

# Preschool Teachers' Knowledge of Autism Spectrum Disorder (ASD)

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## Abstract

Autism Spectrum Disorder (ASD) can be identified among preschool children who have certain characteristics and preschool teachers play a crucial role in identifying the characteristics of students with learning disabilities such as ASD. This study is carried out to achieve the objective of assessing the level of knowledge among preschool teachers regarding ASD. A quantitative approach was employed and involved a study sample of 153 preschool teachers in Hulu Langat district, Selangor. The sampling technique is simple random sampling. Data was collected through online surveys using Google Forms and offline surveys in printed form and was analyzed using the Statistical Package for Social Science (SPSS) system. The research findings revealed that the level of knowledge among preschool teachers regarding ASD is relatively low. Issues may arise if preschool teachers lack sufficient knowledge about ASD, potentially hindering early ASD detection, classroom effectiveness, as well as diminishing confidence and preparedness in managing the behaviors of children with ASD. The implications of these research results recommend that organizational management should implement periodic training programs and workshops aimed at enhancing the knowledge of preschool teachers about ASD. In conclusion, preschool teachers should improve their knowledge about ASD in order to be more confident in educating and guiding ASD children, and this will lead to an improvement in the quality of ASD children's lives.

**Keywords:** Autisme Spectrum Disorder (ASD), Knowledge, Preschool Teacher

## Introduction

Exposure on Autism Spectrum Disorder (ASD) either through the mass media or social media is beginning to raise awareness of ASD in the community. The lives of ASD children that go viral in the media to some extent open the eyes of the community and give them an early insight into the issues surrounding the lives of ASD children. Although awareness of ASD is increasing, the level of knowledge about ASD among adults facing ASD children daily, teachers for example, is more reasonable and critical to note. The teacher, as an important member of society and closest in the life of the child after the parents, becomes one of the parties that needs to have knowledge of ASD.

According Maenner et al (2020), an estimated 1 in 36 children in the United States were identified as having ASD in 2020 compared to 1 in 44 in 2018. In Malaysia, as of 30 June 2022, 36,601 individuals in Malaysia were diagnosed with ASD. Of these, a total of 24,748 individuals

were children under the age of 12 (Bernama, 2022). This shows that the number of children diagnosed with ASD is high and is increasing in number, year by year.

The high prevalence of ASD in children requires preschool teachers to identify atypical developmental traits in early childhood, followed by a reference to a specialist (Taresh et al., 2020). Teachers should be able to detect pupils who have difficulty in learning and have behaviors that differ from the norm (Alahmadi & El Keshky, 2019). To some extent, having some basic knowledge on ASD will help the teacher to detect early any behavior characterized by learning problems such as ASD and take appropriate action. According to the Ministry of Health Malaysia (2014), referrals by parties such as schools, communities and parents are required before medical practitioners can produce assessments and subsequently diagnoses. The teacher's knowledge of ASD is not only to detect any developmental disorders, but also to enable teachers to perform teaching and learning well in the classroom. Based on Gómez-Marí et al (2021), teachers face challenges in providing inclusive education as a result of their lack of knowledge about ASD. According to him, teachers who have experience in educating or communicating with children with ASD, have a wider knowledge of ASD and can educate ASD children better. Low et al (2020) said teachers with high ASD knowledge feel more competent to conduct inclusive classes for ASD children. This shows that teachers' lack of knowledge about ASD will make the educational process for ASD children equally affected.

In view of preschool teachers' role to provide the best early education services to children, even children facing learning or adaptive issues, teachers with basic knowledge will be better prepared to deal with any related issues. ASD children are often isolated and stigmatized in most parts of the world and teachers play an important role in ensuring the mental health and well-being of their students (Rai et al., 2018). There are 3 important elements of stigma which are the issue of knowledge (ignorance), attitude issues (prejudice) and behavioral issues (discrimination). According to Kuzminski et al (2019) knowledge and attitudes can contribute to how ASD individuals are treated, whether good or bad.

