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Applied Behaviour Analysis (ABA) as Main Intervention for Autistic Children

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ABSTRACT

This article is advocating Applied Behavioural Analysis (ABA) as one of the best intervention tools for children in the autism spectrum disorder. This intervention is highly suitable for the implementation of parents with children in the spectrum. In this article, ABA is defined as an intervention that applies the basic principles of behaviours to teach wanted behaviours and remove unwanted behaviours. This article provides some examples of ABA practices that can be done at home by the parents. ABA has been shown to be useful in improving different aspects of children development. Parents who conduct ABA at home, combined with one-on-one session with therapist will provide the children with the best possible outcome for their development. Suggestions on ways to look for therapy centres and ABA centres contact details are also provided in this article.

Keywords: *Intervention, Autism Spectrum Disorder, ABA, Parental involvement*

INTRODUCTION

We are familiar with the saying “monkey sees; monkey do”. Although this might come naturally to ‘normal’ children, it is tricky for children on the autism spectrum. Having challenges in communication and social skills, it would be harder for them to learn by simply observing their surroundings (Rudy, 2021). More effort must be made to learn something as simple as brushing teeth or making a simple toast in the morning. Additionally, autistic children could develop unwanted behaviour without proper communication skills, such as throwing tantrums, hurting themselves, or harming others (Lintang et al., 2021). Therefore, parents must consider early intervention for their children to catch up to their age development and avoid unwanted behaviours.

Applied behavioural analysis (ABA) would be one of the best tools. This intervention encourages parents to understand and change their children’s challenging behaviour to functional (raisingchildre.net.au, n. d). Special needs children who would most benefit from this intervention would be children with autism spectrum disorder and children with other developmental disabilities such as intellectual disabilities or attention deficit hyperactivity disorder (ADHD) (Smith et al., 2019). Since parents spend the most time with their children, ABA knowledge would be beneficial. With ABA knowledge, parents can communicate, teach children new skills, and prevent undesired behaviour from happening (Veitze & Lax, 2018).

Defining Applied Behavioural Analysis (ABA)

Overall, ABA is the process of applying basic principles of behaviour, such as rewards and punishments, to the specific behaviour and evaluating whether changes were due to the process that has been applied (Baer et al., 2007). It is also an approach that helps parents understand and change

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behaviour using various strategies and techniques (Fox, 2008). It is highly suitable for parents as it is not an intervention that requires specific props or lengthy preparation. The intervention itself could be done while doing daily activities such as eating, taking a shower, or going to the mall.

According to Baer et al., (2007), ABA consists of three components which are (1) applied, (2) behaviour, and (3) analysis. In ABA, the word applied indicated that this intervention is conducted to observe socially acceptable behaviour. Following that, behaviour in ABA is chosen based on its importance to the child, family, and society. It is not within the interest of ABA to study one specific behaviour for research. Instead, the behaviour that is being intervened carries meaning and is essential for the child to learn. Lastly, the analysis implies that this intervention analyses behaviour through self-examination and self-evaluation. In other words, parents can define the targeted behaviour, take data on the occurrences, and define the mastery criteria for the desired behaviour without needing external sources.

Examples of ABA Practices

To help readers visualise how therapy is conducted with ABA, here are some examples of ABA intervention for (1) shouting behaviour, (2) physically harming (kicking or hitting others), and (3) toilet training. All these steps are not intuitive knowledge for parents. It requires training and supervision before starting intervention on their children. In these cases, the parents are trained and are well informed on intervening with their children.

Shouting behaviour

Child A is a four-year-old non-verbal autistic boy who has developed shouting behaviour. After assessing the function of the behaviour, it turns out that he will shout every time he wants something (e.g., food, toys, rest, etc.). So firstly, parents must observe the behaviour by taking information on (1) the duration of shouting, (2) the frequency of shouting, (3) when he usually shouts. Then, parents set the operational definition for shouting. For example, shouting is when child A makes a high-pitched voice that lasts for more than five seconds when requesting something. For every occurrence that the behaviour meets the criteria, parents must intervene. The appropriate intervention that was chosen to be introduced was Picture Exchange Communication Systems (PECS) for this behaviour.

