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Questionnaire for Children with Autism Syndrome Disorder



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Abstract

Children with autism syndrome disorder (ASD) have a developed mental condition like normal children in general. However, in Indonesia there is no instrument to measure the achievement of the development of children with autism syndrome disorder. The purpose of this research resulted in a questionnaire used to measure institutional and family support, parental stimulation abilities, and the ability of children with autism syndrome disorder. The design used exploratory for developing of instruments. Experts involved in the development of the instruments were psychologists, occupational therapists, speech therapists, pediatricians, autistic child behavioral therapy practitioners, and the institution of Autism Center of Blitar City. The instrument development began with focus group discussion, instrument preparation, instrument trials, and analysis. The questionnaire trial was conducted on 40 parents and children with ASD at the Autism Center of Blitar City. The analysis was conducted through several steps namely the validity of the content and construct by experts, while the test of validity and reliability of the questionnaire used Lisrel 8.50. Valid and reliable questionnaire items on the institutional and family support were 21 questions, parents' ability to stimulate as many as 17 questions, and the ability of children with autism syndrome disorder as many as 17 questions. The resulting questionnaire has a minimum GFI score of 0.88 and a CR of 0.78, so that the questionnaire can be used as an instrument on autism services.

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INTRODUCTION

The number of children with autism syndrome disorder (ASD) in Indonesia has not been well recorded. Children with ASD in the world in 2014 were 1 in 68 children and increased by 15% to 1 in 59 children in 2018. Meanwhile, WHO predicts 1 in 160 children (Dirjen P2 Penyakit Kemkes RI, 2020).

Family as the first and the main place for children with autism syndrome disorder (Suprajitno, 2017) has a role in knowing health problems and meeting the developmental needs of children. The developmental needs of children with autism syndrome disorder are less able to be met by parents because they do not know the support that needs to be provided, the stimulation skills that need to be had, and the development that the child has been through. The cause of parents does not do developmental stimulation because there was never a measurement tools of the development level of children with autism syndrome disorder.

METHODS

The design used exploratory for developing of the questionnaires. The development of question

items involved experts, namely psychologists, occupational therapists, speech therapists, pediatricians, autistic child behavioral therapy practitioners, and the institution of Autism Center of Blitar City. The development of the instruments was based on the book of *Bina Anak Autis di Rumah* (Foster Autistic Children at Home) (Suprajitno & Aida, 2017). The instrument development began with focus group discussion, instrument preparation, instrument trials, and analysis. The questionnaire trial was conducted on 40 parents and children with autism syndrome disorder at the Autism Center in Blitar City. The questionnaire trials were conducted three times in June – September 2017. The questionnaire improvement was conducted twice based on the results of the trials that have been analyzed. The analysis was conducted namely the validity of the content and construct by experts, while the test of validity and reliability of the questionnaire using Lisrel 8.50.

RESULT

The confirmatory factor analysis results of questioner are listed in Table 1 and questioner for measured (see Appendix 1).

Table 1 The validity and Composite Reliability of Sub-Variable

No.	Questioner	Number of item	Sub-variable	Validity	Composite reliability	Alpha Cronbach	GFI
1	Institutional and family support	1 to 4	Autism Centre support	0.98	0.83	0.74	0.98
		5 to 9	The family emotional support	0.92	0.78	0.65	0.92
		10 to 15	The family informational support	0.96	0.88	0.83	0.96
		16 to 21	The family instrumental support	0.88	0.93	0.91	0.88
2	Parental stimulation ability	1 to 5	The parent stimulation of fine motoric ability for children with ASD	0.96	0.79	0.67	0.96
		6 to 9	The parent stimulation of socialization ability for children with ASD	0.94	0.81	0.68	0.94
		10 to 17	The parent stimulation of language ability for children with ASD	0.75	0.91	0.89	0.75
3	Ability of children with ASD	1 to 5	The fine motoric ability of children with ASD	0.96	0.81	0.72	0.95
		6 to 11	The socialization ability of children with ASD	0.86	0.85	0.78	0.86
		12 to 17	The language ability of children with ASD	0.85	0.87	0.81	0.85

GFI = Goodness of Fit Index; ASD = Autism Syndrome Disorder

DISCUSSION

Validity and reliability are the two most important and fundamental in the evaluation of measurement instrument or tools (Forthofer et al., 2007; Frost, 2019; Mohaffyza Mohamad et al., 2015). Analysis of validity used Pearson correlation and reliability used Cronbach's alpha (Forthofer et al., 2007; Frost, 2019). The purpose of testing the validity and reliability is to ensure that the questionnaire used is good for measuring the expected data. Confirmatory factor analysis aims to confirm the indicators as a statement of the data collected (Brown, 2015; Long, 1992; Thompson, 2004).