According to Zuhdi & Rosli (2018), ASD children face challenges in the classroom both academically and socially. For ASD children, special attention and assistance are needed from teachers for their learning journey to be smooth. Zainun et al (2019) stated that mainstream society does not yet understand the characteristics of ASD children. Taresh et al (2020) is of the view that preschool teachers find it difficult to recognize and be a reference to the case of ASD children and the personal characteristics of the teacher such as the teacher's beliefs, attitudes, feelings, skills, perception, and knowledge in handling children with ASD.

Based on Scheuermann et al (2019), the lack of knowledge and misconceptions of preschool teachers about ASD, will make their efficacy in identifying the characteristics of ASD children weak. In addition, teachers will experience a lack of confidence in voicing concerns to parents and referring them for early intervention. According to him, teachers should have the competence, knowledge, and skills on how to deal with the various behaviors of ASD children.

Hence, this study aims to study the level of knowledge of preschool teachers on ASD. Knowing the level of knowledge of preschool teachers on ASD will be able to help the school and the Ministry of Education Malaysia to formulate plans to strengthen the level of knowledge on ASD among preschool teachers and create a positive environment in the classroom for ASD

children thus promoting their development. It is hoped that this study will contribute to the literacy of early intervention efforts as well as help to give an impact on efforts to improve the level of knowledge of preschool teachers regarding ASD.

### **Literature Review**

American Psychiatric Association (2013) defines Autism Spectrum Disorder as a continuous difficulty in a number of things, namely social communication, social interaction with limited and repetitive patterns of behavior, activity or interest as well as sensory-seeking behaviors. Such behavior appears from early childhood to the point of limiting and compromising daily functioning. Based on American Psychological Association (n.d.), ASD refers to any one of the disorder groups with its onset that usually occurs during the preschool years and is characterized by difficulties in social communication and social interaction as well as behaviors, interests, and activities with limited and repetitive patterns. This complex neurobiological disorder lasts a lifetime beginning from birth.

Children with ASD have characteristics such as difficulty interacting normally, isolation from the outside world, extreme unwillingness to be held by parents, deficiencies in speaking ability including 'mutism' and repetition of other people's speech (echolalia), limited food selection compared to normal development, excessive fear reaction to noise, extreme willpower in repetition and maintaining equality, as well as rigid adherence to rituals and routines and limited spontaneous activities such as play (Scheuermann et al., 2019).

Jelas et al (2012) explained that the problems faced by ASD children and ASD adults can be seen in three sections, namely understanding and social behaviors, such as communication (both verbal and non-verbal), rigid thinking and difficulties in social imagination. According to Skoufou (2019), ASD children show stereotypical behavioral characteristics such as disorders in speech and language, social communication, as well as in their imagination reflected in stereotypical behaviors such as twisting objects. His study also found that at preschool age, where diagnoses are often carried out, their behavior becomes more pronounced.

The main issue related to the teacher's knowledge of ASD is the teacher's lack of understanding of ASD. Gómez-Marí et al (2021) concludes that in general, teachers' knowledge of ASD is at a low level and this knowledge depends on the level of education, the training they receive and their experience in relating to students who suffer from ASD. Studies by Tareh et al (2020); Güleç-Aslan (2020); Rai et al (2018) also show that the level of preschool teachers' knowledge of ASD is also low. Only studies by Rinku et al (2022) state that preschool teachers have high knowledge of ASD. From these past studies, it can be concluded that preschool teachers' knowledge of ASD is low and needs to be further enhanced.

Knowledge of low ASD can prevent teachers from understanding the characteristics, behaviors of ASD children as well as how to deal with them. According to Rahman & Alias (2021), teachers in Malaysia do not yet recognize the characteristics of ASD although most have heard of ASD. Tareh et al (2020) states that preschool teachers have difficulty in detecting and becoming a reference for the assessment of ASD children by experts, even if they have a good chance of doing so. As a result of the lack of knowledge of ASD, teachers' self-belief in recognizing the characteristics of ASD in children is weak, and they are not confident in expressing concern to parents and referring children for early intervention.

One of the aspects of knowledge that teachers need to have is about child development based on 'milestones', understanding of the characteristics of ASD in children, as well as strategies and methods to counteract the behavior of ASD children. Samsuddin et al (2021) emphasizes that teachers need to understand normal language development so that they can create an atmosphere that supports the development of children's communication and language. In addition, they also need to have a good knowledge of the characteristics and needs of children so that interventions can be designed to improve children's speech, language, and communication skills.

