become more serious when they feel anxious because they do not know what will happen, a timetable can be made using photos and pictures to let them know the next schedule, which can reduce their stereotypic behaviors and help them adjust to the environment.

It is often noted that the individuals with ASD show low academic performance, and have difficulties in relationships with teachers or peers of the same age, which mainly attributed to a lack of social skills and their internalizing, and externalizing behavioral problems [25]. A good relationship with teachers is essential for the individuals with ASD to successfully learn skills, perform behavioral adjustment, acquire social skills, and form good peer relationship; therefore, education service providers should consider this [26]. Moreover, teaching staff should recognize that the individuals with ASD are at high risk of exploitation and bullying [27] and should educate students on self-identity, how to protect themselves on the internet, how to recognize and report bullying, and how to improve self-esteem [10]. After reaching puberty, the individuals with ASD may expose their body, masturbate, get excited inappropriately in public places, or be sexually abused; specialized sexual education is needed to prevent this [28]. Teachers should educate them about the names and functions of each body part, the physical maturation process, socialized sexual behaviors, managing sexual urges, and protecting themselves from sexual abuse.

The child's family must recognize such difficulties in the individuals with ASD in advance and be prepared for some of these challenges before the children are admitted to schools. It is advised that children have training for basic living habits including how to use a bathroom, eating a variety of foods, how to put on and take off shoes. Their families should organize information about the children to give to their teacher and train children to get along with neighborhood children who are going to attend the same school, thus preparing the ground for adjusting to a new environment [23]. Furthermore, teachers should identify clinical symptoms and characteristics of each individual as well as comorbidities for better understanding the individuals with ASD. To this end, it is recommended to periodically communicate with clinicians. If they can seek advice and request interventions for various comorbidities, including incomprehensible behaviors of the individuals with ASD that are commonly observed in education fields, in addition to depression, anxiety disorder, attention deficit hyperactivity disorder, epilepsy, and gastrointestinal disorders, they can help children more effectively.

Transition to adulthood

Studies have shown that many individuals with ASD cannot be independent, make friends, and find employment at a good company paying a good salary; this makes them dependent on their family [29]. The core symptoms of ASD last in the transition period to adulthood [30]; thus, speech therapy, occupational therapy, and training for social skills may be needed. Other than that, for smooth independence, it is necessary to provide self-management skill training, living skill training, occupational skill training, and one-on-one support services, including career and employment support, mentoring program, case management, and mental health counseling; however, there is a lack of available resources in-

volved in this. This is because of the services cliff phenomenon that occurs: the types of support required are different from those of childhood but there is a lack of transitional programs that can intervene at the period of the transition to adulthood as well as a lack of experts, systems, and budget such as government expenditure and fund [31-33].

Nearly 50% of the individuals with ASD develop cognitive abilities within the normal scope [34]; thus, they can go to college when they become adults, but it is not easy to have a successful college life. They are used to a fixed routine, making it hard for them to adjust to a complicated curriculum. Moreover, due to a lack of social skills, they cannot blend into an expanded organization [25]. Colleges also provide the support for learning, such as extending the time for examinations, putting off a deadline for assignment submission, and giving options for group activities. Besides that, however, they do not provide customized supports considering individual characteristics of students [35,36]. The employment landscape is also not friendly for the individuals with ASD, making them more isolated from the society and leaving them feeling depressed and anxious, which may lead to a suicide attempt [37,38]. Therefore, the individuals with ASD and their families should be prepared for such realities [39]. In other words, families, teachers, and specialists should meet together to choose a school, a college major, or job based on the functional level of students, strengths and weaknesses, areas of interests, and goals. They should also find services necessary to achieve this and organizations providing these services. In addition, they should help students to improve their interpersonal relationship skills, problem solving skills, decision making skills, and time and stress management [40,41], and identify companies they want to work for, obtain necessary qualifications, and practice interview skills [28].

Adult life

The life expectancy of the individuals with ASD is not clearly known; except for cases of deaths due to accidents or physical diseases, they can have normal life expectancy [42]. Therefore, they live as adults for most of their lives, want to realize their goals, expectations, and interests in the context of culture and value systems, and live a satisfactory life. Accordingly, World Health Organization has added nine autism-related items to the "Quality of Life" measurement tool, emphasizing that achievement of high quality of life is a goal of all adults including the individuals with ASD [43].

