

Original Research**AUVIS-Brain Gym To Increase Children's Learning Concentration During Covid-19 Pandemic**Selvia David Richard¹, Sandy Kurniajati², Heru Suwardianto^{3*}^{1,2} Department of Maternity and Child Nursing, STIKES Baptist Hospital Kediri, East Java, Indonesia³ Department of Emergency and Critical Care Nursing, STIKES RS Baptis Kediri, East Java, Indonesia**ABSTRACT**

Background: The COVID-19 Pandemic Disaster lasted for more than a year and had an impact on children in their learning, including stress in learning, thereby reducing learning concentration. An environment that is not conducive to a learning process that is not optimal can make children's learning concentration go down.

Methods: The research method used a Pre experimental study with a pre-post test design. The population of this study was elementary school students in the Sidoarjo district with criteria. Namely, the respondents carried out brain gym with a frequency of 1 time a day for three weeks. The sample chosen using non-random Sampling with a sample size was 139 respondents. This research used an independent variable Psychosocial Disaster Management: AuVis-BG (Brain Gym), one time a day for three weeks. The dependent variable of this research was Children's Learning Concentration with a questionnaire. The research tool is the questionnaire that the respondents measure to be valid and reliable. Statistical test using Wilcoxon with <0.05 . Health Research Ethical Clearance letter 134/XI/EC/2021

Results: Based on the Wilcoxon statistical test was found that $p = 0.000$, which means that there is an influence of Psychosocial Disaster Management: AuVis-BG (Brain Gym) on Children's Learning Concentration During the COVID-19 Pandemic.

Conclusion: Psychosocial Disaster Management: AuVis-BG (Brain Gym) effectively increases Children's Learning Concentration during the COVID-19 Pandemic. This intervention can be used as a preventive therapy for cognitive decline in children during online learning during the COVID-19 Pandemic.

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AuVIS-BG (brain gym), psychosocial disaster management, concentration of children's learning;

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INTRODUCTION

The COVID-19 Pandemic has lasted more than a year and has had an impact on all elementary school learning processes. Students learning online more and more can have an impact on their psychosocial. The reason is that children carry out online learning for a very long time, and there is no psychosocial interaction that occurs.

Anxiety disorders will affect concentration when children are studying, and it is necessary to do modality therapy in children (Chyquitita et al., 2018; Nuryana & Purwanto, 2010).

Children are only at home facing smartphones and passive learning activities. The manifestations that children get if psychosocial activities are not carried out for a long time are a decrease in long-term and short-term learning concentration. Children during a pandemic disaster such as today can experience psychosocial anxiety disorders (Adimayanti et al., 2019).

A decrease in learning concentration during online learning is not expected. Therefore, we need a way to continue to develop treatment therapies for children during the COVID-19 Pandemic disaster, the decrease in learning concentration can have an impact on cognitive assessment, stress, depression, to a further decrease in quality of life which needs further research (Chyquitita et al., 2018; Nuryana & Purwanto, 2010).

WHO released the number of confirmed cases of COVID-19 as of June 25, 2022. The number of confirmed cases was more than 543 million, with 6,33 million deaths. According to data in Indonesia, there are more than 6,08 million confirmed cases with more than 157 hundred deaths (GTPP, 2022; Prov. JATIM, 2022; WHO, 2022). The government has established the Implementation of Emergency Community Activity Restrictions that allow all schools, places of worship, markets and others to be closed or restricted. The government's policy which was planned to open schools in July was postponed due to a surge in COVID-19 cases, which reached more than 30 to 50 thousand cases every day.

The COVID-19 Pandemic has changed many children's learning policies and also has had an impact on children's mental health. The reason is that children go to school online all the time regardless of their psychological condition. Distant learning cannot get material quickly, and there are many distractions to concentrate on (Napitupulu, 2020). Distance learning can also cause anxiety in some children (NurCita & Susantiningsih, 2020).

Other causes are because children's learning is entirely online, there is a lack of family support, limited schools in monitoring children, and community nurses who are not yet in every line of society. Manifestations that can have an impact on children's psychological health are anxiety, stress, depression, cognitive decline, decreased short-term memory, to somatic disorders that may occur. If this condition continues and has an impact on the child's psychosocial health, it will be very detrimental to the child and family in particular. It will interfere with the child's mental health.

The role of nurses in carrying out psychosocial disorders in children at home and the family is one of them with disaster psychosocial therapy. Nurses carrying out prevention can be done by using disaster psychosocial therapy techniques in the form of a brain gym. Brain Gym can be done by anyone to improve concentration and cognitive and reduce the adverse psychosocial effects of children during online learning (Chyquitita et al., 2018; Komarudin et al., 2020; Nuryana & Purwanto, 2010).