With PECS, parents will print out several pictures with daily items such as pictures of food, toilet, or toys as a communication method between the parent and the child (Bondy & Frost, 2011). PECS has also helped develop the language abilities of autistic children (Bondy & Frost, 2011). For example, mom baked cookies for child A. When he starts shouting for more, mom must refrain from giving the cookies to him. Instead, mom presents a picture of cookies and holds her hand to the child. Mom then signals the child to give mom the cookie picture, as seen in Figure 1. Mom then exchanges the picture with the real-life cookie for him to eat. Mom should make sure that he stops shouting before receiving the image and giving him cookies. Eventually, the child will learn to get what he wants by giving the mom the picture. The shouting behaviour will become extinct.



Figure 1. Mother holds out her hand as a signal for the child to give her the picture (Shine Child Development, 2021).

Physically harming other children.

Child B is a five-year-old verbal autistic girl who is prone to hit others when she wants attention. After determining the function and frequency of the said behaviour, mom decided that the operational definition would be, any instance where B lifts her hand or leg and puts it against her peers with the force that hurts the other person will count as hitting others. For this behaviour, tapping a friend’s shoulder will replace hitting.

For example, when B wants to play with her friends in the playground, mom reminds her to gently tap her friend’s shoulder and wait for her friend to respond. Any hitting behaviour observed, mom must punish the child by removing the child from the playground or putting her on timeout. Additionally, every night before sleeping, parents will recite a social story about the harmful effect of hitting others and the expected behaviour that she must practice instead. An example of a social story for hitting is in Figure 2.

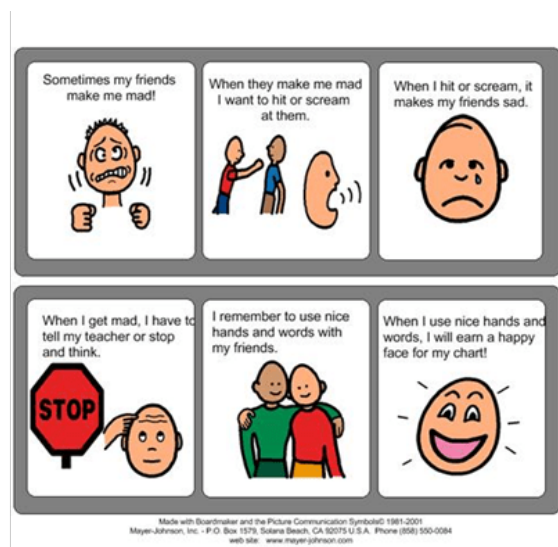


Figure 2. Picture by Learning Support Services (n.d.), social story for hitting behaviour.

Toilet Training

Child C is a verbal autistic boy who has problems adapting to toilet training. Accidents happened when he wanted to pee, as instead of putting down his pants in the toilet, he put down his pants in public and peed. Thus, parents come up with a breakdown of toilet training steps to set the goals and target each intended behaviour. This breaking down of steps is also known as task analysis (TA). An example of this is in Figure 3, after forming the TA. It would be impossible to teach the child to memorise every single step immediately. Therefore, this type of intervention usually takes some time and a lot of prompting.

For example, in the beginning, when he asks to go to the toilet, his parents must show the task analysis and point to the first picture. This is followed by pointing to the second picture after reaching the toilet and so on. If there are steps that the child cannot do, parents must physically guide the child. Although these steps will get tedious, they will be rewarding eventually. Parents must be persistent and keep showing the task analysis every day. Eventually, he will be totally independent of having to look at the task analysis pictures.



Figure 3. Task analysis for potty training (NDSS, 2020)

EFFECTS OF ABA

With any type of therapy, earlier intervention would be better, especially if the parents are planning to send their children to school. School can be a scary place for these children, considering their limitations. Thus, early intervention is important. Their inability to adapt, inability to communicate and inability to learn through imitation may cause them to fear school, which may increase unwanted behaviours in school (Rudy, 2021). Early intervention will help improve their developmental trajectories (Koegal et al., 2011). Thus, intervention should be considered even before parents receive the official diagnosis. Parents must be cautious when it comes to choosing the right intervention for their children. To do so, one must look at the available empirical evidence surrounding the intervention.

