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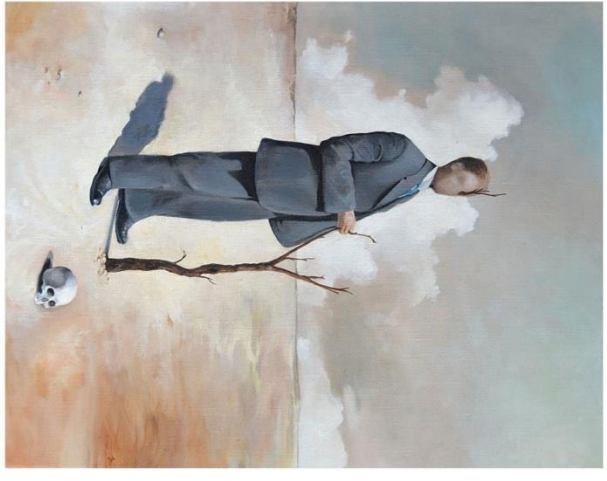

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Teachers' knowledge and perception towards children with an autism spectrum disorder

Selvaganapathi G[1]
[1]Seremban Prison, Malaysian Prison Department, Home Ministry, Malaysia
Selvaganapathi.G@MPD.my

Jinat Ahmed J[2], Mathialagan AG[2], Azra N[2], Kularaja k[2], MHM Nazmul[2], KumaraswamyK[2], Thirupatharao V[2]
[2]Department of Post-Graduate Studies, Perdana University, Malaysia
Jinat@PU.ac.my, Mathialagan@PU.ac.my, Azra@PU.ac.my, Kularaja@PU.ac.my, Nazmul@PU.ac.my, KumaraswamyK@PU.ac.my, Thirupatharao@PU.ac.my.

Dinesh M[3]
[3]SP Care Group, Health Care, Malaysia
Dinesh.M@HC.ac.my

Harikrishnan T[4]
[4]Department of Rehabilitation Medicine, Hospital Tunku Ampuan Rahimah, Ministry of Health, Malaysia.
Harikrishnan@mh.ac.my

Abstract

This study aims to assess teacher's knowledge and perception towards children with autism spectrum disorder (ASD) in Malaysia. A cross-sectional study was done by using convenient sampling. Respondents that fulfill the inclusion & exclusion criteria were sent online validated questionnaire, data were analyzed using SPSS. As a result, only a few of the respondents have good knowledge of autism, however, more have a positive attitude towards autism. In conclusion, we found that teachers did, in fact, recognize their own lack of knowledge of ASD and this awareness co-existed with an interest in increasing their knowledge and skills in this area.

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Keywords: Autism, Knowledge, Attitude, ASD, self-efficacy.

Conocimiento y percepción de los maestros hacia los niños con un trastorno del espectro autista

Resumen

Este estudio tiene como objetivo evaluar el conocimiento y la percepción del maestro hacia los niños con trastorno del espectro autista (TEA) en Malasia. Se realizó un estudio transversal mediante el uso de muestreo conveniente. Los encuestados que cumplieron con los criterios de inclusión y exclusión fueron enviados a un cuestionario validado en línea, los datos fueron analizados utilizando SPSS. Como resultado, solo unos pocos de los encuestados tienen un buen conocimiento del autismo, sin embargo, más tienen una actitud positiva hacia el autismo. En conclusión, descubrimos que los maestros, de hecho, reconocían su propia falta de conocimiento de TEA y esta conciencia coexistía con un interés en aumentar sus conocimientos y habilidades en esta área.

Palabras clave: autismo, conocimiento, actitud, TEA, autoeficacia.

1. INTRODUCTION

Autism Spectrum Disorder (ASD) is a neuron developmental disorder characterized by persistent deficits in social communication and social interaction and restricted, repetitive. The disorder has a global prevalence of 0.62 %, while recent prevalence estimates in the

US-run as high as 1.4 % (MANCIA, FAGARD, NARKIEWICZ, REDON, ZANCHETTI & BÖHM, 2013). ASD is associated with enormous financial burdens (COOK, 2001), to a far greater extent than that which occurs with other childhood disabilities. However, interventions are available and can be quite efficacious when applied early in development, leading to improved social communication and social interaction, and even increased IQ scores. Prompt intervention is crucial since intensive behavioral interventions may have diminished effectiveness in older children (AHMAD & AHMAD, 2018; CLIN & FOMBONNE, 2005).