Generally, social support alleviates stress and improves a sense of belonging and self-esteem; thus, it is a crucial factor influencing the quality of life [44]. Despite the common misconception that they prefer being alone, the individuals with ASD can feel intensely lonely because of businesslike relationships that lack intimacy, reciprocity, and emotional fullness [45]. Therefore, the evidence-based interventions are still needed to improve social functions when the individuals with ASD become adults.

A stable job in which appropriate wage is guaranteed is also an effective way of improving quality of life [46]. Quality employment environments alleviate the core symptoms of ASD, improve cognitive function, and help improve health and self-esteem [37]. Moreover, it enables financial independence, enhancing an access to a comfortable residential environment and leisure activities [10]. Employment support comprises local community-based occupation allocation, support for seeking jobs and preparing for employment, and field support after employment [28]. Behavioral interventions, including modeling, rehearsal, feedback, and enhancement, can be attempted for skill training necessary to improve work ability and adjustment [28,47]. However, the most important aspect is an employer's efforts to change the interview process and physical work environment to make them ASD friendly [10].

Considerations for a quality residential environment enable the individuals with ASD to be a member of the local community in a least restrictive environment [28]. Building a close relationship with neighbors, performing roles, and living on assistance reduce loneliness [10]. Furthermore, interventions for the above mentioned physical and psychiatric comorbidities and programs designed to develop leisure and everyday life skills can also improve quality of life [48]. A family should be considered an essential component of the treatment team, and family quality of life should be considered equivalent to quality of life in the individuals with ASD [49]. All these tasks remain challenging and will never be completed. Only the on-going efforts of many can lead to an improved and sustained quality of life for the individual.

CONCLUSION

In summary, based on the understanding of the individual characteristics of the individuals with ASD, the early implementation of individualized interventions that expand their strengths and eliminate barriers is the beginning of management. And the goal of management as they grow older is to help the individual with ASD to pursue happiness and independence by providing a disability-friendly environment suitable for their circumstances. A lot of resources are needed for this, but the work of cultivating a living ground for the individuals with ASD, their families, neighbors, and citizens to live together enhances the happiness and dignity of members of society, so the benefits ultimately belong to all of us.

Availability of Data and Material

Data sharing not applicable to this article as no datasets were generated or analyzed during the study.

Conflicts of Interest

Jung-Woo Son, a contributing editor of the *Journal of the Korean Academy of Child and Adolescent Psychiatry*, was not involved in the editorial evaluation or decision to publish this article. All remaining authors have declared no conflicts of interest.

Author Contributions

Conceptualization: Jung-Woo Son, Seok-Hyun Nam. Formal analysis: Jung-Woo Son, Seok-Hyun Nam. Investigation: Jung-Woo Son, Seok-Hyun Nam. Methodology: Jung-Woo Son, Seok-Hyun Nam. Writing—original draft: Jung-Woo Son, Seok-Hyun Nam.

ORCID iDs

Jung-Woo Son https://orcid.org/0000-0003-4972-3923
Seok-Hyun Nam https://orcid.org/0000-0003-3972-1553

Funding Statement

This study was supported by the Ministry of Health and Welfare, Behavior and Development Center, and the Headquarter of the National Autism and Developmental Disorder Centers.

