

Big no depression: Flipbook-based brain gym innovation to prevent depression in teenagers

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ABSTRACT

Indonesia has taboo thoughts about mental health, public indifference to mental health causes people with mental disorders to tend to shut themselves down and be ashamed. Seeing that the increase continues to occur, the service carries out an effort to prevent depression, namely Brain Gym Innovation. The aim of this intervention is to improve the knowledge and understanding of adolescents on UINAM Public Health's new knowledge of Brain Gym Innovation. Based on Flipbook as a depression prevention strategy. As for the description of the activities in this intervention by determining the origin of the problem with the ultrasound method and obtaining mental health as the priority that the intervention wants to be performed. The target of this activity was Department of Public Health freshman, FKIK UINAM which was held in the classrooms of AB campus 2 UINAM on Monday 11 December 2023 where the target activity was at least 20 people who attended this extension activity. The results obtained on the service carried out that the level of knowledge and understanding in the new students improved, where health extension related to brain gym innovation was carried out and pre-test & post-test measurements were carried out. states that the majority of students have a level of leadership with good categories. Therefore, it can be concluded that the health extension Brain Gym Innovation based on Flipbook has an influence on the level of knowledge of the respondents.

Keywords : brain gym; depression, mental Health; mental disorders; students

ABSTRAK

Indonesia memiliki pemikiran tabu tentang kesehatan mental, ketidakpedulian masyarakat terhadap kesehatan mental menyebabkan orang yang mengalami gangguan mental cenderung menutup diri serta malu. Melihat peningkatan terus terjadi, pengabdian melakukan upaya pencegahan depresi yakni Brain Gym Innovation. Tujuan dilakukannya intervensi ini untuk meningkatkan pengetahuan dan pemahaman remaja pada mahasiswa baru Kesehatan Masyarakat UINAM tentang Brain Gym Innovation. Berbasis Flipbook sebagai strategi pencegahan depresi. Adapun uraian kegiatan pada intervensi ini dengan menentukan prioritas masalah dengan metode USG dan didapatkan kesehatan mental sebagai prioritas yang ingin di lakukan intervensi. Sasaran kegiatan ini merupakan mahasiswa baru Prodi Kesmas, FKIK UINAM yang dilaksanakan di ruang kelas gedung AB kampus 2 UINAM pada hari senin 11 desember 2023 dimana target kegiatan minimal 20 orang yang hadir dalam kegiatan penyuluhan ini. hasil yang didapat pada pengabdian yang dilakukan bahwa tingkat pengetahuan dan pemahaman pada mahasiswa baru mengalami peningkatan, dimana telah dilakukan penyuluhan kesehatan terkait brain gym innovation dan dilakukan pula pengukuran Pre-test&post-test yang menyatakan bahwa mayoritas mahasiswa memiliki tingkat pengetahuan dengan kategori baik. Oleh karena itu dapat disimpulkan bahwa penyuluhan kesehatan Brain Gym Innovation berbasis Flipbook memberi pengaruh terhadap tingkat pengetahuan responden.

Kata Kunci: brain gym; depresi; kesehatan mental; gangguan jiwa; siswa

INTRODUCTION

Indonesians are still taboo about mental health. Everyone thinks that when someone has mental health problems, they will be stigmatized as "insane people" (Rahayuni, 2019). Society's indifference to mental health causes people who experience mental disorders to tend to close themselves off and are embarrassed to seek help (Kotera et al., 2020). The level of priority and attention for mental health medical treatment in Indonesia does not meet the level of need that has been determined by WHO for developing countries (Brooks et al., 2019). Mental or mental health according to law number 18 of 2014 is a condition where an individual can develop physically, mentally, spiritually and socially so that the individual is aware of his own abilities, can overcome pressure, can work productively, and is able to contribute to his community (Santoso & Musdalifah, 2019).

Based on Global Health Estimates research conducted by the World Health Organization (WHO), it is stated that Disability Adjusted Life Years (DALY), namely the burden of disease in 2020, places depression in second place in the world and is predicted to rise to number 1 in 2030. (Agudelo-Botero et al., 2021). Basic Health Research (Riskesmas) in 2018 showed that more than 19 million Indonesians aged over 15 years experienced mental emotional disorders, and more than 12 million residents aged over 15 years experienced depression (Riskesmas, 2018). Depression in teenagers in Indonesia reached 6.1% of the 706,688 subjects analysed, this shows that depression is increasing from year to year. Depression is increasing from various aspects, starting from the number of subjects, and also the accompanying symptoms are getting worse. Then from the latest data, teenagers aged 15-24 years have a depression percentage of 6.2% or the equivalent of 11 million people (Indari et al., 2021). Severe depression will result in a tendency to harm oneself (self-harm) and even commit suicide. As many as 80 – 90% of suicide cases are the result of depression and anxiety. Suicide cases in Indonesia can reach 10,000 or the equivalent of every hour there is a suicide case. According to a sociologists, 4.2% of students in Indonesia have thought about committing suicide, 6.9% of students have had the intention to commit suicide while another 3% have attempted suicide. The prevalence of emotional mental disorders in South Sulawesi Province exceeds the national average, reaching 12.83% with the prevalence of emotional mental disorders in Makassar City reaching 17.86% (Riskesmas, 2018).

