

Influence Therapy *Brain Gym* to Enhancement Development Gross Motor Skills in Old Children Preschool in the Community Health Center Area Gunungpati, Semarang City

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ABSTRACT

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Children are an invaluable national asset. Children are part of the young population who need to be cared for, so that they can grow and develop optimally according to their potential. Motor development is an element of maturity in controlling body movements and the brain as the center of movement. Children's motor development can be assessed using the KPSP (Pre-Developmental Screening Questionnaire) which is an early detection instrument in the development of children aged 0 to 6 years. Gross motor skills are physical movements that require balance and coordination between body parts using the large muscles of some or all of the body parts. Gross motor development needs to be stimulated so that children can develop optimally. The aim of this research is to determine the effect of Brain Gym therapy on the gross motor development of preschool children. The design of this research is to use a Quasy experiment with a one group pre test-post test design. pre – post test. The total sample was 16 respondents with a purposive sampling model. The results of this research show that there is an effect of Brain Gym therapy on increasing gross motor development in preschool children with a p value of 0.001. The conclusion of this research is that there is an increase in gross motor development after implementing Brain Gym therapy in preschool children. Parents are advised to carry out this brain gym therapy at home to further optimize their child's development, especially gross motor development.

INTRODUCTION

Child is asset nation Which No priceless. Child part from young population group that needs attention, so that it can grow and develop optimally according to its potential. Based on Agency data Center for Statistics (BPS) in 2022 there will be 30.73 million young children in Indonesia or as much as 11.21% of the total population of Indonesia. (1) More than half Early childhood in Indonesia is on the island of Java, namely 52.55%, while as many as 10.27% of young children are in Central Java. Your child is useless p preschool (5 – 6 years old) in Central Java as many as 29.28% of the total children age early.(2) Data Profile Child City Semarang as much 56,483 child age preschool, where 68.86% of preschool age children in the city of Semarang are already enjoy education level Kindergarten/RA. (3) Results studies

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introduction in Community Health Center area Gunungpati City Semarang there is 1 8 child or 2.56 % from 702 child age preschoolers experience developmental disorders.

Interest Which main For grow And develop in life child must obtain priority Which very tall. Grow child development includes two events that are different in nature and meaning, willbut often related And difficult separated, that is growth And development (growth and development). (4) Growth is a process It is a natural thing that happens to individuals, namely that gradually children will become more and more increase heavy And tall. Growth This related with quantity physical , individual child, while development is a process that occurs in a way simultaneous with growth Which produce quality individual to function, which is produced through a maturation process and a learning process from environment. (5) Development child according to Department of health R.I consists from 4 aspect, that is First, gross motor skills or rough movements are a related aspect with ability child do movement with attitude body Which involves large muscles such as sitting and standing. The second aspect is motor fine or motion fine is aspect Which relate with the child's ability to perform movements involving body parts specific and performed by small muscles, but requires great coordination carefully like observe something, squeeze And write. Aspect third speech and language skills are aspects related to the ability to respond to sounds, speaking, communication And follow order. Aspect Which final is socialization And Independence is an aspect related to independent ability child (eating alone, cleaning up toys after playing), separated from mother or nanny child, socialize And interact with the environment. (6)

Development motor is element maturity control body movement and the brain as the center of movement. Children's motor development can be achieved assessed using the Developmental Pre-Screening Questionnaire (KPSP) Which is an early detection instrument in the development of children aged 0 to 6 year. Development motor shared become two, that is development gross motor and fine motor. Gross motor skills are physical movements need balance And coordination between member body with use the large muscles of part or all of the body. For example walking, running and jumping. Fine motor skills are abilities that relate with skills physique Which involve muscles small, eye and hand coordination. Fine motor nerves can be trained, developed through continuous activities and stimulation on a regular basis. Stimulation or stimulation can form *Brain Gym* , play *puzzles* , compile beam And fold paper. (7)

Brain gym or *Brain Gym* is a series of linked exercises on movement - movement body Which dynamic And crossed. Exercise brain push balance activity second cleavage brain in a way simultaneously. Brain exercises can help maximize the functioning of the right and left

brain. Exercise brain related with knowledge motion body that is movement body Which assembled And combined so that can help maximizing functionbrain. Benefits of brain exercise or *Brain Gym* is a way to relax, capable increase focus, capable add Spirit, add intelligence child, connecting nerves, is able to keep the body stable And able to stimulate brain. (8)