Since autism spectrum disorder is not a disease, there is no cure for it. However, the symptoms can be reduced using ABA early childhood intervention (Veitze & Lax, 2018). Specifically, Vietze and Lax (2018) found in their study that children who started ABA at two years old with a minimum of 30-hours sessions per week will reduce severe symptoms of ASD and increase cognitive, communication, and adaptive behaviour which will lessen the barriers to learning. Additionally, skills that are important

for children when they go to school, such as overall verbal and non-verbal IQ, expressive and receptive language abilities, and adaptive behaviour, can be improved with ABA therapy (Peter-Scheffer et al., 2011). This intervention can also help autistic children to generalize the behaviours that they have learnt during therapy to public places, thus, increasing adaptability (Brown & Bebko, 2012; de Marchena et al., 2016).

Moreover, ABA practises also have positive effects on reducing disruptive unwanted behaviours. Lintang et al. (2021) conducted a study to observe the effects of ABA practice on reducing tantrums. They found that ABA practice has been shown to be successful in redirecting a child's tantrum to other objects in the environment and, in the end, reducing the total occurrences of tantrums (Lintang et al., 2021). Similarly, ABA practice can also successfully treat problematic behaviour, such as hitting oneself and others (Haq et al., 2020). This study found that when paired with the right reward and punishment methods and applying the right replacement behaviour, problematic behaviours can be reduced. Both are hitting and throwing tantrums are unwanted behaviours that could disrupt daily activities and be severely disruptive in public places such as schools, shopping malls, etc. Thus, intervention would not only be useful to the child but also to their parents.

However, it is truly challenging for the child if the intervention is dependent only on the therapist; parents must get themselves involved with their child's intervention (Marshall, 2021). Parents who implement ABA therapy to their children could assess and set the goals for educational planning that is suitable and effective for their children (Campbell & Kozloff, 2007). Suggestions from the therapists are based on their experiences with other children and empirical studies. It may not apply to your child. Parents are the ones who know their children best since they spend more hours with the children rather than the therapist. Therefore, when parents can assess their children, it gives therapists more personal information that is important for the effectiveness of the intervention. This will also result in a better prognosis for the child (Simpson, 1999).

ABA will help the development of children in the spectrum if there is a combination between one-to-one support and parents' implementation of ABA (Burrell & Borrego, 2012). Children with ASD often tend to feel disconnected from their families and may not know how to interact with their parents (Bauminger, 2002). ABA is one of the methods to bridge the gap between parents and children. Therefore, parental implementation of ABA can help parents not only to understand their children through communication but also help understand how their child mind works and what are their children's strengths and limitations (Grindle et al., 2009; Odonnell, 2017). Parents who implemented ABA observed increased communication and better play skills among siblings (Grindle et al., 2009). With parental involvement, their children can also improve their ability to generalize the behaviours learnt during therapy to other social contexts (Burrell & Borrego, 2012).

LOOKING FOR ABA TRAINING CENTRES

Several places in Malaysia offer ABA training for parents. These places can provide more comprehensive information regarding ABA provide video examples and supervision for parents. The details of such centres are provided in the Appendix section. There are several things that parents need to prepare before starting the search for the right centres. Firstly, parents need to equip themselves with why they need the therapy. List down the behaviours and the scenarios that made parents consider going to therapy. Be aware of what exactly are they looking for in a centre. Parents must also have a general goal that the centre could help with, such as potty training, self-care abilities or school readiness. The

therapy centres will require this information when parents go for a first consultation. Therefore, it is suitable for parents to be prepared regarding what they need help with. Parents must look for a therapy centre that provides:

- a. Parents training.
- b. One-to-one therapy sessions.
- c. Possible shadow aide services at school.