As such, diagnosis at younger ages plays a crucial role in prognosis and developmental outcomes. This assists both parents and teachers to adjust to autistic kids and their learning nature. Teachers or educators play an important role in helping autistic kids achieve educational and developmental milestones. However, limited research has been conducted in the area of teachers' general knowledge of ASDs, which usually includes characteristics, causes, assessment, and treatment. The basic characteristics of autism should, but may not, be understood by all educators within the schools (REMINGTON, HASTINGS, KOVSHOFF, DEGLI, ESPINOSA, JAHR, BROWN, 2007).

The American Psychiatric Association (APA) has recently updated the characteristics of ASD in the Diagnostic and Statistical Manual of Mental Disorders to include (a) social interaction and communication and (b) restricted, repetitive patterns of behaviors, interests, or activities. Within the school, school psychologists have

been trained in the new information, but the training may or may not have reached classroom teachers. If a teacher is working with a child or children with autism, he or she may not have the knowledge that is needed to intervene with such children. The level of knowledge that the teachers have must be determined in order to assist them in understanding and assisting their students (BIBBY, EIKESETH, MARTIN, MUDFORD, REEVES, 2002).

At present, there is very little epidemiological data available on the prevalence of autism in Malaysia. However, a study by the Ministry of Health on children between the ages of 18 to 26 months showed a rate of 1.6 in 1000 children or approximately 1 in 625. Given that many cases go undetected, and that additionally, practitioners in both the medical and education fields report an increase the number of autism cases, it is likely that the true prevalence rate of autism in Malaysia is higher. In terms of education for autistic children, parents tend to try and send these children to mainstream schools first and if not accepted, they opt for institutions that cater to special needs such as special needs schools, learning organizations and rehabilitation/education therapy centers. There are six main pathways available through either the public or private education systems for children with special needs in Malaysia, from which five are relevant to children with autism (HARRIS & HANDLEMAN, 2000).

2. DESCRIPTIVE ANALYSIS

Descriptive statistics have been utilized to outline the demographics of the study population such as age, gender, enrolment (part-time or full time), employment status and current semester enrolment and also on the variables within the study. This will involve analysis such as normality, mean and standard deviation. Cross tabulation along with co relational analysis was utilized to understand the existing relationships and teacher readiness to educate autistic kids.

Demographic data:

Table 1: Demographic Profile of Respondent

Categories		Frequency	Percentage
Gender	Male	121	26.8
	Female	330	73.2
Age	≤20	91	20.2
	20-30	133	29.5
	30-40	109	24.2
	40-50	23	5.1
	≤50	95	21.1
Educational level	High school	20	4.4
	Degree	267	59.2
	Master	164	36.4
	PhD	0	0

Training	Yes	189	41.9
	No	262	58.1
Working experience	Yes	273	60.53
	No	178	39.46

As it appears in the table above be, the majority of the respondents were under the age range of 20 to 30 years (29.5%, n=133) while the least represented were those aged 40-50 years (5.1%, n=23). The majority of the respondents in this study were female (73.2%, n=330) and male respondents were (26.8%, n=121). With regard to educational level of the respondents 59.2% (n= 267) of respondents attained degree level, and min 4.4% (n=20) had attained high school education. 36.4% (n=164) obtained master-level education. According to the data 41.9 % (n=189) of teachers are involved in specific training for ASD while 58.1% (n=262) teachers were not involved in any training regarding ASD students and their needs. The study findings indicate that 60.53% (n=273) respondent are having work experience before and 39.46% (n=178) teachers having no work experience with ASD children.

Table 2: Knowledge in Normal Child Development

	Question	Correct Answer	% of Teachers who answered correctly with 95% Confidence

			Interval(CI)
1.	At 3 years old, it is acceptable for a child to be still unsteady when walking.	False	22.4(1.266-1.369)
2.	It is normal for a 1.5-year-old child to have already developed definite hand preference.	False	44.1(1.729-1.8630
3.	A child only develops make-believe play at 4 years old.	False	19.7(1.544-1.694)
4.	A 3-year-old child should be learning to take turns at play.	False	45.7(1.655-1.782)
5.	A 5-year-old child should be able to exchange conversation about daily activities and experiences.	True	85.1(1.178-1.287)
6.	A child who appears inattentive may actually be having fits.	True	69.0(1.394-1.532)
7.	It is normal for a 3-year-old child not to understand simple instructions.	False	44.3(1.740-1.874)
8.	It is normal for a boy to start speaking at the age of 2.	True	40.4(1.684-1.815)

