

The Effectiveness of Educational Media in Controlling Ergonomic and Psychological Hazards during Work from Home for Lecturers

Shintia Yunita Arini¹, Putri Ayuni Alayyannur², Dani Nasirul Haqi³, Ahmad Fakhri⁴, Ardha Maulana Akbar⁵

^{1,2,3}Department of Occupational Safety and Health, Faculty of Public Health, Universitas Airlangga, Indonesia

Campus C Mulyorejo, Surabaya, East Java, 60115 Indonesia

^{4,5}Qlip.id, Ruko Green Garden, JL. Panjang Arteri Kelapa Dua Raya Blok A14 No. 36, Kedoya Utara, Kebun Jeruk, West Jakarta, 11520 Indonesia

ABSTRACT

Introduction: The number of confirmed cases of COVID-19 continues to increase, so most of the workers in all work sectors are changing to a WFH system. WFH has several impacts related to mental health and musculoskeletal complaints. Therefore, it is necessary to develop educational media for workers who carry out working from home including lecturers. Therefore, this research was conducted with the aim of knowing the relationship between the assessment of the effectiveness of educational media and the increase in knowledge about the ergonomic and psychological hazards during working from home and their control. **Methods:** This research was an observational study with a cross-sectional study design. The data analysis method used was descriptive semi-quantitative. The population of this research was lecturers in Indonesia. The number of samples using accidental sampling and total sampling was 111 respondents. This research used valid and reliable pre-test and post-test to assess the effectiveness of educational media. Data were analyzed using a paired samples correlation test and Spearman test. **Results:** There was a significant difference between the results of the pre-test and post-test. In addition, there was a relationship between the assessment of the effectiveness of educational media and changes in post-test scores where for booklet media there was a strong relationship and for video educational media, there was a medium relationship. **Conclusion:** Based on the results, it can be concluded that there was a relationship between the assessment of the effectiveness of educational media on ergonomic and psychological hazards control during WFH and the increase in knowledge of lecturers in 2021.

Keywords: ergonomic hazard, psychology hazard, educational media

Corresponding Author:

Shintia Yunita Arini, S.KM., M.KKK.
Email: shintia.arini@fkm.unair.ac.id
Telephone: +6282233031117

INTRODUCTION

The 2019 coronavirus disease or what is now known as COVID-19 began to appear all over the world in 2020 after first appearing in Wuhan City, Hubei Province, China in 2019 (Bappenas, 2021). The first confirmed case of COVID-19 in Indonesia was on March 2, 2020, and after that the number of confirmed cases has continued to increase (Bappenas, 2021). Based on the analysis of Indonesian COVID-19 data released by the Expert Team for the Task Force for the Acceleration of Handling COVID -19 (2021), which was updated as of January 3, 2021, it was shown that there was an increase in cases of 7.3% from 48,435 cases to 51,986 cases. Nationally

cumulatively as of September 3, 2021, there were 4,116,890 confirmed cases (The Ministry of Health of the Republic of Indonesia, 2021).

One of the efforts to reduce the spread of COVID-19 is through restrictions on activities outside the home (Wilder-Smith and Freedman, 2020). With the high number of confirmed cases of COVID-19, the government has implemented movement restrictions, so that most workers in all work sectors who were originally active in the office have to change to a full working from home or blended system for a few days at the office and a few days working from home. Work from Home (WFH) is a scheme that is part of the concept of telecommuting (working remotely), which is common in the world of work and urban planning (Mungkasa, 2020). According to Mungkasa (2020), the understanding of Work from Home (WFH), which is working remotely, involves at least four

Cite this as: Arini, S. Y *et al.* (2022) 'The Effectiveness of Educational Media in Controlling Ergonomic and Psychological Hazards during Work from Home for Lecturers', *The Indonesian Journal of Occupational Safety and Health*, 11(1), pp. 124-132.

things, namely: choice of a workplace which refers to saving time or physical distance (tele), partial or total substitution of daily commute, the intensity of the activity of working remotely which refers to the frequency and length of time, and the availability of communication and information technology.

