

Chaining Behavioral and Maintaining Dietary Habit to Improving Toilet Training Skill for Down Syndrome Children

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ABSTRACT: Down syndrome is a term that is used to mentioned children with low intellectual ability. This type of children experienced lacked of developmental process or it can be called as a mental retardation moreover they faced difficulties on controlling their process of defecated on the right time rather than others normal children. Therefore, regarding to achieve proper behavior, they have to be teach by some modification on their behavior. A boy called AH who experienced this kind of difficulty was taught on using toilet training method which is teach in a right and independent way to help him. However, to make this method successfull, the role of parents on helping their food nutrition well would be very support children's improvement. This is a single case research where AH toilet training ability will be developed by applying chaining behavioral method along with total task technique. The result shows that AH had improved his toilet training ability after applying this method eventough he still need help from other people and controlling her food nutrition which is regard to the orientation of balanced nutrients (PGS) Some suggestion for AH's parents, please help and dicipline AH to keep improving his abilty by using toilet training and keep control his food with a high nutrition to prevent a possibility of having constipation.

KEYWORDS- Chaining behavioral, Total task presentation, dietary habit, the adequacy of nutrient stability, high fibrous, Toilet training, and Down syndrome.

I. INTRODUCTION

Down syndrome is a term that is used to mention children with a low intellectual ability, butin international term, down syndrome is called as mental retardation, mental retarded, mental deficiency, and others^[1]. Most of the things that caused mental retardation is the genetic and the heredities or it could be caused by something that related to biology's factor which is called as Gen, such, as cromossom's disorder (down syndrome) and single gen disorder (metabolism disorder/neurokutaneus), heredities polygenic^[2]. Wade examined that about 1 to 800 of birth is undergo down syndrome, this case is usually happened when The 21's chromossom of sperma or ovum fail to split normally that obtained extra chromossom. As the time goes by, this abnormal chromossom is more tend to happened on parents's ages. Therefore, couples with a half age of 30 or more that is waited for a new born baby usually go through a prenatal genetic test to detect whether possess down syndrome or abnormal genetic^[3]. Children with a mental retardation and lacked development in some area, for instance, speaking ability, language ability and motoric function, children tend to wet the bed or experienced disability to defecated rather than others normal children^[4], they tend to be uncoordinated and less have sufficient muscle tension so that it is difficult for them to do the tasks physical^[5]

Based on DSM^[6], one of mental retardation criteria is difficult to take care of theirsself and direct theirsself therefore they still need help from others. The expected result is the function of children with mental retardation is better than before. Therefore, children with special need to maintain their urination and defecated

process and it can be trained but to achieve a successful toilet training might depends on their own parents. Severe conducted that parent is one of a key of children's successful on the training. The other support from parents for this type of children is help them to controled and stabilized their food nutrision^[7]. The HealthMinistry of Indonesia conducted that stability of nutrition is the composition of daily food with exact amount and type of nutrients, according to afundamental of varies food, physical activities, sanitary behavior and monitoring the weight to stay normal in order to prevent a nutrition problem^[8].

Moreover, they exemined more that the stabil nutrition is consist almost the same components: get enough quantity and quality, contain varies nutritions (energy, protein, vitamine, and mineral) that isneeded for the body to grown up (on children), to keep your body stay healty and would do any activities and the function on daily life (for every stage of ages and physic), nutrition is saved to fullfil the body's need when consume food with a low or even do not have any nutrition which is needed for the body. However, water is one of macro essential of nutrient, it is mean that body needs a lot of water to stay healthy. The volume of water percentage that children need is more than oldest one. If the water does not stable tend to increase the risk many diseases and others thing that can affect their body for example have constipation^[8]. Control a balanced diet can be done with following the Orientation of Balanced Nutrients (PGS) which is being complementing from Healthy Food which is conducted by Prof. PoerwoSoedarmo around 1952. As we know, Healthy Food focus on consuming rice, side dishes, vegetables, fruits, and view milk as the compliment of comestibles. The concept of balanced nutrient is interpreted as a component of daily meal with nutrients in any kind and appropriate quantity for the body. PGS pay more attention for these 4 principals: get used to eat varies food, keep clean, important to live actively and having a sport also keep monitoring the body's weight^[9].