Study Which support that *Brain Gym* can increase motor skills in preschool children is research by Kris Khairunisa et al 2022, via *Brain Gym* with walking, running and jumping movements increase ability motor rough on child age 5 – 6 year. On day first before doing *Brain Gym* There are 16 children with development motor rough Not yet develop in a way maximum. *Brain Gym* done for 5 meetings, after doing *Brain Gym* The results obtained were 13 children showed gross motor development as expected and 3 children had motor skills roughly speaking, it has increased quite significantly. (10) Other research What supports this is research conducted by Panzilion et al 2020, with results there is an increase development motor rough. On day First before done *Brain Gym* obtained results 9 from 15 respondents experienced deviant fine motor skills and 6 respondents experienced doubtful fine motor skills, after doing *Brain Gym* there are 4 out of 15 respondents experienced doubtful gross motor skills and 11 respondents experienced normal fine motor skills. (9) *Brain Gym Techniques* related to the science of body movement namely body movements that are arranged and combined so that they can help maximizing The function of brain.

LITERATURE REVIEW

A. Development Motor Rough

Motor rough is movement physique Which need balance and coordination between body parts and muscles big part or all over member body. Development motor rough on baby own Suite stages Which sequentially , that is every stages must passed And mastered Formerly before enter stages furthermore. No all baby will control something skills in age Which The same, Because development child nature individually, but the difference is not caused by one more baby smart from baby Which other. Development skills No There is its influence directly with intelligence. (7) Stages Motor Development Rude to children age preschool is as following :

Table 1 Development motor rough based on group age (11)

Age	Development Motor Rough
48 – 60 Months	<ol style="list-style-type: none"> 1. Stand on one leg during 6 second 2. Jump jump with one foot 3. Dance
60 – 72 Months	<ol style="list-style-type: none"> 1. Walk straight 2. Stand with one leg during 11 second

Table 2 Development Motor Rough And *Ed Flags* (11)

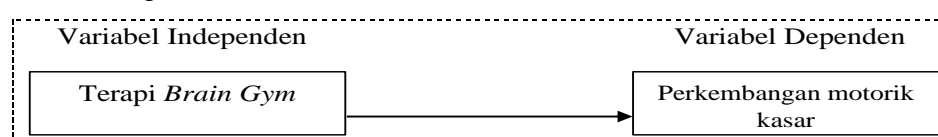
Ability Motor Rough	Age Average(Month)	<i>Ed Flag</i> (Month)
Roll over from face down tosupine	3.6	6-6
Roll over from supine to prone	4.8	9
Sit supported	5.3	6
Sit without support	6.3	8-10
Creep	6,7	
Sit up from a lying position	7.5	
Crawl	7.8	12
Stand holding from a sitting position	8.1	12
Walking the table handle (creeper)	8.8	
Walk without holding on	11.7	15 – 18
Go back	14.3	
Run	14,8	21 – 24

B. *Brain Gym*

Brain Gym or exercise brain is series motion simple fun. (16) The brain is divided into two, the right brain and left brain. The right brain functions for intuition, feeling, music, dance, creative, see whole And expression body. Brain leftworks For think logical And rational, analyze, talk, oriented on time and detailed matters. (17)

Exercise brain very needed especially for those who experience difficulties in learning and for children who Trying too hard to study can stress the brain.This causes the brain's integration mechanisms to weaken parts of the brain are not functioning properly, because basically every nerve and cell is a tissue that contributes to intelligence as well as learning abilities. Another benefit of brain exercise is relaxation, increase focus, add Spirit, add intelligence child, connect nerve, guard body still stable And stimulate brain.(8)

Framework Thinking



Hypothesis

There is influence therapy *Brain Gym* towards improvement motor rough child age preschool

RESEARCH METHODS

This research was carried out quantitatively with a quasi-experimental research method using a *one groups pre test-post test design approach* . This research began with a *pre-test* , and after giving the treatment a re-measurement or *post-test was carried out* . The location of the research will be at the Community Health Center Gunungpati . The subject of this research was taken with *purposive sampling* technique . The inclusion criteria are: child age preschool

who experienced lateness development motor rude , kid age preschool 5-6 years old , family willing his son to be researched become respondents and sign *informed consent* . Criteria exclusion is child age experienced preschoolers disturbance development motor and development other . Sample used in research This were 16 respondents This research uses standard instruments so it does not require validity and reliability tests. The instrument used for data collection was KPSP aged 60-72 months especially development motor . Analysis method used is Univariate analysis that describes the frequency distribution of developmental variables motor child age preschool before and after *Brain Gym therapy* , as well as Bivariate analysis to analyze the effect of *Brain Gym therapy* on the gross motor development of preschool children which was processed and tested using *the Wilcoxon* non-parametric hypothesis test with a significance level of $p \leq 0.05$

RESULTS

Age respondents part big is year as many as 12 people (75%) were shown in table 3.