Based on the results of a survey on the behavior of the Indonesian people during the Enforcement of Emergency Community Activity Restrictions, which in Indonesia is called "PPKM" during the period of 13-20 July 2021, it was shown that the arrangement of full WFH working hours in the office was 12.5%, an increase from the rate before the Emergency PPKM which was 5.2 %, and 22.4% offices carried out 50% Work From Home (WFH) and 50% Work From Office (WFO), a decrease from the rate before Emergency PPKM which was 27.6%. Moreover, 22.9% offices carried out 75% Work From Home (WFH) and 25% Work From Office (WFO), an increase from the rate before Emergency PPKM which was 14.8%, and 6.5% offices carried out 25% Work From Home (WFH) and 75% WFO, a decrease from the rate before Emergency PPKM which was 8.5%. Furthermore, 16.1 % offices carried out full Work From Office (WFO), a decrease from the rate before the Emergency PPKM which was 24.2% (Badan Pusat Statistik, 2021). In addition, people who were respondents in the survey considered that economic and social activities during the Emergency PPKM period decreased compared to those in the months before the Emergency PPKM was implemented (Directorate of Analysis and Development Statistics, 2021).

Research shows that working from home has several impacts related to mental health and changes in the lifestyle of workers. which if not immediately handled will become a serious mental health problem in the future (Ekpanyaskul and Padungtod, 2021). During WFH, the workload which remains high, communication which cannot continue to run smoothly and the advice to always stay at home make workers experience quite a lot of pressure. This is different from the previous conditions before the pandemic where workers could go on vacation to refresh their minds, but now there is no media that can channel their fatigue (Tang *et al.*, 2020). Problems that start from a mental or mental burden that are not handled properly can cause work stress, depression, feelings of anxiety and insomnia in the near future (Pinho *et al.*, 2021) Furthermore, these problems can also cause mental health disorders that

can make workers experience a decrease in work productivity (Page and Sheppard, 2016).

In addition, other research also show that the next health problem that is very likely to be experienced by workers who carry out working from home is bad work attitudes caused by non-ergonomic workstations. Workstation infrastructure during working from home is inadequate and tends to be modest, which makes workers work in positions or attitudes that trigger problems of musculoskeletal symptoms (Morrison *et al.*, 2020). Workers also tend to have monotonous attitudes, sit more frequently and look at gadgets for too long during working from home, all of which have bad impacts on workers (Arifin, Kuswardinah and Deliana, 2020). If this problem is not controlled immediately, it will have an impact on workers as they will easily experience fatigue due to improper work postures or attitudes, their productivity will definitely decrease and even further, they can suffer from musculoskeletal disorders (Bidiawati and Suryani, 2015).

Based on this, workers must be educated to avoid health problems due to exposure to ergonomic and psychological hazards. One of the educational media is in the form of audio-visual which has the advantage of being able to change educational material in the form of theoretical into interactive activities that show the implementation procedure of the material (Kurnianingsih, 2019). In addition, visual media that can be used are simple media that are easy to make and use such as posters, booklets, pictures, and so on (Kurnianingsih, 2019).

In the world of education, since mid-March 2020 almost all campuses have been closed down and followed government policies to conduct distance learning with an online system during the COVID-19 pandemic (Adiawaty, 2020). Lecturers as an essential component in an education system in higher education have important roles and responsibilities in realizing national education goals (Adiawaty, 2020). In accordance with Article 1 paragraph 14 of Law No. 12 of 2012 concerning Higher Education, it is stated that lecturers are professional educators and scientists with the main task of transforming, developing, and disseminating science and technology through education, research, and community service (Government of the Republic of Indonesia, 2012).

Therefore, it is necessary to develop educational media in its best practices for workers who carry

out working from home including lecturers in order to avoid health problems due to exposure to ergonomic and psychological hazards. It is expected that workers will not only gain knowledge from the impact of exposure to these hazards, but also learn to apply several safe work attitudes that can be implemented at the workplace and at minimal cost to be applied in their respective houses. The developed media will provide a lot of knowledge and suggestions regarding the prevention of mental health problems and musculoskeletal disorders, which if not prevented early can cause many other health problems and direct impacts on worker productivity. Thus, this research was conducted with the aim of investigating the relationship between the assessment of the effectiveness of educational media with the increased knowledge about the ergonomic and psychological hazards while working from home and their control.

METHODS

This research is an observational study with a crThis research was an observational study with a cross-sectional study design. The data analysis method used was descriptive semi-quantitative. This research was conducted through an online survey. The time of research and data collection was in September-October 2021.