Regarding to the statement before, to achieve a successful behavior modification of toilet training, hopefully parent can help children to have a good nutrient refer to the orientation of balanced nutrients (PGS) because almost all down syndrome children's parents do not understand how to keep balancing nutrient of their children. The result of the comestible's term of 50 down syndrome children's research by Rahmawati is not balanced. Mostly, They ate 70% of cabohydrate and 53% of protein excessively, however their term of consumption is less on others food like vegetables (100%) and fruits (90%). In majority, Energy, protein and carbohydrate had an excessive level of adequacy (42.0%, 40.0%, 64.0% respectively) but less in fat and fibrous with 44.0% and 100.0% respectively. The overall sampe (100%) of the research is contained a light physic activities (PAL=1.44). Regarding to IMT/U (mass index regarding to the age), obese is called for fat people with 40% of nutrition status but for skinny or very skinny people, their status of nutrition is about 8%, 52% of nutrition status is normal^[10].

The research before examined that down syndrome children tend to consume food with unstable nutrition every day. Accord to the study case of Koniuszy and Kunowski, which is state that down syndrome children's daily life, they tend to consume unstable nutrition and energy that caused metabolism disorder^[11]. Moreover, mostly parents from diffable children tend to give candies and goody with purpose to make them calm or cannot make their child feel or life happily. Therefore, knowledge about maintaining food nutrition to stay stable is needed for parents^[12]. Sukandardeclare that having a good knowledge of nutrition is important for mother to fix and improved children's dietary habit to meet the adequacy of a good nutrient. Children will grow and develop better if it is given in an appropriate way. Therefore, the role of a mother is very important to maintained children's dietary habit^[13].

The exercise of behavioral modification might trained children to be more independent, for instance trained children about urination and defecate independently, moreover, this process will not be achieve without any support from the parents or family. According to Martin and Pears, intervention through behavioral modification approach on children will be modified with conditioning application or other learning technique to achive a new behavior. Behavioral modification is a procedure and technique of treatment method to change someone's environment (circle) until they can be more functional in social^[14]. Therefore, behavioral modification is applying learning techniques and principals on someone with some lacked behavior systematically. However, this behavior might change to an appropriate behavior.

Behavioral modification program is a method that is characterized with treatment procedure and technique which is trying to change the circle of the children to help their function more optimal. This program is made for mental disorder children which is aimed to trained their behavior, for example take care skill, social skill, communication skill, work skill and others skill to survive in the social^[14]. One of a technique that is used on behavioral modification program is chaining behavioral. Chaining behavioral is a term of stimulation and respond which each respond (except the result) is a stimulus of the next respond. The method for this program is total task presentation which is children will try every step from the beginning to the end of a frame on every trial and then continue to the overall task until they can take control every step. Every respond used to be followed by giving some reinforce^[14], it can be combined from 2 type of positive reinforcement with consumable reinforcers and social reinforcers.

Regarding to this research, AH is one of down syndrome children with disability of using toilet and he will be teaching about toilet training use chaining behavioral so that he could defecated on the right place with an appropriate technique, and he could do it by himself. This case is used as a background of this research and help AH along with his family to take care of AH's daily life. Therefore "**Improving Toilet Training Skill through Chaining Behavioral and Maintaining Dietary Habit on Down Syndrome Children**" is used as a title for this research. The purpose of this research is to find out about AH's behavioral background and his psychological condition. The benefits are to figure out AH's problem with teach toilet training until subject could do with proper way and subject could do it by herself along with some appropriate intervention or step.

II. METHODOLOGY

1. Procedure

This Qualitative data were collected using one subject (single-case design) deeply on giving a treatment with purpose to evaluate the effectiveness of applying a program. Researcher might be able to know the process and result more clearly use chaining behavioral method through the way of describing into a word, the nature behavior on some special context and utilized varies method on collecting data through qualitative method.