Preschool teachers should have sufficient knowledge of ASD as they deal with various levels of child development and need to provide the best educational services for all children. Rahman & Alias (2021) shows that teachers need to have competence and knowledge when educating ASD children. With this knowledge, they can assist parents in providing the best education for their children.

Teachers' knowledge of ASD is very important because they have significant opportunities and periods to interact with children in class and are responsible for ensuring that no children have dropped out whether they have normal development or have learning difficulties including ASD. Rahman & Alias (2021) state that since teachers regularly interact with ASD children, they need to be confident, skilled and possess knowledge of ASD. If teachers experience a lack of confidence, lack of proficiency or lack of understanding of ASD, then ASD children will face a higher risk of dropping out in the learning process.

According to Bujang et al (2020), knowledge of the meaning of ASD is important so that there is no neglect when dealing with ASD children. This lack of knowledge can lead to negative attitudes towards ASD children and their families. Rahman & Alias (2021) also note that when teachers have a solid knowledge of ASD, they will feel confident and able to act to help change public perceptions of ASD. Most teachers who are knowledgeable about ASD can act as agents of social change towards inclusive education (Gómez-Marí et al., 2021).

The cause of the lack of knowledge of teachers about ASD is due to the lack of adequate training on ASD. Khalil et al (2020) made the discovery that in Saudi Arabia, most teachers have poor knowledge of ASD due to lack of training and courses to qualify them to handle ASD children. . Rahman & Alias (2021) explained that special education teachers who have been exposed to the characteristics of ASD by training as well as experiencing the process of educating ASD children will have a better knowledge of ASD than mainstream teachers. Therefore, the experience of relating to ASD children can contribute to the teacher's knowledge of ASD. Güleç-Aslan (2020) emphasizes that teachers who lack knowledge of learning problems such as ASD need additional training, especially in special education and inclusive skills.

Bolourian et al (2022) also emphasized the importance of identifying several aspects that need to be pursued for professional improvement, including increasing teachers' knowledge of ASD, providing training courses on effective inclusive strategies, and building positive relationships with children with ASD. By providing training courses and further education for teachers, they will be able to improve their knowledge and skills in teaching ASD children.

Among the factors that also affect the teacher's knowledge of ASD are also supporting and environmental factors. Preschool teachers who serve in a positive and supportive atmosphere to teach ASD children will be able to have a better knowledge of this situation. Güleç-Aslan (2020) highlights the importance of educational adaptation for ASD children, especially in inclusive contexts, the provision of individual educational programs, support services, appropriate physical environment arrangements in schools and in classrooms and family engagement. This kind of support from the school can help preschool teachers improve teachers' knowledge of ASD.

### Research Methodology

The location of this study is in the whole district of Hulu Langat, Selangor. The study population involved preschool teachers regardless of whether they're from the private sector or the government. The study design used is a survey study that allows systematic, practical and effective data collection from large samples representing the study population. The sample selection of the study was determined by a simple random sampling method. Random sampling is easy to choose because this method provides an equal opportunity for each individual to be selected as a sample representing the study population (Idris, 2013). In addition, this method involves random selection of samples, which simplifies the process of effective data collection as well as savings in the implementation period. The sample size of this study was

Table 1 shows the findings of the demographic profile of the survey respondents. Among the 153 respondents who answered the questionnaire, the majority were female teachers, 144 (94.1%) and only 9 respondents (5.9%) male teachers. The distribution of respondents by age was 44 respondents (28.8%) aged 41 years and above, 31 respondents (20.3%) aged 35 to 40 years, 28 respondents (18.3%) aged 31 to 35 years, 27 respondents (17.6%) aged between 26 and 30 years, followed by 23 respondents (15%) aged 25 years and below.