Seeing the increasing prevalence of depression cases in teenagers, the author proposes Brain Gym as an effort to prevent depression. Brain gym can train a person's thinking power and have a relaxing effect on teenagers when they are stressed (Abdillah & Octaviani, 2018). In a study Leisman et al. (2016), the brain of someone who is active (likes to think) will be healthier overall than someone who doesn't or rarely uses their brain. In theory, an active organ will need a supply of oxygen and protein. If the supply is smooth then it can be said that the organ is healthy. Another opinion states that Flipbook is a presentation of information as well as a guide to provide guidance for readers to know the information that has been conveyed so that readers can apply it in a structured manner (Anggraeni et al., 2018).

To make it easier for the target to understand the stages of the brain gym, we have packaged the brain gym in the form of a flipbook. The Flipbook media was chosen because it can be a guide that explains the contents of instructions, information and videos, which aims to guide readers to understand the contents of the book in a complete and structured manner (Lukito et al., 2021). The aim of this activity is to increase the knowledge and understanding of teenagers among new public health UINAM students about Flipbook-

based Brain Gym Innovation as a depression prevention strategy.

METHODS

This activity was carried out at the Faculty of Medicine and Health Sciences, UIN Alauddin Makassar on December 11 2023. This activity was named Health Education "BIG NO DEPRESSION: Flipbook-based Brain Gym Innovation to Prevent Depression in Adolescents" and was an interactive dialogue method extension carried out on new student of the Public Health Study Program at UIN Alauddin Makassar. The physical assets used in this program are one of the classes in the new building on campus 2 of UIN Alauddin Makassar which is the location for health education and facilities such as the Liquid Crystal Display (LCD) used by the campus. Human resource assets include assistance from the class of 2023 level leaders, especially class C, totalling 30 people. The promotional media we use is Flipbook. The counselling procedure is that we first direct students to fill out a pre-test before being given counselling and then direct them again to take part in outreach activities related to Flipbook-based Brain Gym Innovation. After that, at the same time after counselling students were again directed to fill out the post-test questionnaire (Figure 1).



Figure 1. Documentation of Health Education Activities

RESULTS AND DISCUSSION

Based on the Figure 2, the majority of respondents in the intervention were female (86.7%), followed by male (13.3%), and also the majority of respondents are 18 years old with a percentage (73.4%), followed by 17 and years old (13.3%).

Based on the results of the frequency distribution analysis in the table 1, it can be seen that the level of knowledge in new students has increased. Previously, in the pre-test results, as many as 16.7% of students had a level of knowledge with a good category. However, after counselling intervention, the figure increased to 80%. Meanwhile, the knowledge category decreased from 83.3% before intervention to 20% after counselling intervention.

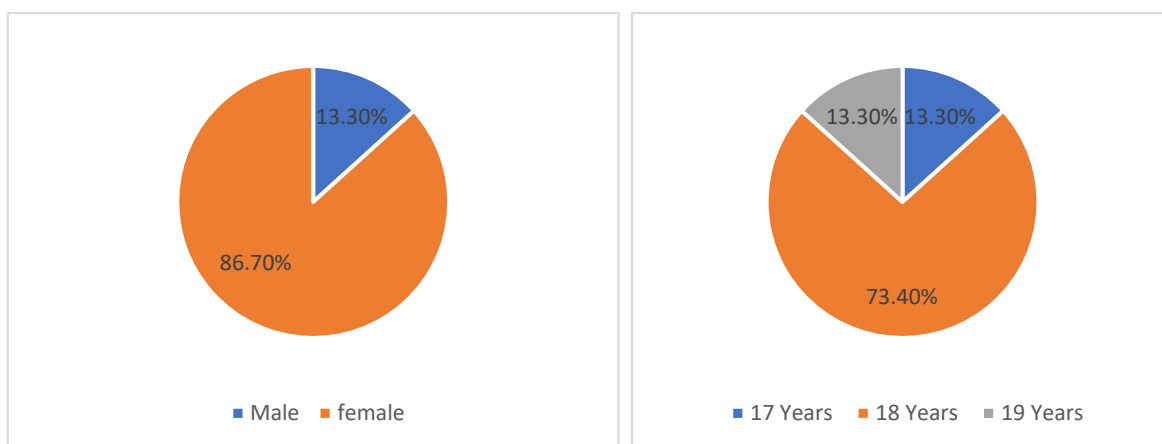


Figure 2. Characteristics of Respondents Based on Gender and age

After the normality test was carried out and the results of the data were not normally distributed, then using a non-parametric alternative test, namely the Wilcoxon test, at the level of knowledge before and after the intervention it was obtained that the significance number showed a value of $p = 0.000$. Because the p value < 0.05 thus can prove that there is a difference in the level of knowledge before and after the intervention. In other words, Flipbook-based Brain Gym Innovation health counselling has an influence on the knowledge level of respondents (freshmen).