2. Respondents

AH is a little girl (5 years old) with round face, pug nose, small eyes because she had a little line on her point of eyes. AH's intelligence skill is "Moderate Mental Retardation" (IQ=55, according to Binet Scale) so she is predicted that she had a difficulty on academic and social function. She was doing her speaking therapy around 4 years and then she can talk even though she has not able to speak every word clearly. However, she still gets lack in verbal communication and still rely on her parents on taking care of herself. Regarding to diagnostic criteria, AH is diagnosed as Down Syndrome.

AH is categorized as a good child if compared to the others down syndrome in her school because she keeps up every lesson that her teacher gives. DSM-IV-TR (APA, 2000) emphasized that children with level of Moderate Mental Retardation (IQ = 35-40 until 50-55) categorized as Trainable. This category might do some unskilled work or semiskilled work along with guidance. Generally, they can adapt well with their circle of environment that has been supervised.

AH had less adaptive functional, but she is able to take care of herself like take a bath, brush her teeth, wipe her body and she is able to eat by herself even in her imperfect way. On this case, AH's mother always gave her help, even do not give her opportunity to do it by herself because according to her mother statement the result of AH's do is not maximal and tend to take a long time to finished. This caused AH being un-independent and always rely on her parents. In addition, her parents are less consistent on teaching toilet training to her. Somehow, her parents scold on her until she wanted to say that she wants to defecate but mostly her parents just let her defecate on her pants.

The problem is AH do not tell her parents when she wanted to pee or defecate so that she always pees or defecate on her pants. Sometimes she could tell it, but after her pee is already come out. Once her mother get scold on her when she did not want to say that she need do defecate, but after she get scold by her mother,

she said to her mother directly, but it was happened only on that moment. On the next day, she did not do that again.

III. RESULT

The behavioral modification program is used in four steps which is screening, baseline, measurement, and follow up that will be explain also the result of the chaining behavioral therapy with the assessment result regarding to AH dietary habit of guidelines.

1. Screening

The purpose of screening is to make the problem clearly and might find out the determined of authority during therapy^[13]. According to this, we can find out the illustration of AH when she wanted to defecate that is collected by interview and observation, her dietary habits too. According to AH's mother, AH normally go to defecate in the evening, when she has come back from her school and after she drank some milk. AH do not want to mention that she will defecate but she could clean up by herself when she finished defecated even the result is deficient, so she still needs her parents to cleaned up. Her mother said that she always helps AH to do the clean up because AH do it so slow and her mother cannot wait for it and get worried if it is still dirty. About AH dietary habit, AH's mother said that AH really like to eat fried chicken and ice cream corn, AH did not really like to eat fruits and vegetables so eating fruits and vegetables will be set as AH's program in order that she could eat more fruits and vegetables. However, fried chicken and ice cream will be the reward if she wants to tell that she wants to defecate and clean up by herself.

2. Baseline Data

The purpose of doing this baseline data can get illustrated about AH's habit on defecated. Table 1 shows the illustration about AH's ability on using toilet by toilet training during taking her baseline data.

Table 1: The result of observation from baseline data

Stages		Behavior		<u>Scoring System</u>				
				0 = without prompts 1 = verbal prompt 2 = gestural prompts 3 = modelling prompts 4 = physical guidance				
				<u>Baseline</u>				
				I	II	III	IV	V
Client: AH Task: AH is able to go to the toilet to defecate with an appropriate way and did it by herself.								
1.	Recognized the body's reaction.	Stomachache		4	4	4	4	4
2.	Tell it when the reaction comes.	With a word or sign		4	4	4	4	4
3.	Go to the toilet when the reaction comes.	Go to the toilet		4	4	4	4	4
4.	The appropriate stages.	a. Put off her pant		1	1	1	1	1
		b. Sit in closet		4	4	2	1	4
		c. Defecate		4	4	1	1	4
		d. Watering the dirt		4	0	0	0	4
		e. Cleaned up		1	1	1	0	4
		f. Use the pant back		0	0	0	0	0

3. Measurement

This research of toilet training is held at AH's house every day. This session is to help AH improve her skill in going to the toilet when she wanted to go to the bathroom and clean up correctly and she could do it by herself. Researcher using some stimulation respond on chaining behavioral method for toilet training and

then researcher use data sheet to take noted the component of stimulation's respond from AH and use prompt (scoring system) from baseline to monitoring about how far AH's skill.