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#### *Demographic Profile of Respondents*

Profile	Item	Frequency (n)	Percent (%)
Gender	Male	9	5.9
	Female	144	94.1
Age	Less than 25	23	15.0
	26 – 30	27	17.6
	31 – 35	28	18.3
	35 – 40	31	20.3
	41 above	44	28.8
Race	Malay	151	98.7
	India	1	0.7
	Lain-lain	1	0.7
Agama	Islam	151	98.7

	Hindu	1	0.7
	Lain-lain	1	0.7
Education	Secondary level	34	22.2
	Certificate	6	3.9
	Diploma	73	47.7
	Bachelor	25	16.2
	Master	8	5.1
	Others	7	4.6
Years of Experience (General Teaching)	0-3	46	30.1
	4-5	26	17.0
	6-10	32	20.9
	11-20	33	21.6
	21-30	15	9.8
	31-40	1	0.7
Years of Experience (Special Education)	No Experience	123	80.4
	0-3	22	14.4
	4-5	4	2.6
	6-10	3	2.0
	11-20	1	0.7
Have you ever received ASD related course training??	Yes	22	14.4
	No	131	85.6
Have you ever known or experienced with ASD individuals?	Yes	71	46.4
	No	82	53.6

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The findings for the education level were 73 respondents (47.7%) had diploma, 34 respondents (22.2%) had secondary level, 25 respondents (16.2%) had a Baccalaureate, 8 respondents (5.1%) had a Bachelor and 7 respondents had other levels of education and 6 respondents (3.9%) had a certificate. In terms of the period of teaching experience (general), as many as 46 respondents (30.1%) have 0 to 3 years of teaching experience, 33 respondents



(21.6%) have 11 to 20 years of teaching experience, 32 respondents (20.9%) have 6 to 10 years of teaching experience, 26 respondents (17.0%) have 4 to 5 years of teaching experience, 15 respondents (9.8%) have 21 to 30 years of teaching experience and 1 respondent (0.7%) has 31 to 40 years of teaching experience.

Meanwhile, in terms of teaching experience (Special Education), 123 respondents (80.4%) had never experienced teaching Special Education classes, 22 respondents (14.4%) had experience teaching Special Education classes for 0 to 3 years, 4 respondents (2.6%) had experience teaching Special Education classes for 4 to 5 years, 3 respondents (2.0%) had experience teaching Special Education classes for 6 to 10 years and 1 respondent (0.7%) had experience teaching Special Education classes for 0 to 3 years, 4 respondents (2.6%) had experience teaching Special Education classes for 4 to 5 years, 3 respondents (2.0%) had experience teaching Special Education classes for 6 to 10 years and 1 respondent (0.7%) had experience teaching Special Education classes for 11 to 20 years.

On the question of whether the respondents had ever received ASD-related course training, 131 respondents (85.6%) said never while the remaining 22 respondents (14.4%) said they had received training. As for the question of whether respondents had ever known or experienced an ASD individual, 71 respondents (46.4%) said they had while the remaining 82 respondents (53.6%) said never.

### **Research Instruments**

This study used the questionnaire as the primary source of the study to obtain information on the objectives of the studies that were submitted. To measure the general level of knowledge of preschool teachers on ASD the questionnaire is adapted from Khalil et al (2020) which consists of 15 items i.e. statements with "right" and "wrong" choices about ASD. The "uncertain" answer was provided by the researchers because the 'uncertain' answer option was better and showed that the respondents did not know the real answer as opposed to making a guess. Three aspects of 'symptomatology', treatment and etiology are questioned which are included in the 15 items. The consistency of the scale of this original study instrument was sufficient in the study ( $\alpha = .862$ ). However, the researchers removed the first question from the study Khalil et al (2020) because the term 'Asperger's' in question is no longer diagnosed at this point, hence the number of questions is 14 items. The level of knowledge is measured by calculating the number of correct answers per respondent, that is, if the correct answer exceeds half the number of items, the level of knowledge is good. Whereas if the correct answer is less than half the total item, the level of knowledge is calculated as weak.

### **Data Collection and Analysis Procedures**

The data collection process was through questionnaire method where respondents were recruited through social media platforms such as Facebook apps and WhatsApp groups. There were two types of forms that had been distributed namely online through the 'Google Form' and offline through printed copies. The researcher had obtained permission to meet the preschool party either from the government or private sector to distribute the questionnaire. A letter requesting permission to conduct the questionnaire was sent in advance.