In a pandemic condition, it is necessary to develop a therapy with a technological approach, namely using audio-visual. This instrument is cheaper and can be used at home easily. So, the researchers carried out disaster psychosocial therapy with the Audio-visual (AuVis) Brain Gym approach in children to increase their concentration. Brain Gym, by increasing the performance of the right brain and left brain, activates the response of neurons and synapses to be more active in carrying out their functions.

So that after being given an audio-visual video (AuVis), Brain Gym can increase concentration in children. The purpose of this research is to analyze the effect of the AuVis-Brain Gym) on Increase Children's Learning Concentration during the COVID-19 Pandemic.

MATERIALS AND METHOD

Pre Experiment was the goal of this study. All of the elementary school students at SDN Taman and SD Bunga Waru in the Sidoarjo District made up the study population. The research sample was several children who met the criteria, namely Respondents in grades 1 to 6, and all participated in the socialization and followed the procedure to completion. The respondents carried out the brain gym with a frequency of 1 time a day and were evaluated after three weeks.

The sample size of the groups is 139. The sampling technique used is purposive sampling. This independent variable was AuVis-BG (*Brain Gym*). The dependent variable of this research was Children's Learning Concentration. The research instrument is Questioner, a professional judgment questionnaire that the respondents measure.

AuVis-BG is an educational video with pictures and sound that is given to respondents and accompanied by their families in carrying out the intervention. The enumerators are Kampus Merdeka students who are in the two elementary schools. Scoring and Questionnaire categories concentration of learning, each question is given a score of 1 to 5: [1] never, [2] Sometimes, [3] Quite often, [4] Often, [5] Always.

The questions on the questionnaire include 1] The child always pays attention to the teacher when explaining the material online 2] Children still pay attention to learning when online learning during the day. The child can catch the lesson well, and the child is calm, 3] Children don't understand easily when the teacher explains the lesson quickly, 4] Children respond more quickly when the teacher uses picture learning or music (innovative), 5] Children ask questions when they do not understand the material explained, 6] Children dare to express opinions, 7] Children are happy when the teacher gives time to ask questions 8] Children can answer the teacher's questions after finishing the lesson.

Statistical test using Wilcoxon with < 0.05 . The study has earned a Health Research Ethical Clearance letter 134/XI/EC/2021

RESULTS

Based on Table 1, it was found that most of the respondents were male (55%), with the most age being 11 years (20%). Most of the respondents were in class 5 (22.9%). Based on table 2, it was found that before the intervention was given *Psychosocial Disaster Management: AuVis-BG (Brain Gym)*, most of them had a relatively low concentration of learning (45%), and after the intervention, most of the respondents had a relatively high concentration of learning (41.4%).

Based on the Wilcoxon statistical test, $p = 0.000$, which means that there is an influence of *Psychosocial Disaster Management: AuVis-BG (Brain Gym)* on Children's Learning Concentration During the COVID-19 Pandemic Disaster.

Table 1. Demographic Data of Respondents

Data	Frequency	Per cent	Likelihood Ratio	CI	SD
Gender					
Male	77	55.0	0,003	95%	0,498
Female	62	44.3			
Age					
5-8 Year Old	43	30.7	0,000	95%	1,934
9-11 Year Old	64	45.7			
12-15 Year Old	33	22.6			
Grade					
1st Grade	24	17.1	0,000	95%	1,795
2nd Grade	22	15.7			
3rd Grade	17	12.1			
4th Grade	17	12.1			
5th Grade	32	22.9			
6th Grade	27	19.3			

Table 2. Research Statistics Test of *Psychosocial Disaster Management: AuVis-BG (Brain Gym)* Intervention

Category	<i>Psychosocial Disaster Management: AuVis-BG (Brain Gym)</i>			
	Pre-Intervention		Post Intervention	
	Σ	%	Σ	%
Low	14	10.0	5	3.6
A bit low	63	45.0	8	5.7
Moderate	52	37.1	56	40.0
High enough	10	7.9	57	41.4
High	-	-	13	9.3
Total	139	100	139	100.0
Z			-8,990	
Value			0.000	

DISCUSSION

Based on the results of the study, After measuring the level of concentration before AuVis-BG (*Brain Gym*) showed that the average level of learning concentration in school children mainly was relatively low (45%). The results of this study indicate that the measurement of the concentration level of school children before being given intervention in the form of *Psychosocial Disaster Management: AuVis-BG (Brain Gym)* shows a relatively low level of concentration.