9.	It is normal for 3-year-old children to frequently mouth objects.	False	41.7(1.568-1.692)
10.	A child should participate in meaningfully during Music and Movement Time in nursery class.	True	52.1(1.502-1.620)
11.	There is no cause for concern if a 3-year-old child can recognize all the letters of the alphabets and numbers, but does not speak in sentences.	False	27.1(1.429-1.556)
12.	Most children are slightly hyperactive and inattentive before the age of 5.	False	27.9(1.492-1.626)
13.	A child with poor language skills can appear hyperactive and inattentive.	True	63.6(1.463-1.606)
14.	Children who have learning or behavioral problems may have underlying family concerns.	True	68.1(1.342-1.460)
15.	All children with speech and language delay should have a hearing test done.	True	72.3(1.289-1.397)

Table 2 describes the knowledge of teachers in normal child development. The study demonstrates that many teachers are able to answer correctly while few are possessing less knowledge about the process of normal development of the child. For the question of, a 5-year-old child should be able to exchange conversation about daily activities and experiences (85.1%) teachers answer correctly. But for the question of, a child only develops make-believe play at 4 years old. the correct answer is only (19.7%). Teachers' knowledge of normal child development in which 70% (n=315) of teachers possess good knowledge about normal development of child and 12% (n=54) of teachers having excellent knowledge, while 4% (n=18) posses a very poor knowledge about normal development of child.

Table 3: Knowledge of Autism Spectrum Disorder

		Correct Answers	% of Teachers who answered correctly with 95% Confidence Interval(CI)
1.	A child with ASD often presents with speech and language delay between 2 and 3 years old.	True	77.6(1.316-1.455)
2.	ASD is curable if diagnosed early and the appropriate intervention	True	55.9(1.555-1.700)

	provided.		
3.	Autism is caused by poor parenting skills or poor home care.	False	40.8(1.639-1.771)
4.	All children with ASD will be unable to pursue further education at the university level.	True	27.7(1.733-1.833)
5.	Changing the diet of a child with ASD will make a difference in his outcome.	False	59.9(1.913-2.030(
6.	A child with ASD often does better with visual input than with auditory input.	False	20.8(1.636-1.792)
7.	Autism is a developmental disorder.	True	66.3(1.438-1.581)
8.	Autism is a psychological problem.	False	36.1(1.575-1.707)
9.	Autism occurs in less than 10% of the population.	True	45.5(1.624-1.755)
10.	Autistic children do not show social attachments,	True	30.4(1.951-2.098)

	even to parents.		
11.	Autistic children usually grow up to be schizophrenic adults.	False	40.1(1.783-1.924)
12.	It is important that autistic children receive special education services at school.	True	44.6(1.728-1.878)
13.	Autistic children are deliberately negativistic and noncompliant.	True	59.6(1.519-1.665)
14.	Autism occurs more commonly among higher socioeconomic and educational levels.	False	43.2(1.952-2.092)
15.	With the proper treatment, most autistic children eventually outgrow autism.	True	45.9(1.690-1.836)
16.	Autistic children do not show affectionate behaviors.	True	40.8(1.682-1.813)
17.	Autism is caused by an imbalance between yin and yang.	True	20.2(2.063-2.208)

18.	Autism has manifestations in physical pain in certain parts of the body.	True	25.1(2.033-2.180)

Table 3 enquire about teacher's knowledge of autism spectrum disorder. Statistics shows that around 50% or fewer teachers are possessing some adequate knowledge of autism syndrome disorder. The study finding indicates that teacher's knowledge of ASD is 39% (n=176) is good as 14% (n=63) is poor. only 13% (n=58) of participant having excellent knowledge about ASD. which is very low, need to increase their level of awareness.