The research population was lecturers in Indonesia who met the following inclusion criteria: Indonesian citizens, having a profession as a lecturer, and during the pandemic, carrying out WFH work activities. The sampling technique used in this research was non-probability sampling in the form of accidental sampling—which is a method of determining the sample by taking respondents who happen to exist or are available in a place. Subjects who became respondents in this research were subjects who willingly filled out a questionnaire that had been distributed online.

Data collection in this research was obtained from primary data by filling out online questionnaires in the form of pre-test and post-test regarding knowledge about the ergonomic and psychological hazards during work from home and their control. The variables in this study were the pre-test value, post-test value and effectiveness of educational media. Participation in this research took about 20 minutes to fill out the questionnaire and about 20 minutes to read and watch the educational videos provided between the two questionnaire

filling sessions. There were two sessions of filling out the questionnaire in this research. The first session consisted of filling in personal data and pre-test knowledge related to ergonomic and psychological hazards. The second session consisted of post-test knowledge related to the ergonomic and psychological hazards after reading the modules and watching the educational videos that had been provided. The questionnaire was prepared by the research team and had been tested for its validity and reliability with valid and reliable results. Data were analyzed using a paired samples correlation test to determine the relationship between pre-test and post-test and Spearman test to determine the relationship between the effectiveness of educational media and post-test value. This research has been declared ethical by the Health Research Ethics Committee of the Faculty of Public Health, Universitas Airlangga. This decision is based on a statement of ethics No: 31/EA/KEPK/2021.

RESULT

Based on Table 1, it can be seen that the majority of respondents experienced an increase in post- test scores. This shows that the majority of respondents got information from educational

Table 1. Changes in Post-Test Scores regarding Ergonomic and Psychological Hazards for Lecturers who Work from Home during the 2021 COVID-19 Pandemic

Category	Frequency	Percentage (%)
Increase	102	91.90
Constant	8	7.20
Decrease	1	0.90
Total	111	100.00

Table 2. Relationship between Pre-Test Scores and Post-Test Scores regarding Ergonomic and Psychological Hazards for Lecturers who Work from Home during the 2021 COVID-19 Pandemic

	Mean	Paired Samples Correlations		Paired Samples Test
		Correlation	Sig.	S i g . (2-tailed)
Pre Test	5.71	0.251	0.008	0.000
Post Test	8.93			

media provided in the form of modules and videos. However, there were 7.2% of respondents who did not experience an increase, or had a post-test score equal to the pre-test score, and 0.9% of respondents experienced a decrease in post-test scores. The absence of an increase or decrease can occur due

to obstacles in obtaining information through educational media that were distributed online.

Based on Table 2, it can be seen that the cumulative average post-test score of 8.93 increased when compared to the pre-test score of 5.71 from the total maximum test of 10. This increase can be said to be quite high, which can occur because before doing the post-test the respondents were given education in the form of booklets and videos. The results of the paired samples correlation test of the pre-test and post-test showed a significance value of 0.008 where the result was smaller than the significance value (0.05). Based on this result, it can be concluded that there was a relationship between the pre-test and post-test scores. In addition, it was found that the significance value of the paired samples test (t-test) showed a result of 0.000 where the result was smaller than the significance value (0.05). Based on this result, it can be concluded that there was a significant difference between the results of the pre-test and post-test scores.

Based on table 3, it can be seen that the majority of rBased on Table 3, it can be seen that the majority of respondents considered educational media, both booklets and videos, to be very effective. This shows that the majority of respondents felt

Table 3. Respondents' Assessment of the Effectiveness of Educational Media "OHS Perspective in Ergonomic and Psychological Hazards Control During WFH" 2021

Category	Types of Educational Media			
	Booklet		Video	
	n	%	n	%
Very Effective	95	85.60	99	89.20
Effective	10	9.00	11	9.90
Quite Effective	6	5.40	1	0.90
Not Effective	0	0.00	0	0.00
Very Not Effective	0	0.00	0	0.00
Total	111	100.00	111	100.00

Table 4. The Relationship between Respondents' Assessment of the Effectiveness of Educational Media and Changes in Post-Test Scores in 2021