This is indicated by the results of measuring the level of concentration with a questionnaire that is measured on children aged 6 to 16 years. Many factors affect the low level of concentration of children after the pretest process is carried out, including the presence of factors in the form of home environmental conditions while studying, learning facilities and infrastructure at home, and other online learning stressors. The results of this study are supported by previous research that brain gyms can improve children's learning concentration (Chyquitita et al., 2018; Nuryana & Purwanto, 2010).

Another influencing factor is the home environment which may vary and can also be caused by changes in the temperature of the hot air in the room due to a fan or air

conditioner that is not functioning correctly and ventilation that is very few in number or different at home, network internet during online learning, online learning saturation, noise from the highway, children who experience fatigue due to the learning process that takes place during the day, and the desks and chairs used in the learning process do not conform to the ergonomic shape of the child's body when studying online at home.

Brain Gym can also help and influence children's learning outcomes (Fajriati et al., 2017; Khonsary, 2017; Usiati, 2011). Concentration is a mental or associative conditional state activated by physical sensations (Brunner, 2010). This is consistent with previous research that even in complex subjects, brain exercises can activate learning attention. (Damayanti et al., 2020).

To activate the sensations of the body, you need a relaxed state and a pleasant atmosphere because, in a tense state, a person will not be able to use his brain optimally because the mind empties. In this case, the pleasant environment means that the child is in a very relaxed state, without tensions that threaten his body and not physical. Therefore, we need a fun way to allow children to relax while learning.

According to the research results after measuring the level of concentration after the AuVis-BG (*Brain Gym*) showed, the level of concentration of learning in school children has increased, with the result that most respondents have a relatively high level of concentration (41.4%). The results of measuring the concentration level of school children after being given intervention in the form of AuVis-BG (*Brain Gym*), which was conducted e-learning during the COVID19 Pandemic, showed a relatively high increase in concentration levels.

An intervention influenced this increase in concentration in the form of AuVis-BG (*Brain Gym*), which was given for three weeks. The results above can be said that light movements with hands, feet and body movements can provide stimulation or a stimulus to the right and left brain. The AuVis-BG (*Brain Gym*) provided has the benefit of being able to balance every part of the right and left brain, can increase brain concentration, and reduce stress, anxiety, and depression during online learning.

Zero maximize focus, the researchers used the focal dimension in the Brain Gym movement. Concentration is the ability to cross the "midline of engagement" that separates the back and front of the body, as well as the posterior (occipital) and frontal lobes of the brain. If everything is well connected, the child's attention or concentration will increase in learning.

However, if the connection is not connected correctly, the child's ability to concentrate will be impaired. Brain Gym is very effective in improving focus on learning because it activates all brain functions, concentration and short-term memory. (Adimayanti et al., 2019; Ain et al., 2019; Akbarjono et al., 2019; Komarudin et al., 2020). Brain training allows students to recover their body and mind after experiencing a learning process that requires a high degree of concentration and leads to brain fatigue.

The results of statistical tests that researchers have carried out obtained $p < 0.05$, which means that there is an influence of *Psychosocial Disaster Management: AuVis-BG (Brain Gym)* to increase children's concentration. The results of this study indicate that growth and development during the learning process are essential to continue to be improved through learning concentration so that children can obtain optimal learning. One of the simulations that can be given to increase a child's concentration level is *Psychosocial Disaster Management: AuVis-BG (Brain Gym)*.

One of the factors considered to enable students to achieve their learning goals successfully is good concentration. By focusing, everything can be recorded in the brain's memory as much as possible and then quickly deleted when necessary. Attention is the ability to concentrate thoughts or mental ability to sort out unnecessary information and focus only on necessary information.

The same thing was said. Online learning has many weaknesses, but there are not many choices for teachers to carry out learning during a pandemic. Brain gyms provided with information technology due to the COVID-19 Pandemic need to be continued to improve children's brain abilities, one of which is learning concentration (Ali & Aminoto, 2018; Rafitaka, 2018; Suwardianto, 2021).

Stress conditions, depression, anxiety and even a decrease in concentration need to be a concern, with Brain Gym interventions that can be implemented and carried out by parents to children during a pandemic. The brain gym is made to stimulate the lateral dimension, relieve the focusing dimension and relax the focusing dimension.

CONCLUSION

Based on the research objectives, the results showed that there was an effect of *Psychosocial Disaster Management: AuVis-BG (Brain Gym)* on Children's Learning Concentration. During the COVID-19 Pandemic ($p = 0.000$), with an increase in learning concentration after the intervention, most of the children were quite good (41,4%).

AuVis-BG (*Brain Gym*) can be an intervention and therapy in preventing the possible decline in children's concentration during the COVID-19 Pandemic, most of which is done online at the children's homes, and the role of parents is needed. In support of the intervention. This intervention is easy to do and can be done at home during a pandemic.

