

THE INFLUENCE OF THE INDEPENDENT INTERVENTION PROGRAM TRAINING AND WORKSHOP ON COGNITIVE SKILLS OF PARENTS OF CHILDREN WITH AUTISM SPECTRUM DISORDER

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Abstract—The training and workshop of Independent Intervention Program (*Program Intervensi Mandiri* or PIM) aim at raising the awareness of parents of children with Autism Spectrum Disorder (ASD) and giving them skills to design their own independent intervention program. These objectives are based on the fact that many parents have not comprehended their children’s condition, making them unable to give attention and teach their children according to their needs. This research is intended to determine a difference in parents’ cognitive skills, before and after the PIM training and workshop, and is a quasi-experiment study. The result of the study shows that parents’ cognitive skill has significantly improved, particularly on the comprehension aspects of ASD, social skill and its intervention, and intervention program itself. In addition to this, parents’ educational background or level does not affect the success of PIM training for their children.

Keywords: autism spectrum disorder, cognitive skills, parents, training and workshop

I. INTRODUCTION

American Psychological Association (APA) defines ASD as the most severe development disorder. The disorder includes hindrances in social interaction and communication, both verbal and non-verbal. Some people with ASD have limited interests, an unusual sleep or eating pattern, or a tendency to hurt themselves. In addition to this, children with ASD apparently cannot fulfil social, educational, or job expectations, as well as other crucial factors in their lives, and such limitations may grow all the time (APA, 2014).

In general, people with ASD exhibit behaviors different to those without ASD. As stated in the criteria of ASD diagnostic in the *Diagnostic and Statistical Manual of Mental Disorders V* (DSM V), common symptoms of ASD include deficits in social communication and fixated interest and repetitive behavior.

The number of people with Autism Spectrum Disorder (ASD) grow from time to time. A periodic study conducted in 11 places in the US employing the ADDM (Autism and Developmental Disabilities Monitoring) Network show that the prevalence of people with ASD among 8 year-old children rises each year as follows:

Table 1. Prevalence of ASD

Year	Per 1,000 children	Ratio
2002	6.6	1 : 150
2004	8	1 : 125
2006	9	1 : 110
2008	11.3	1 : 88
2010	14.7	1 : 68

Based on the data provided, the 2008 study shows an increase in the prevalence of people with ASD, reaching almost 23% in comparison to the 2006 data, and 78% compared to the 2002 data. Meanwhile, the 2010 study shows the rise of the prevalence of people with ASD, reaching 123% in comparison to the 2002 data (CDC, 2014).

There has not been a particular study in Indonesia to show the exact number of the prevalence of people with ASD. However, the government refers to a study in Hong Kong on the prevalence of autism in Asia in 2008, assuming the prevalence of ASD in Indonesia reaching 1.68 per 1,000 children of 5-19 years old (Ditjen Bina Upaya Kesehatan, 2013).

Fombonne (Lord & McGee, 2001) stated that the increasing prevalence is due to two causes, namely more comprehensive diagnosis and broader definition of autism spectrum disorder. In line with this, CDC (2014) stated that the rise of prevalence is linked with methods in which children are identified, diagnosed, and served by their local community, as well as the increasing awareness amongst physicians, teachers, and parents on the symptoms of ASD. This means children with ASD can now be identified by public and, in particular, parents.

Many parents nonetheless have not comprehended the diagnosis result given to their children. They are sometimes lack of information regarding the consequences of the result, leading them to believe that they are unable to independently treat their children. On the other hand, children with ASD need intervention performed intensively and continually to overcome the hindrances they face during their development stages. Proper knowledge understanding can provide a core faith in parents that the potentials within their children can be developed optimally.

In response to this, we took an initiation to implement the Independent Intervention Training Program (*Pelatihan*

Intervensi Mandiri or PIM) for parents of children with ASD. This program comprises two big steps. The first step is training for parents, and the second is parent intervention for their child. The training for parents (first step) are divided into two groups activities: conceptual training and practical training (workshop). In the conceptual training, parents discuss and are provided information and knowledge about ASD, social skills, social skills intervention, and individual intervention program. We also like to determine whether or not there is a difference in the cognitive aspect (comprehension) of parents of children with ASD before and after the training program. Whereas in the practical training, parents are trained to arrange social skills intervention program for their child with ASD and then pretend play the intervention program they have arranged. The parent intervention for their child is the second step of Independent Intervention Training Program, in which parents implement their intervention program to their child. Parents allowed to do this second step, if only they have fulfilled the training (first step).

II. RESEARCH METHOD

A. Research Design

The research was performed employing pretest-posttest experiment design, measuring parents' cognitive skills before and after the training program.