Table 4: Attitudes towards Autism Spectrum

	Statements	1	2	3	4	5
1	Special-needs children should be integrated into mainstream school	18.4%	18.8%	35.3%	10.4%	17.1%
2	All pre-schools should allow children requiring special education to attend their classes while awaiting placement	4.4%	11.1%	26.2%	25.3%	33.0%

3	Pre-schools should allow the presence of parents in class for children with special needs.	9.55	9.3%	16.0%	15.5%	49.75
4	All pre-schools should have special education teachers and therapists to provide services for special-needs children who are attending classes there.	4.7%	15.3%	14.2%	27.3%	38.6%
5	Government funding should be made available to facilitate staff employment in pre-schools to meet the needs of these children.	2.2%	3.1%	21.3%	22.4%	51.0%
6	The parents should help bear the cost of services within the pre-schools.	2.2%	14.6%	18.6%	22.4%	42.1%
7	There is adequate	10.9%	4.0%	31.0%	33.7%	20.4%

	provision of services of special-needs children in Malaysia.					
8	The government should allocate more resources for the provision of services for special needs children.	7.3%	10.0%	29.9%	18.4%	34.4%
9	Insurance policies should be amended to include coverage for developmental disorders as chronic disabilities.	2.25	2.4%	19.1%	15.75	60.5%

1=strongly disagree,2=disagree,3=netral,4=agree,5=strongly agree.

Table 4 shows the attitude of teachers towards the autism spectrum disorder. Attitudes regarding the needs of children with ASD were on average fairly positive or slightly favored improving education for children with ASD. In general, strong opinions were expressed regarding the Pre-schools should allow the presence of parents in class for children with special needs or the parents should help bear the cost of services within the pre-schools. However, 51 % of teachers felt strongly that increased government funding should be made available for staffing and training needs for teachers working

with children with special needs. Similar percentages of teachers expressed similarly strong sentiments concerning the provision of expanded insurance to cover costs.

Table 5: Interest and Perceived Self Efficacy towards handling Autistic Students.

	Statements	1	2	3	4	5
1	I feel equipped to handle children with special needs.	4.0%	7.1%	27.7%	27.7%	33.5%
2	I am interested to attend training in the area of childhood developmental and behavioral disorders.	9.8%	14.2%	26.8%	12.65	36.6%
3	If adequately trained, I am willing to have children with special needs in my class.	2.7%	15.7%	35.3%	19.5%	26.8%
4	I am keen to be a partner in their management, e.g. use of specific visual aids, medication	8.2%	9.1%	18.6%	18.2%	45.9%
5	I am happy to have	4.9%	6.7%	20.8%	15.5%	52.1%

	parents or therapists sit in as helpers. There should be special education teachers within the pre-school community.					
6	I see the need to implement changes in the classroom set-up to accommodate their needs.	0.0%	14.0%	31.7%	5.3%	49.0%
7	I want to make a difference in the education of children with special needs.	3.1%	6.2%	19.1%	22.2%	49.4%
8	I feel I can make a difference in the education of children with special needs.	0.9%	9.5%	25.9%	23.7%	39.9%
9	The parents are responsible for obtaining services for their own special-needs children.	3.8%	7.3%	20.8%	17.3%	50.8%

1=strongly disagree, 2=disagree, 3=netral,4=agree, 5=strongly agree

Table 5 helps us to see how much self-interest having respondents while handling autistic children. For the treatment of children with ASD, participants generally held opinions that there should be special education teachers within the pre-school community and they were slightly favored in perceptions of their own training and capabilities. They generally expressed stronger opinions concerning their desire to work with children with special needs, relative to their self-perceived efficacy in doing so. As well as in the parents are responsible for obtaining services for their own special-needs children.

Table 6: Awareness of Organizations:

	Organization	Response
		Yes No
1.	Autism is caused by an imbalance between yin and yang.	194(43.0%) 257 (57.0%)
2.	IDEAS Autism Centre	99(22.0%) 352(78.0)
3.	Autism Speaks	115(25.5%) 333(73.8%)
4.	Hua Ming Autism Society	131(29.0%) 320(71.0%)
5.	Early Autism Project Malaysia	168(37.3%) 283(62.75%)
6.	NASOM - OUG Centre	126(27.9%) 325(72.1%)

Study results indicate that many teachers are not familiar with any of the organizations devoted to the care of individuals with ASD. which were chosen for inclusion in the current study. so the study results suggest furthermore that there is a huge demand to create awareness about these organizations and their work. How they care about individuals with autism syndrome disorder. For example, IDEAS autism centre is known by only 78.0% participant teachers while Autism speaks 73.8% teachers, and Early autism project Malaysia 62.75%, NASOM-OUG centre only by 72.1% teachers.