The Pearson coefficients between 0 and ± 0.30 show low, the coefficients between ± 0.31 and ± 0.70 indicate medium and the coefficients between ± 0.71 and ± 1 point out high relationships (Shevlyakov & Oja, 2016). Meanwhile, the Pearson coefficient and reliability if <0.67 show Poor, 0.67 to 0.80 indicate Fair, $0.81 - 0.90$ indicate Good, $0.91 - 0.94$ indicate Very Good, and >0.94 indicate Excellent (Mohaffyza Mohamad et al., 2015). The minimum value of validity 0.75 and reliability 0.65 (Table 1). So statistically, the validity and reliability of indicators of the questionnaire are in the Good – Excellent category.

The assessment of the question indicators in the questionnaire used confirmatory factor analysis together using Lisrel. The aim is to confirm the suitability of the indicators with the theory used. The results of indicator confirmation with theory are seen from GFI results. Goodness of fit index (GFI) is an index that describes the level of suitability of the overall model which is calculated from the squared residual of the predicted model compared to the actual data. The GFI value > 0.90 indicates that the tested model has a good fit (Brown, 2015; Long, 1992; Thompson, 2004). Even though the lowest GFI value (Table 1) is 0.75 , theoretically this indicator is needed, so it can still be used as a measurement indicator. The limitations of this instrument are not yet classifying the ability of parents and children with ASD in a criterion.

CONCLUSION

The minimum value of validity and reliability of the questionnaire is 0.75 and 0.65 in both categories so that it can be used to measure institutional and family support, parental stimulation ability, and the ability of children with ASD.

SUGGESTION

Questionnaires can be used to assess the support of educational institutions for autistic children, the ability of parents to stimulate, and the ability of children with ASD. It is hoped that the questionnaire can be developed as a predictive tool for the ability of children with ASD.

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Appendix 1: Questionnaire

1. Questionnaire to measure of family perception about the Institutional and Family Support

How to fill in: Put a check (√) on the column that you feel best represents your answer.

No.	Statements	That is felt			
		Never	Ever	Often	Very often
1	I got an explanation about my child's education program plan at the Autism Center				
2	I got information from the Autism Center about my child's education activities next week				
3	I got an explanation of my child's last ability after being given therapy at Autism Center				
4	I got a chance to ask about my child's development				
5	My family feels responsible for education				
6	My family protects the child while at home and playing				
7	My family explains to other families that my child's condition is not a disease				
8	My family is encouraging during the upbringing if anyone is sad about the state of the child				
9	My family remembers the education program needs to be done according to plan				
10	My family provides corrections about the actions that have been done to the child				
11	My family is looking for information on how to educate a child				
12	My family gives examples of ways to improve the ability of a child				
13	My family creates a comfortable environment for a child				
14	My family provides a book that matches the child's condition				
15	My family provides information on places of education for a child other than the Autism Centre				
16	My family asked about the educational needs of children				
17	My family provided about the educational needs of children				
18	My family maintains the educational tools of children				
19	My family uses well the educational tools needed by the child				
20	My family maintains the educational tools that children need				
21	My family is repairing the educational tools of children				

2. Questionnaire to measure of the Parental Stimulation Ability

How to fill in: Put a check (√) on the column that you feel best represents your answer.

No.	Statements	That is felt			
		Cannot	Needs help	Can	Skillful
1	Crawling under a cloth tunnel				
2	Manipulating face in front of the mirror				
3	Touching and holding objects round or box				
4	Colouring the image using a dye				
5	Singing a song that his/her favourite				
6	Lending a favourite toy to the child's friends				
7	Following orders given by the child or others				
8	Engaging other children to play the same				
9	Imitates or modifies the movements of other children				
10	Giving simple reading material				
11	Giving simple calculating materials				
12	Asking the child to write the name of their parents and sister/brother				
13	Asking the child to write the name of a playmate or someone familiar				
14	Asking children to write good free sentences				
15	Asking the child to sing the child's song				
16	Asking the child to imitate the song being heard				
17	Asking the child to concentrate on watching television				

3. Questionnaire to measure ability of the children with ASD

How to fill in: Put a check (√) on the column that you feel best represents your answer.

No.	Statements	That is felt		
		Cannot	Needs help	Skillful
1	Hand in hand with children or adults for at least 5 minutes			
2	Imitating the highlighted halos on the wall			
3	Following the direction of the highlighted light on the wall			
4	Blowing balloon bubbles made of soapy water			
5	Concentrates when getting orders until the command is finished			
6	Sharing toys that are desired by a child's friend			
7	Sharing food with children nearby			
8	Invites other children to follow the game			
9	Does activities by following the orders of other children who are considered leaders			
10	Helping other children who carry out activities			
11	Reports the ability of yourself or another child			
12	Mentions the names of father, mother, and siblings			
13	Mentions a friend's name, of at least 5 people			
14	Mentions a minimum of 10 consecutive letters			
15	Mentions a minimum of 8 consecutive numbers			
16	Writes sentences according to the example			
17	Reads sentences according to examples			