The data collected was then analyzed with the IBM Statistical Package for the Social Sciences (SPSS) software. At the initial stage, data cleanup is carried out to identify the missing data. This study used descriptive analysis in mean form, standard deviation, frequency or frequency and percentage using SPSS. Once the data has been collected, the first step in the data analysis procedure is data processing which includes coding, classification and statistical processing. Statistical processing is carried out in which the accumulated quantitative data is analyzed using descriptive statistical methods.

## Findings

### Preschool Teacher Knowledge About ASD

Table 2 shows the results of the analysis of the number and percentage of respondents who gave the correct answer for each item. There were 14 questions answered by 153 respondents.

Table 2

*Table of scores and percentages of respondents for preschool teachers' level of knowledge on ASD*

No	Item	Correct Answer <i>f</i> (%)	Incorrect Answer <i>f</i> (%)
B1	ASDs are developmental disorder	115 (75.2)	38 (24.84)
B2	Genetic factors play an important role in the causes of ASDs.	56 (36.6)	97 (63.4)
B3	ASDs exist only in childhood.	83 (54.2)	70 (45.8)
B4	Behavior therapy is an intervention most likely to be effective for children with ASDs	107 (69.9)	46 (30.1)
B5	Children with ASDs are very similar to one another.	84 (54.9)	69 (45.1)
B6	Early intervention demonstrates no additional benefit to children with an ASD	81 (52.9)	72 (47.1)
B7	If an intervention works for one child with an ASD, it will definitely work for another child with an ASD.	29 (19)	124 (81.0)
B8	Medication can alleviate the core symptoms of ASDs.	60 (39.2)	93 (60.8)
B9	Most children with ASDs have cognitive abilities in the intellectually disabled range.	24	129



		(15.7)	(84.3)
B10	Most children with ASDs have special talents or abilities.	1	152
		(0.7)	(99.3)
B11	In many cases, the cause of ASDs is unknown.	83	70
		(54.2)	(45.8)
B12	The core deficits in ASDs are Impaired Social Understanding, Language Abnormalities, and Impaired Sensory Functioning.	17	136
		(11.1)	(88.9)
B13	Traumatic experiences very early in life can cause an ASD.	42	111
		(27.5)	(72.5)
B14	With proper intervention, most children with an ASD will eventually "outgrow" the disorder.	13	140
		(8.5)	(91.5)

The findings showed the highest percentage with the correct answer was in the statement 'ASD is a disorder or developmental disorder' in which 115 respondents (75.2%) answered correctly, followed by the question 'Behavioral therapy is an intervention most likely to be effective for children with ASD', with 107 respondents (69.6%). This was followed by the statement 'ASD children are very similar to each other' which was 84 respondents (54.9%) answered correctly.

As for the fact that 'ASD only exists in childhood.', a total of 84 respondents (54.2%) got the correct answer. Next, as for the statement, 'In many cases, the cause of ASD is unknown.', 84 respondents (54.2%) gave the correct answer. The statement that 'Early intervention does not provide additional benefits to ASD children', a total of 81 respondents (52.9%) gave the correct answer.

As for the statement, 'Medicines may reduce the main symptoms of ASD.' There were 60 respondents (39.2%) getting the correct answer, as well as for the statement, 'The genetic factor plays an important role in the cause of ASD.', 56 respondents (36.3%) got the correct statement. As for the statement, 'A traumatic experience early in life can lead to ASD.', 42 respondents (27.5%) got the correct answer.

Next, for the statement, 'If an intervention is effective for a child with ASD, it will be effective for other children with ASD.', 29 respondents (19%) answered correctly and for the statement, 'Most ASD children are in the intellectual disability of their cognitive abilities. 25 respondents (15.7%) answered correctly.

However, for the following statement, 'The main lack of ASD is impaired social understanding, abnormalities in terms of language acquisition and impaired sensory function', only 17 respondents (11.1%) gave the correct answer, as well as for the statement 'With the right intervention, most ASD children will eventually "overcome" the disorder', only 13 respondents (8.5%) gave the correct answer. And finally, the lowest percentage is for the

statement, 'Most ASD children have special talents or abilities' where only one responder (0.7%) answered correctly.

In Table 3, the results of ASD knowledge, the teachers showed that only 48 respondents (31.4%) had a good level of knowledge by answering correctly more than half the total items, while 105 respondents (68.6%) had a weak level of knowledge for answering correctly less than half the total items.