B. Participants

The research took seven parents of children with ASD in RH therapy institution in Bandung, Indonesia. The research subjects were parents with following criteria: (1) having child/children with ASD, (2) being willing to get involved in the whole research process, and (3) not having both intellectual and emotional hindrances.

C. Research Instrument

The cognitive skill of parents highlighted in this research refers to their understanding on ASD concepts, social skills, intervention, and individual intervention program. The skill is measured through self-evaluation questionnaire done by parents before and after the training.

The self-evaluation questionnaire comprises rating scales with scores ranging from 1 to 9. Values from 1 to 3 belong to the "bad" category, referring to parents' lacking understanding on the materials given, therefore requiring them to learn the materials further. Values from 4 to 6 belong to the "average" category, meaning that parents have comprehended the materials given and found further leaning on the materials beneficial. At last, values 7 to 9 belong to the "good" category, meaning that parents have gained decent understanding on the materials given, not requiring further learning on the materials. These are examples of the parents self-evaluation questionnaire:

At this time, my knowledge and comprehension about:

1. What is ASD

1	2	3	4	5	6	7	8	9
Poor			Fair			Good		

2. The characteristics of ASD

1	2	3	4	5	6	7	8	9
Poor			Fair			Good		

3. The causes of ASD

1	2	3	4	5	6	7	8	9
Poor			Fair			Good		

4. The impact of ASD on child and family

1	2	3	4	5	6	7	8	9
Poor			Fair			Good		

5. The chance of child with ASD in the future

1	2	3	4	5	6	7	8	9
Poor			Fair			Good		

D. Data Analysis

Data collected were analyzed using Wilcoxon statistical technique with testing on significance level 0.05.

III. RESULTS AND DISCUSSION

The research took seven persons as the subject, ranging from 20 to 40 years old with high-school graduates representing the lowest educational level and postgraduate representing the highest. Most of them (71.4%) worked as housewives and were from lower-middle class in terms of SES. Results taken from the self-evaluation questionnaire were processed using descriptive statistics and Wilcoxon test to determine whether or not there would be a score difference before and after the training. The results are shown as follows:

Table 2.. The Test Results on the Difference in Cognitive Skills, Before and After the Training

Cognitive Aspect	Descriptive Statistic			Inferential Statistic (Wilcoxon)	
	Pre	Post	Gain	p<0,05	Z
Comprehension on ASD	4.29	7.57	3.29	0.017	-2.388 ^b
Comprehension on social skills	3.71	7.43	3.71	0.016	-2.401 ^b
Comprehension on social skills intervention	4	7.57	3.57	0.014	-2.460 ^b
Comprehension on individual intervention program	3.57	7.43	3.86	0.016	-2.414 ^b

As shown on the table 3.1. on the comprehension aspects of ASD, the calculation result shows that the difference in parents' skill (pre- and post-training) has a significance level of 0.017 (p<0.05). Since p is less than 0.05, the H₀ is rejected. This means there is a significant difference in parents' comprehension on ASD, before and after the training. Since the post-training score is higher than the pre-training one, it could be inferred that the training has effectively improved parents' understanding on ASD.

On the aspect of the understanding of social skills, the statistical calculation result indicates that the difference of parents' comprehension on ASD pre and post the training has a significance level of 0.016 (p<0.05). The p is less than 0.05, effectively rejecting the H₀. This means there is a significant difference in parents'

comprehension on social skills, before and after participating in the training. Since the post-training score is higher than the pre-training one, we can deduce that the training has effectively improved parents' comprehension on social skills.

On the comprehension aspect of social skill intervention, the statistical result shows that the difference in parents' comprehension pre and post the training has a significance level of 0.014 ($p < 0,05$). Again, the p score is less than 0.05, meaning that the H_0 is rejected. There is a significant distinction in parents' comprehension on the social skill intervention, before and after participating in the training. The post-training score is higher than the pre-training one, indicating that the training has effectively increased parents' understanding in social skill intervention.

On the aspect of the comprehension on the individual intervention program, the statistical result shows a difference in parents' skill before and after the training, reaching the significance level of 0.016 ($p < 0,05$). The p is less than 0.05, effectively rejecting the H_0 . This implies a significant difference in parents' understanding on individual intervention program pre and post the training. The post-training score is higher than the pre-training one, highlighting the effectivity of the training in improving parents' understanding on the individual intervention program.

Interview was also done with the parents regarding their cognitive skills. Based on the interview, it is found that the giving of information and knowledge on ASD has given several benefits for the parents:

1. Increasing comprehension on autism
2. Growing knowledge on educating children with ASD and handling the hindrances
3. Gaining understanding and awareness on the ability of parents to perform the intervention independently with lower cost
4. Changing parents' perspective on autism and the treatment, from a pessimistic point of view to an optimistic one.