Media Effectiveness Assessment	Changes in Post-Test Scores								
	Increase		Fixed		Decrease		Total		
	n	%	n	%	n	%	N	%	
Booklet	Very Effective	92	96.80	3	3.20	0	0.00	95	100.00
	Effective	10	100.00	0	0.00	0	0.00	10	100.00
	Quite Effective	0	0.00	5	83.30	1	16.70	6	100.00
	Not Effective	0	0.00	0	0.00	0	0.00	0	00.00
	Very Not Effective	0	0.00	0	0.00	0	0.00	0	00.00
Total							111	100.00	
Video	Very Effective	95	95.96	4	4.04	0	00.00	99	100.00
	Effective	7	63.64	4	36.36	0	00.00	11	100.00
	Quite Effective	0	00.00	0	00.00	1	100.00	1	100.00
	Not Effective	0	00.00	0	00.00	0	00.00	0	00.00
	Very Not Effective	0	00.00	0	00.00	0	00.00	0	00.00
Total							111	100.00	

Table 5. Correlation Coefficient Values between Respondents' Assessment of the Effectiveness of Educational Media and Changes in Post-Test Scores in 2021

Educational Media	Correlation Coefficient's Value
Booklet	0.663
Video	0.558

that the educational media provided in the form of modules and videos could channel information well. However, there were 5.4% of respondents who considered the booklet media to be quite effective and 0.9% of respondents considered the video media to be quite effective. There were no respondents who gave an assessment in the not effective and very not effective category. Overall, the assessment shows that the provision of educational media can be an effective solution in distributing information, although their effectiveness can be continuously improved in terms of both content and design.

Based on Table 4, it can be seen that all respondents who experienced an increase in scores during the post-test gave an assessment of the effectiveness of educational media, both booklet and video media, in the very effective or effective category. Meanwhile, respondents who had fixed scores during the pre-test and post-test gave an assessment of the effectiveness of the booklet educational media as very effective or quite effective and gave an assessment of the effectiveness of video media in the very effective or effective category. This shows that the results of the effectiveness assessment from respondents who had fixed scores during the pre-test and post-test are not too different from the respondents who experienced an increase in scores. This shows that the respondents' assessment of the effectiveness of educational media does not guarantee an increase in knowledge which could be caused by other factors such as the level of concentration when working on questions.

The results of the Spearman correlation test showed that the correlation coefficient value between respondents' assessments of the effectiveness of booklet educational media and the change in the post test value was 0.663. This means that the two variables had a strong relationship in the strong category. The test coefficient value of the two variables was positive, which indicates a unidirectional relationship. This means that the more effective the assessment of the booklet educational media by the respondents, the higher the

post-test score, which also indicates an increase in respondents' knowledge.

The results of the Spearman correlation test showed that the correlation coefficient between respondents' assessments of the effectiveness of video educational media and the change in the post-test value was 0.558. This means that the two variables had a strong relationship in the medium category. The test coefficient value of the two variables was positive, which indicates a unidirectional relationship. This means that the more effective the assessment of the video educational media by the respondents, the higher the post-test score, which also indicates an increase in respondents' knowledge.

DISCUSSION

Educational Media Ergonomic and Psychological Hazards Control during WFH

This research developed educational media related to the control of ergonomic and psychological hazards during WFH because these two hazards are closely related to the implementation of working from home. The impact of WFH is no exception to lecturers having diverse workloads in carrying out the Tri Dharma of Higher Education. This is reinforced by research conducted by Condrowati *et al.* (2020) which stated that 86.3% of workers experienced musculoskeletal disorders during the last 12 months, while 66.3% of workers experienced interference while working from home. Furthermore, the proportion of workers who experienced disturbances in daily activities was 40%, and 12.6% of workers went to a doctor because of musculoskeletal disorders (Condrowati *et al.*, 2020).

Research conducted by Yoshimoto *et al.* (2021) stated that 15% of workers with musculoskeletal complaints experienced an increase in their pain during the COVID-19 pandemic. Teleworking, physical activity and psychological stress were significantly associated with increased pain (Yoshimoto *et al.*, 2021). Another systematic review shows that musculoskeletal disorders were associated with strenuous physical work, awkward static and dynamic work postures, and lifting. Meanwhile, the identified psychosocial risk factors were negative affectivity, low level of work control, high psychological demands and high job dissatisfaction (Bane, Aurangabadkar and Karajgi, 2021).