Behavioral modification program uses total task presentation which is children keep up some term or step from the beginning to the end every experiment and continue with all tasks until AH understand the whole step. Researchers teach the first component and then the second component until the very last chain. If AH able to complete all fit to the target, she will get a reinforcement as food and compliment as her reward. Researcher asked AH's parents help her beside the therapy schedule (just in case, maybe she shows some changes) to get the behavioral target faster. Check list is used to note and describe baseline data to compare it with behavioral modification program.

Table 2: Shows AH's toilet training skill during experiment.

Client: AH Task: AH is able to go to the toilet to defecate with an appropriate way and did it by herself.		Scoring System 0 = without prompts 1 = verbal prompt 2 = gestural prompts 3 = modelling prompts 4 = physical guidance				
		The Session of each Experiment				
Stage	Behavior	I	II	III	IV	V
		VI	VII	VIII	IX	X
		XI	XII	XIII	XIV	XV
		XVI	XVII	XVIII	XIX	XX
		XXI	XXII			
1. Recognized the body's reaction when she needs to defecate	stomachache	4	4	4	4	4
		4	4	4	4	4
		4	4	4	4	0
		1	1	1	1	1
		1	1			
2. Tell it when the reaction comes.	With a word or sign	4	4	4	4	4
		2	2	2	2	2
		2	2	1	1	0
		1	1	0	0	0
		0	0			
3. Go to the toilet when the reaction comes	Go to the toilet	4	4	4	4	4
		2	2	2	2	2
		2	2	1	1	1
		1	1	1	1	0
		0	0			
4. The appropriate stages.	a. Put off her pant	1	1	1	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	1	0	0
		0	0			
	b. Sit in closet	4	4	3	3	3
		3	2	2	1	1
		1	1	1	1	1
		1	1	0	0	0
		0	0			

	c. Defecate	1	1	1	1	1
		1	1	1	1	1
		1	1	1	1	1
		1	1	0	0	0
		0	0			
	d. Watering the dirt	1	1	1	1	1
		1	1	1	0	0
		0	0	0	0	0
		1	0	0	0	0
		0	0			
	e. Cleaned up	1	1	1	1	1
		1	1	1	1	1
		1	1	1	1	0
		0	0	0	0	0
		0	0			
	f. Use the pant back	1	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0			

Evaluation is needed on doing this session of experiment, to achieve the developmental of children and revise the strategy. The evaluation is held around 4 times which is 3 times on every session (6 session of treatment), so researcher did an evaluation to see how far the effectiveness of this experiment and feedback of the reinforcement.

First evaluation

First evaluation is done with AH's mother to maintaining AH dietary habit regarding to the adequacy of nutrition stability (a) main meal: rice, potato, cassava, sweet potato, corn, taro, sago, breadfruit (b) source of side dishes protein: fish, egg, poultry, meat, milk and nuts with the others nuts that has been processed (tofu and fermented soybean in blocks) (c) the green vegetables and any color of vegetables (d) any color of fruits.

So far, the term food of AH is a low fibrous then AH difficult to defecate. There is one session where AH is on her school holiday so her schedule of defecate is change too. This condition caused researcher past 2 sessions so in the next session researcher come earlier and waiting at AH's house while tell AH about toilet training. AH's mother is concerned to help her on doing toilet training at different schedule to support AH's process of changing behavior easily. AH have not recognized her body reaction when she wanted to defecate even until the sixth meeting so more of this step is done with a physical prompt with ask AH to go to the bathroom immediately.