Knowledge is the understanding or awareness that a person has about facts, information, concepts, skills, or experiences gained through learning or life experience. In essence, knowledge covers all aspects of life. Knowledge has a crucial role in the formation of thinking, decision-making, and actions of individuals and society as a whole. It is important to recognize that knowledge is not always static, and an open attitude towards new learning can enrich and expand one's knowledge. Based on this fact, there are many relationships in knowledge, one of which is in increasing individual concentration, namely in the process of preventing health problems which are now the main problem of every human being (Suratun & Tirtayanti, 2020). Maintaining harmony in thinking to improve the degree of public health is also very important, especially in mental health problems, one of which is depression.

The level of knowledge affects the concentration and focus of an individual. Knowing this has an effect, as obtained in the results above which can be said that the level of knowledge affects the Brain-gym activities carried out in health counselling. Brain-Gym will not only improve blood circulation and oxygen supply to the brain, but also involve movements that stimulate optimal brain performance and function. By stimulating brain waves through light movements involving movements in the hands and feet.

Table 1. Frequency Distribution Analysis

Knowledge	Pre-Test		Post-test		P-Value
	N	%	N	%	
Good	5	16.7	24	80	0.000
Bad	25	83.3	5	20	

The knowledge given to new students about brain-gym was one of the advocates in reducing mental health problems, reinforced by the results that there were differences in the level of knowledge before and after the intervention. In line with the research conducted (Suratun & Tirtayanti, 2020) stated that there were differences in the level of mental health in students before and after being given treatment. Research (Pragholapati, 2019) also states the same thing in the results of the research conducted. Several factors obtained are the reasons why there is an increase in knowledge of a person. This is clarified in respondents who are new students, where the influencing factors in this study are age, information, and environment.

A person's level of knowledge is the result of a complex interaction between such factors. Based on the results of brain-gym counselling conducted by measuring knowledge, there are factors that influence includes age, information and environment.

Age can affect a person's increased knowledge through several ways related to physical, cognitive, emotional, and social development. The improvement of one's knowledge develops over time. Based on the results of the research conducted, significantly new students are able to absorb knowledge with a deep understanding. This is a factor that influences the increase in knowledge during brain-gym innovation counselling. Research conducted Wahyuningsih et al. (2019) states that brain gym can also improve learning ability without age restrictions. It can be concluded that an increase in the level of knowledge with respect to age has an effect.

Information is the main source of knowledge that has an impact on changing mindsets. The ability to access a variety of information sources, such as books, the internet, or seminars, can affect the level of knowledge. People who have easier access to information tend to have a greater chance of improving their knowledge. Brain gym innovation is one of the useful sources of information in preventing depression in adolescents. The information provided accesses new students in critical thinking, so that relationship development in an effort to reduce the impact of depression at the adolescent level. The ability of adolescents to understand, assess, and use information effectively (information literacy) will affect the extent to which they can acquire and utilize knowledge from a variety of sources (Hidayah et al., 2023).

The environment is an important aspect in increasing knowledge. Environmental factors have a significant influence in increasing adolescent knowledge. The environment in which adolescents live, learn, and interact plays an important role in shaping their insights and knowledge. The level of motivation of a person to learn and improve his knowledge can play a big role. Internal motivation, curiosity, and learning goals can drive a person to seek and absorb new information. In the realm of the university environment, the interaction between students will have an impact on the absorption of knowledge. In providing knowledge about brain-gym, students are able to absorb the purpose of the knowledge provided, by conducting group discussions, exchanging related information about brain-gym, students are able to show an accepting attitude in the counselling activities carried out (Putri, 2014).

CONCLUSIONS

Based on the results of the intervention carried out, it can be concluded that Brain gym or brain gymnastics is a simple movement using the whole brain because it is an adjustment to daily demands so that learning becomes cheerful and happy. Most respondents who participated in this study had the most characteristics based on gender

were women (86.7%), followed by male sex (13.3%). In characteristics based on class / level of education respondents are 100% new students class C, Public Health Study Program, Faculty of Medicine and Health Sciences, UIN Alauddin Makassar. Most respondents who participated in this study had age characteristics were 18 years (73.4%), followed by 17 and 19 years old (13.3%). The average level of knowledge of new students before (pre-test) is as much as (16.7%) with good category. However, after counselling intervention, this figure increased to (80%). From the normality test and the results of the data are not normally distributed, then using a non-intervention alternative test, namely the Wilcoxon test, at the level of knowledge before and after the intervention obtained a significance number value $p = 0.000$ because the value of $p < 0.05$ can prove that there is a difference in the level of knowledge before and after the intervention.