Table 3 Distribution Frequency Respondent based on Age

Child Age (Years)	Frequency (n)	%
5 years	12	75
6 years	4	25
Total	16	100.0

T able 3 shows that there were 8 male respondents (50 %) and 8 female respondents (50 %).

Table 4 Frequency Distribution of Respondents Based on Gender

Gender	Frequency (n)	Press en %
Man	8	50
Woman	8	50
Total	16	100

Table 4 show level development motor respondents before done action is Not yet develop 10 people (62.5 %), Starting to develop 4 people (25 %) and growing in accordance 2 people hope (12.5 %). Development level motor after done action is Not yet developing 6 people (37.5 %), starting developed 5 people (31, 25%) and developed in accordance hope of 5 people (31.25%) .

Table 5 Frequency Distribution of Respondents Based on Level of Gross Motor Development Pre Test and Post Test

Development Rough motoric	Pre-test		Post test	
	n	%	n	%
Undeveloped	10	62.5	6	37.5
Starting to develop	4	25	5	31.25
Develop in accordance hope	2	12.5	5	31.25
Total	16	100	16	100

Table 6 Effect of *Brain Gym* on Increasing Gross Motor Development in Preschool Children

Level of Motor Development	Pre-test		Post test		P value
	N	%	n	%	
Undeveloped	10	62.5	6	37.5	0.001
Starting to Develop	4	25	5	31.25	
Develop According to expectations	2	12.5	5	31.25	
Total	16	100	16	100	

Based on table 5.4 , the pre-test results showed that there were 10 people who had not developed , on the post test and at the time post test to 6 people. There are 4 children who started developed during the pre-test and then during the post- test there were 5 children , while the children who developed in accordance Expectations during the pre-test were 2 people, then during the post-test it increased to 5 people . From the results of the *Wilcoxon test* which was carried out with a value of $p = 0.001$, it means that the value of p is smaller than α (0.05) which indicates that there is a change in the level of development motor child before and after given it right therapy *Brain Gym*

DISCUSSION

1. Level of Development Motor before being given Brain Gym Therapy

Development level motor before given therapy *Brain Gym* Mostly is Not yet developing (62.5%). Gross motor skills are physical movements Which need balance And coordination between member body with muscle – muscle big part or all over member body. Gross motor development in babies has a series of stages sequentially. It means Each stage must be passed and mastered first enter the next stage. Not all babies will master something skills in age Which The same, Because development child nature individual, but difference That No caused baby Which One more smart from baby Which other. Development skills No There is its influence directly with intelligence. (7)

Development motor rough every child need stimulation so that achieved development Which optimal. Stimulation is activity stimulate ability base child age 0-6 year so that grow And develop optimally. Every child needs it receive regular stimulation as early as Possible And Keep going continuously on every chance. Stimulation The child's growth and development is carried out by the mother and father who are people closest to the child, child caregiver, other family members and groups public in environment House ladder each And in life daily. Lack of stimulation can cause deviation grow flower child even disturbance Which stay. Wrong One stimulation development motor rough is with therapy *Brain Gym* . (14)

2. Development motor skills after being given it therapy *Brain Gym*

Development level motor after given therapy *Brain Gym* experience enhancement the amount and what not develop decrease the amount . *Brain gym* or *Brain Gym* is a series of exercises linked above movement – movement body Which dynamic And crossed. Exercise brain encourages balanced activity of both hemispheres of the brain simultaneously. Brain exercises can help maximize the functioning of the right brain and brain left. Brain exercise is related to the science of body movement, namely body movements assembled and combined so that they can help maximize function brain. Benefit exercise brain or *Brain Gym* is as method For relaxation, capable increase focus, capable add Spirit, add intelligence child, connect nerve, capable guard body remains stable and able to stimulate the brain. For gymnastics children Brains are really needed, especially for those who experience difficulties in studying and for children who try too hard to learn so that make brain become stress. Matter the result the brain's integration mechanisms weaken so that parts of the brain are lacking works with Good, Because on basically every nerve And cell is network Which contribute to intelligence as well as ability study.(8) After done therapy *Brain Gym* results show enhancement development motor rough .