Table 3

*Results of the teacher's knowledge of ASD*

Teacher Knowledge	Score Level of Knowledge on ASD	Frequency (N=153)	Percent (%)
Good	8-14	48	31.4%
Weak	0-7	105	68.6%

### Discussion

Although the study locations were in areas with access to information about ASD, the findings found that the level of knowledge of preschool teachers was at a poor level. This shows that although preschool teachers are aware of the existence of ASD among children, they are not yet ready to accept and handle ASD children in the classroom. The findings of the study are in line with the Alharbi et al (2019) study which also reported that teachers' level of knowledge about ASD was weak and that teachers lacked experience in managing ASD children. According to the study, the teacher having sufficient awareness and knowledge will find it very useful for early intervention purposes, children's teaching planning as well as support services for families of ASD children.

The lack of preschool teachers' knowledge of ASD will hinder them in identifying the characteristics of ASD in children as well as hinder the process of early detection of ASD, whereas preschool teachers play a very important role in the observation of early childhood development. According to Rinku et al (2022) in their study, preschool teachers have received training in the field of child development as well as facing assignments with children every day, making preschool an ideal environment in the process of detecting ASD children. Fuad & Tahar (2021) also said that due to the teacher's poor knowledge of ASD, the process of referring children to a specialist will be slow, especially the diagnosis process which is usually very time consuming.

The impact of the lack of understanding and knowledge on ASD will also weaken the confidence and self-efficacy of teachers in managing the teaching of ASD children. The inclusive atmosphere that is expected to exist in the classrooms attended by ASD children is certainly not able to be created by teachers due to lack of initiative due to lack of knowledge. Moreover, preschool teachers will not be able to help ASD children achieve optimal intellectual and educational functions due to the intended shortcomings. According to Khalil et al (2020), knowledge of ASD needs to be obtained by teachers so that ASD children get the best education and teachers can apply the appropriate teaching techniques for them.

Therefore, it is proposed that training be held for teachers in the form of courses and workshops to enhance the knowledge of educators on the problems of ASD learning. Based

on the Gómez-Marí et al (2021) study to improve the level of knowledge of teachers, professional training that educates teachers on ASD should be improved and carried out on an ongoing basis. In addition, he said, it is important to establish a training curriculum for teachers on a solid theoretical basis on what ASD is as well as develop practical strategies for teachers to identify symptoms of ASD as early as possible in the classroom and make an assessment in determining whether a diagnosis of ASD is necessary. With this increase in knowledge, teachers can identify students who show the characteristics of students with learning difficulties including ASD more effectively.

The administrators should look into the guidance and inclusive planning in preschool. This is an important step in creating a holistic and inclusive curriculum and indirectly providing quality educational opportunities to ASD children. Since ASD children need a learning experience with activities and materials of an inclusive nature, administrators should be aware of the appropriateness of the curriculum applied. Meanwhile, preschool teachers play a role in the unique teaching and learning process as it needs to be in line with the diverse level of ability and skills of ASD children. One of the aspects that should be taken into account is the teaching and learning session which emphasizes that ASD children can communicate and collaborate in groups in preschool, either among ASD children or with neurotypical children.

In addition to an inclusive approach from the point of view of curriculum planning, administrators also need to provide an inclusive preschool physical environment. Administrators and teachers need to work together in creating a space that considers the sensory, visual and audio needs of ASD children. Among examples are ensuring a suitable lighting system, the use of wall colors and good finishing materials in the space used by ASD children. In addition, the provision of facilities that are 'ASD-friendly' such as a special space for ASD children to calm down when they experience a 'meltdown' situation. The furniture that can be provided in preschool is also simple and flexible in terms of layout. Materials such as visual signage should be placed in appropriate places so that ASD children can follow the routine, guidance, and instructions in class. Technology facilities can be provided in teaching and learning sessions, for example, intelligence and interactive educational applications, so that ASD children are attracted to the teacher-planned.