With this health counselling in educational institutions, what can be used as a suggestion or proposal is to consider the integration of Brain Gym Innovation material into the curriculum in educational institutions such as campuses or schools as part of mental health education. This can be a proactive step to prevent depression early.

REFERENCES

- Abdillah, A. J., & Octaviani, A. P. (2018). Pengaruh senam otak terhadap penurunan tingkat demensia. *Jurnal Kesehatan*, 9(2), 112-118.
- Agudelo-Botero, M., Giraldo-Rodríguez, L., Rojas-Russell, M., González-Robledo, M. C., Balderas-Miranda, J. T., Castillo-Rangel, D., & Dávila-Cervantes, C. A. (2021). Prevalence, incidence and years of life adjusted for disability due to depressive disorders in Mexico: Results of the Global Burden of Disease Study 2019. *Journal of Affective Disorders Reports*, 6, 100206.
- Anggraeni, A. D., Suherman, S., & Sutini, T. (2018). Effectiveness of brain gym and writing therapy in behavioral hyperactivity on pre school-age children with ADHD in school for children with special needs (SLB) ABCD kuncup mas of Banyumas. *Jurnal Ilmu Keperawatan Anak*, 1(2), 1-7.
- Brooks, H., Irmansyah, I., Lovell, K., Savitri, I., Utomo, B., Prawira, B., & Bee, P. (2019). Improving mental health literacy among young people aged 11–15 years in Java, Indonesia: co-development and feasibility testing of a culturally-appropriate, user-centred resource (IMPeTUs)—a study protocol. *BMC health services research*, 19, 1-9.
- Hidayah, Y., Kurniawan, I. D., & Ginusti, G. N. (2023). Penggunaan Literasi Informasi untuk Pengembangan Watak Kewarganegaraan: Interaksi antara Pendidikan Kewarganegaraan, Teknologi dan Bahasa. *JPK (Jurnal Pancasila Dan Kewarganegaraan)*, 8(1), 65-75.
- Indari, I., Priasmoro, D. P., & Fatma, E. D. (2021). Prevalensi Dan Analisis Faktor Mental Emosional Remaja Pada Keluarga Broken Home. *Journal of Nursing Care and Biomolecular*, 6(2), 130-137.
- Kotera, Y., Green, P., & Sheffield, D. (2019). Mental health shame of UK construction workers: Relationship with masculinity, work motivation, and self-compassion. *Revista de Psicología del Trabajo y de las Organizaciones*, 35(2), 135-143.
- Leisman, G., Moustafa, A. A., & Shafir, T. (2016). Thinking, walking, talking: integratory motor and cognitive brain function. *Frontiers in public health*, 94.
- Pragholapati, A. (2019). The Effect Of Brain Gym To The Level Of Depression In Geriatric At Balai Perlindungan Sosial Tresna Werdha Ciparay Bandung. *Jurnal Skolastik Keperawatan*, 5(2), 128-146.

- Putri, S. D. P. (2014). Dukungan Sosial Yayasan Persatuan Orang Tua Anak Dengan Down Syndrome (Potads) Kepada Para Orang Tua Anak Down Syndrome.
- Rahayuni, I. G. A. R. (2019). Psikoedukasi kelompok Kader Kesehatan Jiwa (K3J) dalam pemberdayaan penderita skizofrenia di masyarakat di Kelurahan Pedungan–Denpasar Selatan. *Jurnal Riset Kesehatan Nasional*, 3(1), 112-117.
- Riskesdas. (2018). *Laporan Riset Kesehatan Dasar (Riskesdas) 2018*. Kementerian Kesehatan
- Santoso, A. D., & Musdalifah, F. S. (2019, October). Mental Health Promotion Through Social Media (Study of Government and Non-Profit Organization's Twitter Account in Indonesia). In *The 2nd International Conference on Sustainable Development and Multi-Ethnic Society* (pp. 264-270). Redwhite Pres.
- Suratun, S., & Tirtayanti, S. (2020). Pengaruh Brain Gym terhadap Konsentrasi Belajar. *Jurnal Keperawatan Muhammadiyah*, 5(1).
- Wahyuningsih, B. Y., Sugianto, R., & Wardiningsih, R. (2019). Pelatihan Aktivitas Brain Gym untuk Peningkatan Konsentrasi Mahasiswa STMIK Mataram. *EDISI*, 1(1), 155-162