Bane, Aurangabadkar and Karajgi (2021) stated that 61.6% of the research population who were teachers had musculoskeletal complaints in the last 3 months when they had to undergo WFH, and 23.3% of them had to take medical consultation for pain, indicating its severity. In addition to physical stress, 41.1% of teachers admitted to experiencing mild stress due to the WFH situation. 21.9% of teachers experienced moderate stress, and 19.2% of teachers experienced severe stress (Bane, Aurangabadkar and Karajgi, 2021).

When workers work from home, musculoskeletal disorders may be triggered because workers have to work for five to seven hours a day, and they will sit in the chairs they have at home for a long time. Sometimes, they do not have chairs that conform to ergonomic standards. With this condition, workers often sit in a slumped forward position which will reduce the muscle effort needed to maintain a sitting position. This position will cause the ligaments and muscles that support the spine to increase in tension. A sitting position has the potential to cause upper and lower back pain in workers while working from home (Condrowati *et al.*, 2020).

Therefore, this educational media is structured to provide knowledge related to safe working positions with computers or laptops. This is certainly very useful as a reference to work safely and comfortably when work from home policy is enforced. This educational media also explains the impacts that may occur and the efforts that can be made to minimize the occurrence of these impacts.

Various responses to the Covid-19 pandemic conditions have been made to prevent the further spread of the corona virus, one of which is the establishment of WFH and Social Distancing policies by the Government. The impact of the Covid-19 pandemic has forced people to carry out all their activities at home. The atmosphere is really tense, and the hustle and bustle of human life seems dead—without any signs of life. This condition makes some people experience stress (Muslim, 2020).

Therefore, this educational media is also prepared to provide knowledge related to psychological hazards, namely work stress. This is certainly very useful as a reference for stress management while working from home.

The Relationship between Post Test and Pre Test Scores

Based on the results of the research in Table 1 and Table 2, it is known that the average post-test scores increased compared to the pre-test scores, and individually the majority of respondents experienced an increase in post-test scores. This is in line with research by Safitri, Sulistyowati and Ambarwati (2021) which stated that there was an increase in the average post-test score compared to the average pre-test score after the participants had been given nutrition educational media. An increase in good knowledge will allow a person to have a positive attitude formation and change as well (Dewi and Istiqomah, 2019).

In addition, research by Murtisiwi and Sulistyaningrum (2021) also showed that the average pre-test score of the intervention group before being given education was 73.2 and after being given education through audio-visual media was 96.53. This is in accordance with research by Meidiana, Simbolon and Wahyudi (2018) which stated that there was an increase in the level of knowledge in the overweight adolescent group after being given education through audio-visual media.

Research conducted by Sabarudin *et al.* (2020) on the effectiveness of providing online education through video media and leaflets about COVID-19 showed that there was a significant difference in knowledge before and after being given leaflet educational media. However, there was no significant difference in knowledge between before and after the provision of video educational media. This difference can occur because of the factors that influence the success of online socialization including individual factors, presentation of video and leaflet materials, choice of words used, visualization on leaflet and video media, as well as audio used in the video media (Sabarudin *et al.*, 2020).

Meidiana, Simbolon and Wahyudi's research (2018) showed that the knowledge and attitudes of respondents increased after being given leaflet educational media. This can be seen from the average score after being given a leaflet, which was higher than the average value before being given a leaflet. Visual educational media such as leaflets and booklets are very effective in conveying messages in a systematic, brief and concise manner in the form of both writing and pictures (usually more in writing) (Meidiana, Simbolon and Wahyudi, 2018).

This media is very effective because it can be read over and over again to convey a systematic, short and concise message (Notoatmodjo, 2012).

The Relationship between the Assessment of Booklet Educational Media and Changes in Post-Test Scores

Based on the results of the research in Table 4 and Table 5, it can be seen that there was a relationship between the assessment of the effectiveness of the booklet educational media and changes in post-test scores. This is in line with the opinion of Mulyani, Ummanah and Elvandari (2020) that online educational media can have an impact on increasing understanding and changing behavior. The booklet educational media in this research is one of the educational media that is distributed online. Besides, according to Silalahi, Lismidiati and Hakimi (2018), visual booklet media is used to encourage someone's desire to know, explore and finally gain understanding to improve good behavior, and it is also used to encourage someone to do something new.

The development of e-modules that have been adapted to the times will make the delivery of information more practical and efficient (Rahayu and Sukardi, 2020). This is in line with research by Warsita (2017) which stated that the development of technology in learning must produce products in the form of learning media that can be used as learning resources.