Second evaluation

This session is looking for AH reaction when she gets her reward. Firstly, reward will be given to AH when she did not defecate on her pants and complete every step on toilet training without any pressure. Evidently, this process seemed too hard for AH, she is less on getting reward. This result of this evaluation is AH only get her reward (ice cream corn) when she wants to go to the toilet because usually it is hard to asked AH to go to the toilet even more when she is watching a TV. AH is getting bored with the ice cream, she asks for fried chicken, so that on the next meeting they make a deal that she will get a chicken when she can go to the toilet by herself awareness. Moreover, researcher always remind AH about her body's reaction when it will defecate so the researcher and AH go to the toilet again and again.

Third evaluation

On the 15th session, AH showed that she begins to react when she wants to defecate but no one understand about AH's behavior, when she takes a mobile phone to the toilet. At last, she defecated on her pants again and researcher asked her to go to the toilet again. During in the toilet, AH's get mad with her sister because she did not get a permit to take mobile phone in the toilet. AH's behavior created because she always saw her sister go to the toilet and bring her phone.

Forth evaluation

This is the last session of toilet training of AH. Training is being cut because AH's has shown an improving behavior and consistency. The result is AH can feel the body's reaction when she wanted to go to the toilet even, she needs to keep being reminded. She can go to the toilet, open her pants, and sit on the closet and then watering her dirt. After that, she cleaned up by her own and run to her toilet to take her other pants, she also can use her own pant.

AH's mother still worried when cleaning up AH dirt by herself, she cannot do it properly. Her Mother sometimes cleaned up again even she refused to get cleaned up again. However, AH always mentioned researcher's name every time she wanted to go to the toilet and her mother saw it too. Overall, AH can do steps of toilet training, but she need support and motivation from her environment. The next step will be doing by follow up and compared if AH behavior will stay consist even reward is not given to her.

4. Follow up

Modification behavior session is considered as done session's even the target behavior has not built as consist of and whole, however AH skill on toilet training has shown an improvement. Behavioral modification is on 22 times and the result is AH always get reminded after she consumed her milk. After that, she told to her mother that she wanted to go to the toilet and did the defecate process. AH is able to do every toilet training's step in proper way like she put her pant off and defecate directly in the closet, then she watering it, cleaned up by herself and then she use her pant back . Until the 22nd session, mother is expected to run the program like researcher did without give her any reward just like in the beginning session. Hoping AH able to do the toilet training consistently because of the nature not reward. Besides, AH's mother need to give AH food that suit with nutrient adequacy, regarding to the suggestion of researcher in the beginning session.

Four days later after running the behavioral modification program, researcher doing some follow up over her toilet training skill. This follow up is being held at AH's house after she finished her milk and her school. The tesult shows that AH is able to do every toilet training's step in proper way like she put her pant off and defecate directly in the closet, then she watering it, cleaned up by herself and then she use her pant back but all of this process is stiil get reminded by her parents and her others family members especially when she just finished her milk.

In addition, AH's mother said that after the first session finished she always asked for ice cream corn and kentucky chicken after she finished go to the toilet if she could go by herself and her mother felt sad when she saw AH crying. This is happening again in follow up session, after she go to the toilet she asked for two ice cream corn and she shared her ice cream to researcher. She always give herself a thumbs up when she succeed to did every step of the toilet training by herself. Before finalized the whole session, researcher delivered some order wether she wants to defecate, she need go to the toilet and eat less ice cream corn but AH did not respond the research, she jut left and enjoy her ice cream. However, the researcher told the same order to her mother to minimized the consumption of ice cream and always monitoring AH's dietary habit regarding to the adequacy of nutrient.