3. *Brain Gym* Therapy to development motor rough child age preschool

Based on the analysis of the *Wilcoxon Test*, it was found that the pre-test and post-test anxiety responses gave significant results regarding the influence of *Brain Gym therapy* on development. motor rough in pre-school age children as indicated by a value of $p = 0.001$ smaller than $\alpha (0.05)$. Research result There is an increase in motor development rough after being given *Brain Gym therapy* , this is in accordance with research Which done Chris Khairunisa et al year 2022, through *Brain Gym* with movement walk, run And jump can increase gross motor skills in children aged 5 – 6 years. On the first day before done *Brain Gym* there is 16 child with development gross motor skills have not developed optimally. *Brain Gym* done for 5 meetings, after doing *Brain Gym* The result was 13 children show gross motor development as expected and 3 childrenmotor roughly experience that increase Enough significant. (10)

There are several factors which influence success therapy *Brain Gym* in increase motor rude to children namely maternal education, maternal employment, socio-economic and environmental conditions as well pattern foster. (13) Factor education Mother can influence level understanding about importance stimulation development on child. Education have role Which very determine for development child. Education person old the influential in educate child so that can reach objective Whichexpected that is deliver child on stages

development in accordance increasing age and the task of developing it completely and optimally. Matter This in line with study Bi Anita Apriastuti Which title analysis level education And pattern foster person old with development child with results there is connection between level education Mother with development child, the more tall level education person old so development child will better. (23)

Role Mother in fulfillment Children's basic needs have an impact on their child's development. If the mother's role is insufficient or unsuccessful, the child will experience problems growth And development, However if role Mom succeeded so Children can grow and develop according to their age. This is in line with study Mitha Megawati Which title difference development child between working and non-working mothers in the Health Center Posyandu Working Area Kawangkoan get results there is difference Which meaningful child development between working mothers and non-working mothers in the Region Work Integrated Healthcare Center Public health center Kawangkoan. Mother No Work in Carrying out its role in stimulating children's development will be easier For develop his creativity in do activity together children so that it has a positive impact on development child accordingly stages his age. (24)

Socioeconomic factors are also a factor in development gross motor skills in children. One socio-economic aspect is people's income old. Level economy family influence ability person old in provision means prasana in stimulating children's development. Apart from that, socio-economic status Parents influence the child's development process. Children who have person old Which status social its economy tall will help process development child And child can develop in accordance with his age. Circumstances status social economy person old have role to child development, the existence of an adequate economy, material environment what children face in the wider family can provide chance For develop proficiency. On the contrary family Which own status social economy tend low not enough can develop abilities due to obstacles in family economic matters. Matter This in line with study Judy Budianto with title connection between parents' socio-economic status and children's development in kindergarten Sentosa Bhakti Baturaja which produces children with social status The parents' economy is very high, as much as 1 child has *advanced development* and 2 normal children, child with status social tall parents as many as 6 child development normal, child with status social person old currently as many as 1 child with advanced development and 38 normal children, while children with social economy person old low as much 2 child development *advance* , 51 child normal And 1 child *caution* . Person old Which own status low-income economies experience

difficulties in fulfilling children's nutrition so that can hinder child development. (25)

Another factor is the parenting environment and parenting style. Parenting can be interpreted as a system, a way of working or form in an effort to look after, care for, educate and guide children small so it can stand on its own. Parenting styles can shape a child's character, Therefore, parents should provide sufficient stimulation for children Because If That not enough will result ability development the child's motor skills become delayed. Anace research Iwo Which title connection pattern foster person old with development motor child in Health Center Tampaksiring II, results study the show pattern very good care from parents as many as 151 children in pass and 3 categories children in the failure category, the parenting style of parents is good as many as 140 children in the category passed and 20 children failed. So it can be concluded that there is a relationship Parenting patterns and children's motoric development in the Work Area Public health center Tampaksiring II Gianyar Regency. (26)

CONCLUSION

Development level motor rough child age preschool in the health center area Gunungpati before given therapy *Brain Gym* are 10 people (62.5%) not yet developing , 4 people (25%) started develop and develop in accordance hope of 2 people (12.5%). Whereas after given therapy *Brain Gym* , level development motor rough child age preschool there are 6 people (37.5%) who haven't developing , 5 people (31.25%) started developed and 5 people (31.25%) developed in accordance hope . There is influence giving therapy *Brain Gym* to the level of development motor rude to children age preschool with a p value of 0.001

Recommended for family For can apply therapy *Brain Gym* For increase development motor rude to children age pre homeschooling

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