Research conducted by Peate *et al.*, (2012) stated that booklets are one of the effective learning media, as evidenced by 91% of respondents being satisfied with the information provided and being able to understand the material presented; moreover, 95% of respondents recommended booklets to others as a means of learning. Respondents in the intervention group received a higher attitude improvement with the provision of booklet educational media than those who were not in the intervention group; the intervention respondents also studied the booklet and brought it home, so there was an opportunity to be able to re-read it at home (Silalahi, Lismidiati and Hakimi, 2018).

The Relationship between the Assessment of Video Educational Media Effectiveness and Changes in Post Test Scores

Based on the results of the research in Table 4 and Table 5, it can be seen that there was

a relationship between the assessment of the effectiveness of video educational media and changes in post test scores. This is in line with the opinion of Kurnianingsih (2019) that educational media in the form of audio-visual has the advantage of being able to change educational material in the form of theoretical into interactive activities, which shows the implementation procedure of the material. The results of this research are also in line with the results of research conducted by Igiyany, Sudargo and Widyatama (2016) suggesting that there was a difference between before and after the use of video in the increase of knowledge, attitudes and skills of mothers in washing their hands with soap.

Video media relies on hearing and sight from the target, where the use of audio visual media involves all senses, so the more senses are involved in receiving and processing information, the more likely the information content can be understood and retained in memory. Furthermore, the effects of moving images and sound will make it easier for the audience to understand the content of the information, so they can increase their knowledge (Sabarudin *et al.*, 2020). This is in line with the opinion of Igiyany, Sudargo and Widyatama (2016) that the information provided to respondents using audio-visual or video media is understandable because each respondent will easily immerse in the media if there are images that can be seen and sounds that can be heard.

Ekayani, Kusumaningsih and Astini (2017) stated the provision of education through audio-visual media is effective for the success of toilet training in children. Audio-visual media has many advantages compared to other media, namely stimulating the senses of sight and hearing, increasing the effectiveness and efficiency of the learning process including the delivery of messages that is faster and easier to remember, clarifying abstract things, and providing more realistic explanations (Ekayani, Kusumaningsih and Astini, 2017).

CONCLUSION

Based on the results of this research, it can be concluded that there was a significant difference between the pre-test and post-test scores. In addition, there was a relationship between the assessment of the effectiveness of educational media for the ergonomic and psychological hazards control during WFH and increased knowledge of the 2021

Lecturers. There was a strong relationship in the strong category between the assessment of the effectiveness of the booklet educational media and changes in post-test scores, and there was a strong relationship in the medium category between the assessment of the effectiveness of video educational media and changes in post test scores. The more effective respondents' assessment of the effectiveness of educational media is, the higher the level of knowledge of respondents will be.

ACKNOWLEDGEMENTS

The researchers would like to thank all parties who have provided moral and material support to help carry out this research. The researchers would also like to express their gratitude to the respondents who have helped the process of this research so that this research article can be accomplished.