These three types of training are beneficial for both the child and the parents for maximum benefits for the ABA intervention program (Smith et al., 2019). Additionally, it would be helpful for parents to consider the strength of the therapy centres, how many students and therapists they have, and whether the services they offer are worthy of the cost they place (Leko et al., 2019).

DISCUSSION

This article summarizes ABA as the primary intervention for children with autism spectrum disorder. ABA has been shown to improve autistic children's overall quality of life. It is an intervention suitable for parents to apply while doing daily activities. ABA is highly adaptable, flexible, and easy to execute. It is crucial for parents even more so now because of Covid-19. Covid-19 has forced us to change the norms we were comfortable with to a new way of living that we must adapt to. Working parents are now forced to adapt to their children's new roles as a teacher. Additionally, parents whose children are with special needs are now forced to be their child's therapist. Although the therapy centre offered online therapy sessions, Ferguson et al., (2021) reported that the parental satisfaction level for telehealth therapy was significantly lower when compared to in-person therapy. Without a doubt, parental involvement is highly required.

ABA intervention is a tool that acts as a medium for parents to give the best possible treatment for their children to embrace the future together. It is in line with the Islamic concept of 'efforts, prayers, and tawakkul'. In Islam, we must first put in the effort as parents using ABA to help children be the best version of themselves in this world. They are followed by praying and keeping the hopes high that Allah will not leave any prayers unanswered. ABA also teaches parents to have sabr when teaching these special needs children. Their progress may not be as quick as with normal children, but there are signs of improvement that can be observed when done right.

Similarly, ABA intervention is also teaching parents the meaning of sincerity. Unlike normal children, special needs children may not thank their parents for their sacrifices and efforts. But as parents, looking at them progressing is rewarding enough without expecting appreciation. Children are amanah for their parents. According to a hadith narrated by al-Bukhaari (893) and Muslim (1829), Prophet (blessing and peace of Allah be upon him) said, "each of you is a shepherd, and each of you is responsible for his flock...". Therefore, parents are responsible for guiding their children and providing the necessary knowledge to guide them through their journey in this world. These children should not be seen as a burden. Instead, they should be considered a gift from Allah as a means to attain Jannah in the afterlife. This outlook, together with a better understanding of ABA and what a bona fide ABA centres should be providing, is hoped to facilitate parents to cope with the challenges of raising children with autism.

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2?accountid=44024

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Odonnell, K. (2017). Critical Review of Applied Behavioral Analysis and parental involvement for autism spectrum disorder. *ScholarWorks@BGSU*. Retrieved January 21, 2022, from <https://scholarworks.bgsu.edu/honorsprojects/231/>

Picture Exchange Communication System (PECS) (2021). *Shine*. Retrieved January 21, 2022, from <https://www.shinechilddevelopment.com/post/picture-exchange-communication-system-pecs>

Smith, D. P., Hayward, D. W., Gale, C. M., Eikeseth, S., & Klintwall, L. (2019). Treatment gains from early and intensive behavioral intervention (EIBI) are maintained 10 years later. *Behavior Modification*, 45(4), 581–601. <https://doi.org/10.1177/0145445519882895>

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APPENDIX

Autism Centres	Address and Contact Details
Autism Link Malaysia	No 3, Jalan Damansara Permai , Damansara Height, 50490 Kuala Lumpur 03-2011 6708 / 016-6100309 enquiries@autism.my
EIP-Autism Sdn Bhd	13A-3, Jalan PJU 1/39, Dataran Prima, 47301 Petaling Jaya, Selangor <u>03-7880 2144</u>
Early Autism Project	30, Jalan Keruing, Bangsar, 59100 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur 03-2094 0421 013-319 0301 enquiries@autismmalaysia.com
Behaviour Academy Analysis	behaviouranalysisacademy@gmail.com
Ideas Autism Centre	IDEAS Autism Centre, No.9, Jalan Bukit Templer, Taman Bukit Templer, 48000 Rawang, Selangor. https://ideasautismcentre.com/ 03-60917330

Table 1. Autism centers available to parent training