Table 7: Interventional Approach for Individuals with ASD.

	Approach	Response	
		Yes	No
1.	Applied behavioural analysis	234 (51.9%)	217 (48.1%)
2.	Structured training	248(55.0%)	203(45.0%)
3.	Relationship development intervention	199(44.1%)	252(55.9%)
4.	Sensory integration therapy	257(57.0%)	194(43.0%)
5.	Auditory integration therapy	255(56.5%)	196(43.5%)

Study results demonstrate that around 40-50% of respondents had not heard of certain validated intervention approaches for children with ASD (e.g., applied behavior analysis 48.1%, structured training 45.0%, and Relationship development intervention 55.9%). In contrast, most participants did report awareness of Sensory integration therapy and auditory integration therapy.

3. RESULT

Research objective 1: To determine the knowledge of school teachers towards ASD? In the current study, the knowledge of ASD among preschool teachers in Malaysia was lacking. The majority of teachers were unable to provide accurate responses to the questionnaire items pertaining to ASD. A conceptualization of ASD as psychological in origin predominate, despite the current expert consensus of the disorder as having a strong genetic component (LIU, LI, ZHENG, ZAROFF, HALL, LI, 2016).

Research objective 2: To determine the teacher's attitude towards educating ASD children? The results show that teachers have a positive attitude towards ASD children and majority (>60 %) believe that expanded funding for children with special needs was needed. These perspectives are in line with views espoused by parents of ASD, who are dissatisfied with services available in Malaysia. Government funding should be made available to facilitate staff employment in pre-schools to meet the needs of these children. 4.16% of teachers gave correct answers to this question and in favor of this option. They feel that more funding will help to get more training programs which will help to deal with educating ASD kids. Funding can impact on the amount of resourcing, support and specialist staff available to teachers to help individualize their approach. Funding and resources vary from state to state and school to school.

Research Question 3: To determine the knowledge of normal child development among teachers? The results show that teachers

have good knowledge of normal child development. Because the reasons are teachers in Malaysia are taught about the necessary learning capabilities of children in the training syllabus. So they r well trained in teaching normal children but not ASD students. School children interact with teachers on a daily basis. It's important that these teachers thoroughly understand the physical, social, intellectual needs of children. The only way for them to have this thorough understanding is through studying child development.

Research objective 4: To determine teacher self-perceived efficacy on educating ASD students? Teacher self-efficacy, the beliefs teachers hold regarding their capability to bring about desired instructional outcomes, is a potentially important construct for understanding teacher attrition and retention as well as for conducting translational research in educational settings. Self-efficacy is a powerful predictor of motivation and behavior across diverse domains of functioning.

Research objective 5: To determine the association between socio-demographic factors and attitudes among pre-school and primary school teachers. Teacher attitude is a moderating variable that can influence the successful implementation of effective interventions within the inclusive classroom. Autism is a complex developmental disability that typically appears during the first 3 years of life due to a neurological disorder that affects the functioning of the brain. It is 4 more times prevalent in boys than girls. Autism shows no racial, ethnic or social boundaries, and cuts across family income, lifestyle and educational levels.

Research objective 6: To determine the association between socio-demographic factors and perceived self-efficacy? As shown in the present study, socio-demographic factors associated with teacher efficacy included gender, years of experience, education level and experience working with ASD children. The present study found that female teachers outperformed male teachers in terms of teacher efficacy, which is consistent with a previous study conducted in Taiwan. According to the literature and practical situations, this result may reflect the existence of stereotype that a female teacher may be thought of as more suitable for work in special education when the Malaysian cultural background is considered.

4. CONCLUSION

Ultimately, our study corroborates previous findings in Malaysia in revealing a lack of awareness and knowledge concerning ASD in the general population. We found associations between such knowledge and teacher education level and experience. Additionally, we found that teachers did, in fact, recognize their own lack of knowledge of ASD and this awareness co-existed with an interest in increasing their knowledge and skills in this area. Lastly, teachers were of the belief that the government should be more involved in the services offered to children with ASD. These results echo calls made elsewhere for the incorporation of programs and educational curricula in teacher-training that focuses on children with special needs. In fact,

this topic has come under increasing scrutiny worldwide. It is argued herein that such curricula revisions might have the secondary benefit of adding, in an incremental fashion, to the trend towards earlier diagnoses and intervention, and subsequently, improved outcomes.

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