Among other initiatives that administrators can take is to collaborate with those who specialize in child development, for example, therapists, psychiatrists, and psychologists. In this way, the administrator will obtain information from the parties such as the basic screening list of ASD features and get guidance from experts to conduct early screening, which will indirectly make administrators and teachers more confident to perform the process on their own. Administrators and teachers who conduct screening can also be a reference during the diagnosis process by a specialist. Therefore, children who need a diagnosis will have the opportunity to get it earlier than usual. In addition, such collaboration is good because children's development can be monitored regularly, and early intervention can be carried out effectively. Benefits will also be obtained by parents because of the cooperation, as therapy services for ASD children can be offered to parents from experts.

Preschool administrators can also create collaborations between preschool teachers with parents and families in supporting the development of ASD children. Open and continuous

communication should be held between all parties, where meetings can be held regularly to share information and discuss strategies for the development of ASD children. By mutual agreement and cooperation, the plan of action to be carried out simultaneously at home and in preschool. Both parties can update information on the inclinations and needs of these ASD children by further discussing and documenting them. Collaboration between administrators and preschool teachers with such parents will provide support to ASD children and at the same time lead to best practices in ASD early childhood education.

Next, administrators and preschool teachers should deepen early intervention strategies that match the needs of ASD children so that they can provide the best educational services to ASD children. Based on Abdullah (2020), early intervention refers to the process of providing services, education and support to children who are at risk or have a late level of physical or mental development and affect development and provide barriers in their learning. Training and workshops should be given to teachers where the focus is on early intervention techniques that can maximize the involvement of ASD children in the classroom. Teachers should also ensure that ASD children are able to build skills such as fine motor skills as this will help with functionality in terms of self-management. Teachers also need to make individual-based teaching and learning planning so that the potential of each ASD child can be polished.

As educators of early age children, teachers need to be independent in the field of child development. Preschool teachers should strive and be prepared to face any issues with ASD children through the means of increasing knowledge by reading a lot of scientific material and watching videos related to ASD. In addition to being able to build knowledge about the level of development of ASD children, the teacher will be able to detect early and well any developmental delays in terms of the main domains of child development. Teachers' initiatives in participating in seminars both online and physically, offered by ASD child therapists, are also highly desirable. Preschool teachers should also strive to actively engage in the special education community by participating in forums involving special education teachers to obtain information so that they can be ready to provide the best educational services for ASD children.

The government can create special incentives to enable teachers to be more motivated to improve education services to ASD children. For example, through channeling additional funds to preschools that are active in providing special education services for ASD children, teachers will indirectly benefit. By providing incentives to mainstream preschool teachers who are interested, competitive and active in the education of ASD children, teachers will feel recognized and valued. In addition, funds for the preschool should be given in the form of equipment and materials resources, for example, educational games, sensory equipment, and special software that can launch ASD children's teaching and learning. The incentive handover channel program should be implemented and publicized so that more preschools take the initiative to upgrade their facilities into an inclusive preschool. For preschools involved with such special incentive programs, the services provided must always be consistent and achieve their objectives.

In retrospect, this study contributes to the development of the body of knowledge in the field of early childhood education by examining the acceptance of preschool teachers toward ASD children, covering aspects of teacher knowledge. The importance and benefits of preschool

teachers in having increasing knowledge and subsequently with the knowledge gained, how the teachers can support the development of ASD children were examined. In terms of knowledge enhancement efforts among preschool teachers, the focus should be on three main aspects, namely symptoms, etiology and treatment for children as proposed by (Khalil et al., 2020). Therefore, this study can help further research especially regarding the three main aspects of knowledge of ASD (symptoms, etiology and treatment) in helping the teachers support the needs of ASD children. Further studies on inclusive approaches also can be carried out to enhance the potential of ASD children from an early school age.

### Conclusion

This study found that many preschool teachers in Hulu Langat district have poor knowledge in terms of ASD. This lack of teachers in terms of knowledge shows that there is a shortage in terms of acceptance of ASD-related training programs that focus on the characteristics of ASD and the strategy of handling ASD children. Therefore, preschool teachers need to be provided with sufficient knowledge on ASD so that their skills can be enhanced especially from the point of view of early detection if children show ASD characteristics. Knowledgeable preschool teachers will be more confident in educating and guiding ASD children, guiding them to better quality life. Through mastery of knowledge on ASD, preschool teachers can make the best approach in any situation when dealing with ASD children in preschool.

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