The findings in the research are in line with the findings of other similar studies, showing that training can improve parents' knowledge on ASD, despite performed remotely (Parson, *et al.*), or through modules (Patra, Arun, & Chavan, 2015). Training can even help parents gain better understanding on children's behavior management (Pillay, *et al.*, 2011). The change in parents' perspective on autism and the treatment, as well as the growing awareness on their ability to perform intervention independently are the results of their participation in the training.

In addition to this, a study conducted by Tonge, *et al.* (2014) shows that there is an increase in parents' skills after participating in training and workshop. A study conducted by Bearss, *et al.* (2015) also highlights better impact on parents' skill after they are given conceptual training and practices in comparison to the conceptual training alone.

More client-centered intervention program and training and workshop design focusing on parents' needs become more valuable as both not only enable parents to

comprehend various ASD concepts, social skills, and intervention, but also improve their point of view on ASD problems and intervention. Such changes in perspective become an important key to improve further treatment for their children, as well as materials planning and the implementation of training adjusted to subject's needs and objective condition.

These statements are in line with Sullivan's statement (2011) on self-fulfilling prophecy, referring to when a person has a positive look or hope on something, they would take strategies and positive steps to realize their views or hopes. In other words, when parents have positive outlook on the ASD problems and interventions, they will take various measurements focusing on the accomplishment of problem-solving and intervention towards the ASD problems.

IV. CONCLUSION

This research shows that parents' involvement in the training can improve their comprehension on ASD, social skills, intervention, and independent intervention program and thus it is highly recommended that for parents to keep improving their understanding. This can be done by sharing some knowledge with other parents, learning information provided by mass media, and participating in trainings. Proper understanding on the materials will help parents dealing with some difficulties as a result of the hindrances in children with ASD.

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REFERENCES

- [1] APA (American Psychological Association), "Autism", 2014. Retrieved from <http://www.apa.org/topics/autism/> 26 April 2014.
- [2] CDC, "Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years – Autism and Developmental Disabilities Monitoring Network", in *Morbidity and Mortality Weekly Report, Surveillance Summaries* 2010, 11 Sites, United States: 28 March 2014, 63(2), pp.1-21. Retrieved from: http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6302a1.htm?s_cid=ss6302a1_w (2 December 2014).
- [3] Diagnostic and Statistic Manual of Mental Disorder, 5th ed., American Psychiatric Publishing, 2013
- [4] Ditjen Bina Upaya Kesehatan Depkes RI, Mari Kenali dan Peduli terhadap anak Autisme, 2013. Retrieved from: http://buk.depkes.go.id/index.php?option=com_content&view=article&id=385%3Amari-kenali-dan-peduli-terhadap-anak-autisme&catid=1%3Alatest-news&Itemid=54 (26 April 2014)
- [5] Lord, C., & McGee, P. (eds.), *Educating Children with Autism*, Washington: The National Academy Press, 2001. Retrieved from: <http://www.nap.edu/catalog/10017.html> (19 October 2014)
- [6] Parsons, D, Cordier, R., Vaz, S., Lee, H.C., "Parent-mediated intervention training delivered remotely for children with Autism Spectrum Disorder living outside of urban areas: Systematic review", in *J Med Internet Res*, 2017, 19(8), pp e198.
- [7] Patra, S., Arun, P., Chavan, B.S., "Impact of psychoeducation intervention module on parents

- of children with autism spectrum disorders: A preliminary study”, in *J Neurosci Rural Pract.*, 2015 Oct-Dec; 6(4):529-535.
- [8] Pillav. M.. et al.. “Autism Spectrum Conditions – Enhancing Nurture and Development (ASCEND): An evaluation of intervin support groups for parents” in *Clinical Child Psychology and Psychiatry*, 2011, 16(1), pp. 5-20.
- [9] Tonge. B.. et al.. “A randomised group comparison controlled trial of ‘preschoolers with autism’: A parent education and skills training intervention for young children with autistic disorder”, in *Autism*, 2014, 18(2), pp. 166-177.
- [10] Bearss, K. et al..”Effect of parent training vs parent education on behavioral problems in children with autism spectrum disorder, a randomized clinical trial”, in *Jama*, 2015, 313(15), pp. 1524-1533.
- [11] Sullivan, K., “The Prevalence of the Medical Model of Disability in Society”, in 2011 AHS Capstone Projects. Paper 13, 2011. Retrieved from: http://digitalcommons.olin.edu/ahs_capstone_2011/13 (26 March 2016).