

Title page

a manuscript title;

Making brochure of Coronavirus disease (COVID-19) for children with autism spectrum disorder and their family members.

Running title: Brochure of COVID-19 in ASD

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Primary and secondary fields

Primary: infant, child, and adolescent psychiatry

Secondary: general topics in psychiatry and related fields

Text

The coronavirus disease (COVID-19) infection is evolving rapidly, with an increase in the number of reported cases and countries affected worldwide. The World Health Organization declared the COVID-19 outbreak public health emergency of international concern (PHEIC) on January 30, 2020 and a pandemic on March 11. Japan was the third country to register the first case of COVID-19 on January 16, 2020, after China and Thailand. The number of reported COVID-19 cases had rapidly increased from the end of February 2020. Therefore, the Japanese government declared closing all schools from the 1st through 12th grades on March 2 and declared a PHEIC on April 7. School and other education facilities' closures substantially disrupt the usual daily life and add stress for children and their families. At the time of writing this paper, Japanese government still continues to close all schools, and imposes to stay at home as much as possible. It is challenging for children with autism spectrum disorder (ASD) to understand the situation and to stay at home¹. In addition, the care of ASD children could be harder than that of children without ASD. Because ASD is characterized by difficulties in reciprocal social interaction skills, deficits in communication skills, stereotypic, obsessive, or repetitive behaviors, and restricted patterns of interests and activities². Under the PHEIC, child

psychiatrists must consider what can be done for ASD children under this stressful situation. As for the situation above, we developed a supportive brochure about COVID-19 for both ASD children and their family members, who were able to be communicated by online devices. The main benefit we aimed was to help ASD children understand COVID-19 with visual supporting methods.

The brochure was made of three parts. The first part is the purpose of this brochure and characteristics of ASD. The second is to explain coronavirus infection and how to protect it. The third is how to manage the life with staying indoors. All contents were explained with handwritten original illustrations (cartoons) because visual support is helpful to understand the contents, especially for ASD children. This brochure can be downloaded for everyone from the homepage³, and the URL address was sent to parents of 262 ASD children by a letter. However, it is written only in Japanese.

First part; The purpose of this brochure. With COVID-19 infection, all school is closed and ASD children should stay at home, so the circumstances are different as usual and they have much friction with parents and members lived together. Children with ASD have limited social cognitive ability and difficulty to understand only for characteristic

information. In this part, we made cartoons that characteristics of ASD and problems which ASD children may have with COVID-19 situation (Figure 1a).

Second part; COVID-19 infection. To understand the COVID-19 infection is difficult for all the children in elementary school. For the purpose to be understood correctly for ASD children, we made cartoons which explains COVID-19 infection and the methods for preventing that infection (Figure 1b).

Third part; 8 small tips for helping ASD children stay at home. In this part, we indicate 8 methods for ASD children and their family members. For example, how to structure daily life activities (time and place management) is indicated (figure 1c). Playing games also help both ASD children and family members keep calm at home⁴. It may be worth to play by themselves, too. Sharing feelings like anxiety and restricted interest of ASD children with family members will sometimes make their relationship better in abnormal situation by forced staying at home (figure 1d). However, some patients and their family members are anxious about COVID-19 and would like to know professional staffs. Others who are staying whole day long together may be stressful for both. At that situation, child psychiatrist and staffs provide medical advices over the telephone, which is a part of telemedicine. It is also important for children with ASD and their parents to connect with

friends, teachers, and healthcare practitioners. Parents of children with ASD showed significantly elevated parenting-related stress levels compared to those with typically developing children⁵. Providing greater parental leeway has a good influence on children with ASD. The social utility of mental health professionals in the management of the COVID-19 outbreak is confirmed⁶. Therefore, we should provide the mental health support not only to children with ASD but also their family.

In conclusion, COVID-19 is an emerging illness that is rapidly spreading through Japan and the rest of the world. This brochure could aid parents to provide interventions for children with ASD. We have not collected the parents' comments on the brochure yet. We will assess the effect of this trial in future studies.

Disclosure statement

The authors declare no conflicts of interest.

Figure Legends

Figure 1. COVID-19 supportive brochure for parents of ASD children.

(a) Characteristics of autism spectrum disorder (ASD). The behaviors and characteristics of ASD patients with relation to COVID-19 are explained. For example, they may not understand the reasons for the instructions issued by the government to stay home. They might feel uncomfortable and limited with being forced to stay at home for the whole day. Information regarding COVID-19 from media sources such as the television or the internet may cause unnecessary anxiety in ASD patients due to deficits in social and communication skills. Children with ASD may be hypersensitive and unwilling to wear masks.

(b) How to prevent Corona Virus Disease (COVID-19)? This slide does explain the prevention measures.

(c) Structure their lifestyle: Time and place management is very important for ASD children. Both verbal and visual information will help ASD children understand that their daily lifestyle has changed. For that purpose, it might be helpful for each family member to write his or her planned activities on a common whiteboard after communicating them verbally.

(d) Find a shared interest: Encourage activities and subjects that the child is naturally interested in. This image has been included in regards to ASD patients with restricted

interests. He or she may be willing to engage with family members about a specific interest such as trains, national flag, animals, insects, maps, history, etc..., which can serve as an opportunity to bond together.

Reference

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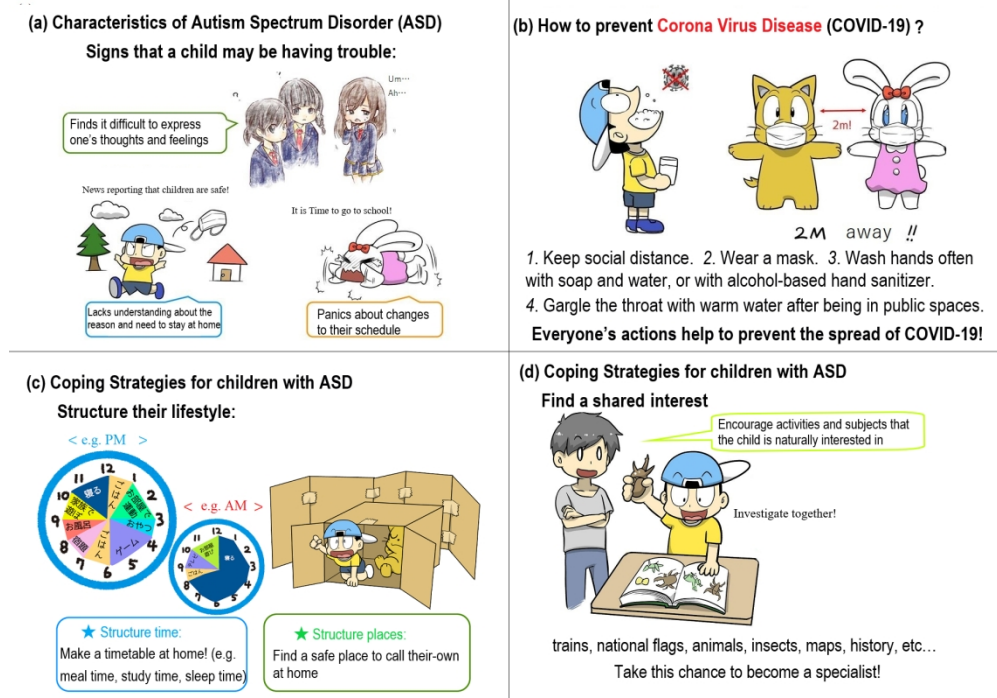


Figure 1. COVID-19 supportive leaflet for parents of ASD children.

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