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REFERENCES

- Adimayanti, E., Haryani, S., & Astuti, A. P. (2019). Pengaruh Brain Gym Terhadap Kecemasan Anak Pra Sekolah Yang Di Rawat Inap Di Rsud Ungaran. *Jurnal Keperawatan Dan Kesehatan Masyarakat Cendekia Utama*, 8(1), 72–83.
- Ain, S. N., Riyanto, A. A., & Lestari, R. H. (2019). Pengaruh metode brain gym dalam meningkatkan kemampuan mengingat anak usia 5-6 tahun. *Ceria (Cerdas Energik Responsif Inovatif Adaptif)*, 2(5), 197–201.
- Akbarjono, A., Willyandari, I., & Saputra, A. (2019). *Senam otak (brain gym) meningkatkan memori jangka pendek (short memory) pada anak tuna grahita ringan usia 8-9 tahun*.
- Ali, M., & Aminoto, T. (2018). Brain Gym Dapat Meningkatkan Konsentrasi Belajar Mahasiswa Stei Indonesia Rawamangun Jakarta Timur. *Jurnal Ilmu Dan Teknologi Kesehatan*, 5(2), 173–178.

- Brunner, L. S. (2010). *Brunner & Suddarth's textbook of medical-surgical nursing* (Vol. 1). Lippincott Williams & Wilkins.
- Chyquitita, T., Winardi, Y., & Hidayat, D. (2018). Pengaruh brain gym terhadap konsentrasi belajar siswa kelas xi ipa dalam pembelajaran matematika di sma xyz Tangerang. *Polyglot*, 14(1), 39–52.
- Damayanti, R., Hosnan, M., & Jamaludin, U. (2020). Penerapan Brain Gym Terhadap Hasil Belajar Peserta Didik Pada Mata Pelajaran IPS Kelas V SD. *JIKAP PGSD: Jurnal Ilmiah Ilmu Kependidikan*, 4(3), 303–310. <https://doi.org/https://doi.org/10.26858/jkp.v4i3.14855>
- Fajriati, I. S., Safei, S., & Saprin, S. (2017). Pengaruh Penerapan Metode Pembelajaran Brain Based Learning Berbantuan Brain Gym Terhadap Hasil Belajar Peserta Didik. *Jurnal Biotek*, 5(1), 1–10. <https://doi.org/https://doi.org/10.24252/jb.v5i1.3442>
- GTPP. (2020). *Gugus Tugas Percepatan Penanganan COVID-19: Data Sebaran COVID-19*. Republik Indonesia. <https://covid19.go.id/>
- Khonsary, S. A. (2017). Guyton and Hall: a textbook of medical physiology. *Surgical Neurology International*, 8.
- Komarudin, K., Rosmawati, N., & Suherman, S. (2020). The Effect of Algebra Finger-Based Brain Gym Method to Improve Student Learning Outcomes. *Eduma: Mathematics Education Learning and Teaching*, 8(2), 80–88.
- Napitupulu, R. M. (2020). Dampak pandemi Covid-19 terhadap kepuasan pembelajaran jarak jauh. *Jurnal Inovasi Teknologi Pendidikan*, 7(1), 23–33.
- NurCita, B., & Susantiningsih, T. S. (2020). Dampak Pembelajaran Jarak Jauh Dan Physical Distancing Pada Tingkat Kecemasan Mahasiswa. *Journal of Borneo Holistic Health*, 3(1).
- Nuryana, A., & Purwanto, S. (2010). Efektivitas brain gym dalam meningkatkan konsentrasi belajar pada anak. *Indigenous: Jurnal Ilmiah Psikologi*, 12(1). <https://doi.org/https://doi.org/10.23917/indigenous.v12i1.1558>
- Prov.JATIM. (2020). *JATIM Tanggap COVID-19*. Republik Indonesia. <http://infocovid19.jatimprov.go.id/>
- Rafitaka, A. (2018). *Pengaruh Pelatihan Brain Gym Terhadap Peningkatan Kemampuan Konsentrasi pada Anak Attention Deficit Hyperactivity Disorder (Adhd)*.
- Suwardianto, H. (2021). Physical and Cognitive Therapy (PCT) in Critically Ill Patient. *Connectivity and Functional Specialization in the Brain*, 47.

Usiati. (2011). *Keterampilan Keperawatan Dasar, Paket 1*. Erlangga Medical. Series.

WHO. (2021). *WHO Coronavirus Disease (COVID-19) Dashboard*. World Health Organization. <https://covid19.who.int/>