REFERENCES

1) **Allen-Brady K, Cannon D, Robison R, McMahon WM, Coon H.** A unified theory of autism revisited: linkage evidence points to chromosome X using a high-risk subset of AGRE families. Autism Res 2010;3:47-52.
2) **Markram K, Markram H.** The intense world theory–a unifying theory of the neurobiology of autism. Front Hum Neurosci 2010; 4:224.
3) **Ousley O, Cermak T.** Autism spectrum disorder: defining dimensions and subgroups. Curr Dev Disord Rep 2014;1:20-28.
4) **Foss-Feig JH, McPartland JC, Anticevic A, Wolf J.** Re-conceptualizing ASD within a dimensional framework: positive, negative, and cognitive feature clusters. J Autism Dev Disord 2016;46:342-351.
5) **Baron-Cohen S.** The essential difference: male and female brains and the truth about autism. New York: Basic Books;2004.
6) **Laland K, Matthews B, Feldman MW.** An introduction to niche construction theory. Evol Ecol 2016;30:191-202.
7) **Lord C, Charman T, Havdahl A, Carbone P, Anagnostou E, Boyd B, et al.** The Lancet Commission on the future of care and clinical research in autism. Lancet 2022;399:271-334.
8) **New York State Department of Health.** Clinical practice guideline on assessment and intervention services for young children with autism spectrum disorders (ASD): 2017 update [Internet]. Albany, NY: New York State Department of Health [cited 2020 May 5]. Available from: https://www.health.ny.gov/publications/20152.pdf.
9) **Yoo HJ, Bahn G, Cho IH, Kim EK, Kim JH, Min JW, et al.** A randomized controlled trial of the Korean version of the PEERS® parent-assisted social skills training program for teens with ASD. Autism Res 2014;7:145-161.
10) **Fuentes J, Hervás A, Howlin P.** ESCAP practice guidance for autism: a summary of evidence-based recommendations for diagnosis and treatment. Eur Child Adolesc Psychiatry 2021;30:961-984.
11) **Flanagan HE, Perry A, Freeman NL.** Effectiveness of large-scale community-based intensive behavioral intervention: a waitlist comparison study exploring outcomes and predictors. Res Autism Spectr Disord 2012;6:673-682.
12) **Rogers SJ, Estes A, Lord C, Vismara L, Winter J, Fitzpatrick A, et al.** Effects of a brief early start denver model (ESDM)-based parent intervention on toddlers at risk for autism spectrum disorders: a randomized controlled trial. J Am Acad Child Adolesc Psychiatry 2012;51:1052-1065.
13) **Autism-Europe.** People with autism spectrum disorder: identification, understanding, intervention. 3rd ed [Internet]. Brussels: Autism-Europe [cired 2021 Sep 9]. Available from: https://www.autismeurope.org/wp-content/uploads/2019/09/People-with-Autism-Spectrum-Disorder.-Identification-Understanding-Intervention_compressed.pdf.pdf.
14) **McCormick C, Hepburn S, Young GS, Rogers SJ.** Sensory symptoms in children with autism spectrum disorder, other developmental disorders and typical development: a longitudinal study. Autism 2016;20:572-579.
15) **Volkmar F, Siegel M, Woodbury-Smith M, King B, McCracken J, State M, et al.** Practice parameter for the assessment and treatment of children and adolescents with autism spectrum disorder. J Am Acad Child Adolesc Psychiatry 2014;53:237-257.
16) **Magellan Healthcare.** Introduction to Magellan's adopted clinical practice guidelines for the assessment and treatment of children with autism spectrum disorders [Internet]. Scottsdale, AZ: Magellan Healthcare [cited 2021 Sep 9]. Available from: http://www.magellanprovider.com/media/44356/autism.pdf.
17) **Scottish Intercollegiate Guidelines Network.** Assessment, diagnosis and interventions for autism spectrum disorders: a national clinical guideline (SIGN publication no. 145) [Internet]. Edinburgh: Scottish Intercollegiate Guidelines Network [cited 2021 Aug 23]. Available from: https://www.sign.ac.uk/media/1081/sign145.pdf.
18) **Haveman M, van Berkum G, Reijnders R, Heller T.** Differences in service needs, time demands, and caregiving burden among parents of persons with mental retardation across the life cycle. Fam Relat 1997;46:417-425.
19) **Volkmar FR, Pauls D.** Autism. Lancet 2003;362:1133-1141.
20) **Kim BN, Kim YN.** Guide to treatment of challenging behavior for children and adolescents with developmental disabilities. 1st ed. Seoul: Ministry of Health and Welfare National Center for Mental Health;2018.
21) **Bauman ML.** Medical comorbidities in autism: challenges to diagnosis and treatment. Neurotherapeutics 2010;7:320-327.
22) **White SE, McMorris C, Weiss JA, Lunsky Y.** The experience of crisis in families of individuals with autism spectrum disorder across the lifespan. J Child Fam Stud 2012;21:457-465.
23) **Kim BN, Kim JW, Kwon MK, Yoon SA, Kang TW, Han IW.** Evidense based parent education for ASD: according to developmental level and medical characteristics. 1st ed. Seoul: Hakjisa;2017.
24) **Korea Ministry of Government Legislation.** Act on special education for persons with disabilities, etc. [Internet]. Sejong: Korea Ministry of Government Legislation [cited 2021 Aug 23]. Available from: https://www.law.go.kr/법령/장애인등에대한특수교육법.
25) **Bolourian Y, Stavropoulos KK, Blacher J.** Autism in the classroom: educational issues across the lifespan. In: Fitzgerald M, editor. Autism spectrum disorders - advances at the end of the second decade of the 21st century. London: IntechOpen;2019.
26) **Pianta RC, Stuhlman MW.** Teacher-child relationships and children's success in the first years of school. School Psych Rev 2004; 33:444-458.
27) **Tipton-Fisler LA, Rodriguez G, Zeedyk SM, Blacher J.** Stability of bullying and internalizing problems among adolescents with ASD, ID, or typical development. Res Dev Disabil 2018;80:131-141.
28) **Matson JL, Cervantes PE, Peters WJ.** Autism spectrum disorders: management over the lifespan. Expert Rev Neurother 2016;16:1301-1310.
29) **Shattuck PT, Narendorf SC, Cooper B, Sterzing PR, Wagner M, Taylor JL.** Postsecondary education and employment among youth with an autism spectrum disorder. Pediatrics 2012;129:1042-1049.