IV. DISCUSSION

The used of total task presentation of behavioral modification program is quite good to improve self-monitoring skill which is toilet training especially for children with mental retardation disorder. By using this

total task presentation, behavior that is willing to create is being divided into several stages. Kazdin^[14] examined the purpose of this technique is help children to remembering something easily and accepting every stages on self-monitoring. Through this program, Children with mental retardation disorder using some familiar stages with purpose to improve their independent skill^[14]. Besides that, physical, modeling, gestural and verbal prompt might support on achieving the behavior's target easily. Therefore, children mental retardation could do any self-monitoring activity due to their age even in their limitations.

Every stages that has been convert to behavior is quite support AH on remembering the stages. Mash & Wolfe^[16] conclude about several reason why self-monitoring skill cannot be accepted by the children with some stage of ages that has been expected. It could be determined by the limitation of psychomotor development, physics and sensory's skill, social awareness, the inadequate opportunity on learning, limitation of cognitive development and usually this is combined from that situation. The adaptive functional referred to monitor how far the effectiveness of someone to overcome daily demands and how far they can survive living with all the standard of community. The skill itself is about wearing their clothes, eat, trained how to use toilet, health and self-monitoring.

Self-monitoring is a main skill that children need to have if compared with the others skill but parents and other family members are the first person who teach them all skills^[17], the parents and siblings are children's first hand that could have connected with the children therefore they will give extra attention to the children. All family members have to pay more attention to children's dietary habit^[18]. Having a good knowledge about nutrition is important for a mother to fix children's dietary habit and had enough nutrition. A better dietary habit might help children to get a better development too. As conclusion, a mother play an important role into children's life to maintaining their dietary habit^[13].

Family as the closest partner to a children might give them a little more attention and children is expected to be having a better meal regarding to adequacy dietary habit. The Ministry of Health Indonesia conducted that stability of nutrition is the composition of daily food with exact amount and type of nutrients, according to a fundamental of varies food, physical activities, sanitary behavior and monitoring the weight to stay normal to prevent a nutrition problem. Moreover, there are several meal that should be maintaining dietary regarding to the adequacy of nutrition stability (a) main meal: rice, potato, cassava, sweet potato, corn, taro, sago, breadfruit (b) source of side dishes protein: fish, egg, poultry, meat, milk and nuts with the others nuts that has been processed (tofu and fermented soybean in blocks) (c) the green vegetables and any color of vegetables (d) any color of fruits^[7]. Water is one of a macro essential of nutrient, its mean that body needs more water to keep healthy. The percentage of volume water that children need is more than the older people. If the volume of water is not stable in the body it might increasing the risk of diseases and easily get affected. The example of this is constipation^[8]).

V. CONCLUSION

The behavioral modification's program on teaching toilet training skill especially go to the toilet for defecate in appropriate way and doing it by her/himself by using chaining behavioral method (using total task presentation) is successful. It can be seen from the result of follow up session which is examined that AH is able to take care of herself when she wanted to defecate like she put her pant off and defecate directly in the closet, then she watering it, cleaned them up by herself and then she use her pant back even though all of this process is still reminded by her parents and her others family members especially when she just finished her milk. But overall, she is doing all this process by herself, and this target is achieved on 22nd of the therapy's session.

AH is get used to the reward, every time she succeeds to do the toilet training, she asked for her reward. Moreover, the manipulative behavioral skill that AH's had is used to this therapy's program. AH always give herself a thump up on every stage of this program. In addition, regarding to AH's limitation, researcher wanted to give some advised to AH's parents. There are several advised from this behavioral modification's program:

1. Maintaining AH on consuming some meal and water regarding to the adequacy of dietary habit, especially fibrous meal to help AH on defecated process. Even though AH refused, please change to other method until she wanted to follow the order.
2. Be patience on reminding her when she needs to go to the toilet for defecated process and let, she does the process by herself without any reminder and teach her about the reaction of her body when it is needed to defecate, go to the toilet directly by herself
3. Be consistent and discipline. These two values are needed for AH's life. AH had her own limitation so she needs to be trained well with consistency or she might back to her old habit and all the therapy's program that has been done to AH will be useless.
4. Hopefully, all family's member could trained about others self-monitoring behavior that might be accepted by AH.

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