30) **Lawer L, Brusilovskiy E, Salzer MS, Mandell DS.** Use of vocational rehabilitative services among adults with autism. J Autism Dev Disord 2009;39:487-494.
31) **Barnard J, Harvey V, Potter D, Prior A.** Ignored or ineligible? The reality for adults with autism spectrum disorders. London: National Autistic Society;2001.
32) **Cidav Z, Lawer L, Marcus SC, Mandell DS.** Age-related variation in health service use and associated expenditures among children with autism. J Autism Dev Disord 2013;43:924-931.
33) **Bruder MB, Kerins G, Mazzarella C, Sims J, Stein N.** Brief report: the medical care of adults with autism spectrum disorders: identifying the needs. J Autism Dev Disord 2012;42:2498-2504.
34) **Christensen DL, Braun KVN, Baio J, Bilder D, Charles J, Constantino JN, et al.** Prevalence and characteristics of autism spectrum disorder among children aged 8 years—autism and developmental disabilities monitoring network, 11 sites, United States, 2012. MMWR Surveill Summ 2018;65:1-23.
35) **Zeedyk SM, Tipton LA, Blacher J.** Educational supports for high functioning youth with ASD: the postsecondary pathway to college. Focus Autism Other Dev Disabil 2016;31:37-48.
36) **Van Hees V, Moyson T, Roeyers H.** Higher education experiences of students with autism spectrum disorder: challenges, benefits and support needs. J Autism Dev Disord 2015;45:1673-1688.
37) **Roux AM, Shattuck PT, Cooper BP, Anderson KA, Wagner M, Narendorf SC.** Postsecondary employment experiences among young adults with an autism spectrum disorder. J Am Acad Child Adolesc Psychiatry 2013;52:931-939.
38) **Jackson SLJ, Hart L, Brown JT, Volkmar FR.** Brief report: self-reported academic, social, and mental health experiences of postsecondary students with autism spectrum disorder. J Autism Dev Disord 2018;48:643-650.
39) **Geller LL, Greenberg M.** Managing the transition process from high school to college and beyond: challenges for individuals, families, and society. Soc Work Ment Health 2009;8:92-116.
40) **Dipeolu AO, Storlie C, Johnson C.** College students with high-functioning autism spectrum disorder: best practices for successful transition to the world of work. J Coll Couns 2015;18:175-190.
41) **Roberts KD.** Topic areas to consider when planning transition from high school to postsecondary education for students with autism spectrum disorders. Focus Autism Other Dev Disabil 2010;25:158-162.
42) **Shavelle RM, Strauss DJ, Pickett J.** Causes of death in autism. J Autism Dev Disord 2001;31:569-576.
43) **McConachie H, Mason D, Parr JR, Garland D, Wilson C, Rodgers J.** Enhancing the validity of a quality of life measure for autistic people. J Autism Dev Disord 2018;48:1596-1611.
44) **Helgeson VS.** Social support and quality of life. Qual Life Res 2003; 12(Suppl 1):25-31.
45) **Bauminger N, Kasari C.** Loneliness and friendship in high-functioning children with autism. Child Dev 2000;71:447-456.
46) **García-Villamisar D, Wehman P, Navarro MD.** Changes in the quality of autistic people's life that work in supported and sheltered employment. A 5-year follow-up study. J Vocat Rehabil 2002;17: 309-312.
47) **LeBlanc LA, Coates AM, Daneshvar S, Charlop-Christy MH, Morris C, Lancaster BM.** Using video modeling and reinforcement to teach perspective-taking skills to children with autism. J Appl Behav Anal 2003;36:253-257.
48) **Bishop-Fitzpatrick L, Smith DaWalt L, Greenberg JS, Mailick MR.** Participation in recreational activities buffers the impact of perceived stress on quality of life in adults with autism spectrum disorder. Autism Res 2017;10:973-982.
49) **Burgess AF, Gutstein SE.** Quality of life for people with autism: raising the standard for evaluating successful outcomes. Child Adolesc Ment Health 2007;12:80-86.