REFERENCES

- Adiawaty, S. (2020) 'Pandemi Covid-19 Dan Kinerja Dosen (Study Kasus Kinerja Dosen Pada PT XYZ)', *ESENSI: Jurnal Manajemen Bisnis*, 23(2), pp. 185–191.
- Arifin, A. N., Kuswardinah, A. and Deliana, S. M. (2020) 'Analysis of Postures Towards Musculoskeletal Disorders Experienced By Batik Artisans of Sukamaju Giriloyo Yogyakarta', *Public Health Perspectives Journal*, 5(63), pp. 1–8.
- Bane, J. V., Aurangabadkar, S. and Karajgi, A. (2021) 'Physical and Self-Perceived Occupational Stress Associated with Work from Home Situation in Teachers during the COVID-19 Pandemic', *International Journal of Health Sciences and Research*, 1(2), pp. 117–124.
- Bappenas (2021) *Proyeksi COVID-19 di Indonesia*. Jakarta: Direktorat Kesehatan dan Gizi Masyarakat, Kedeputian Pembangunan Manusia, Masyarakat dan Kebudayaan, Kementerian PPN/Bappenas.
- Bidiawati, J. A. and Suryani, E. (2015) 'Improving the Work Position of Worker's Based on Quick Exposure Check Method to Reduce the Risk of Work Related Musculoskeletal Disorders', *Procedia Manufacturing*, 4, pp. 496–503.
- Condrowati et al. (2020) 'Musculoskeletal Disorder of Workers During Work From Home on Covid-19 Pandemic: A Descriptive Study', *Advances in Health Sciences Research*, 30, pp. 153–160.
- Dewi, A. N. and Istiqomah, Z. (2019) 'Perilaku Informasi Remaja Dalam Memanfaatkan Facebook', *BIBLIOTIKA : Jurnal Kajian Perpustakaan dan Informasi*, 3(1), pp. 15–31.
- Directorate of Analysis and Development (2021) *Perilaku Masyarakat Pada Masa PPKM Darurat*. Jakarta: BPS RI.
- Ekayani, L. P. K., Kusumaningsih, F. S. and Astini, P. S. (2017) 'Efektivitas Penyuluhan Dengan Audio Visual Terhadap Keberhasilan Toilet Training Pada Anak Umur 2-3 Tahun', *Community of Publishing in Nursing (COPING)*, 5(2), pp. 121–126.
- Ekpanyaskul, C. and Padungtod, C. (2021) 'Occupational Health Problems and Lifestyle Changes among Novice Working from Home Workers Amid the COVID-19 Pandemic', *Safety and Health at Work*, 12(3), pp. 1–6.
- Government of the Republic of Indonesia (2012) Law Number 12 Year 2012 concerning about Higher Education.
- Igiany, P. D., Sudargo, T. and Widyatama, R. (2016) 'Efektivitas Penggunaan Video dan Buku Bergambar dalam Meningkatkan Pengetahuan, Sikap, dan Keterampilan Ibu Mencuci Tangan Memakai Sabun', *Berita Kedokteran Masyarakat*, 32(3), pp. 89–94.
- Kurnianingsih, M. (2019) 'Efektivitas Penggunaan Kombinasi Media Audio Visual dan Booklet dibanding Media Booklet terhadap Pengetahuan Toilet Training pada Ibu yang Memiliki Balita', *Smart Medical Journa*, 2(1), pp. 1–10.
- Meidiana, R., Symbolon, D. and Wahyudi, A. (2018) 'Pengaruh Edukasi melalui Media Audio Visual terhadap Pengetahuan dan Sikap Remaja Overweight', *Jurnal Kesehatan*, 9(3), pp. 478–484.
- Morrison, J. J. et al. (2020) 'Prevalence of Musculoskeletal Symptoms in Interventional Radiologists', *Journal of Vascular and Interventional Radiology*, 31(8), pp. 13081314.
- Mulyani, E. Y., Ummanah, N. A. and Elvandari, M. (2020) 'Peningkatan Pengetahuan Mahasiswa Melalui Edukasi Online Gizi dan Imunitas Saat Pandemi Covid-19', *Jurnal Penelitian Kesehatan SUARA FORIKES*, 19(1), pp. 70–78.
- Mungkasa, O. (2020) 'Bekerja dari Rumah (Working From Home/WFH): Menuju Tatanan Baru Era Pandemi COVID 19', *Jurnal Perencanaan Pembangunan: The Indonesian Journal of Development Planning*, 4(2), pp. 126–150.

- Murtisiwi, L. and Sulistyanningrum, R. (2021) 'Peningkatan Pengetahuan Remaja Tentang Pencegahan Penularan Covid-19 Di Kampung Tempel Kelurahan Banyuwangur Surakarta Melalui Edukasi Dengan Media Audio Visual', *Indonesian Journal on Medical Science*, 8(2), pp. 195–203.
- Muslim, M. (2020) 'Manajemen Stress Pada Masa Pandemi Covid-19', *ESENSI: Jurnal Manajemen Bisnis*, 23(2), pp. 192–201.
- Notoatmodjo (2012) *Promosi Kesehatan dan Perilaku Kesehatan*. Jakarta: PT. Rineka Cipta.
- Page, L. and Sheppard, S. (2016) Heat Stress: the impact of ambient temperature on occupational injuries in the US, Department of Economics Working Papers.
- Peate, M. *et al.* (2012) 'Development and Evaluation of an Information Booklet about Breast Cancer and Early Menopause', *Breast Journal*, 18(1), pp. 95–106.
- Pinho, L. *et al.* (2021) 'The use of mental health promotion strategies by nurses to reduce anxiety, stress, and depression during the COVID-19 outbreak: A prospective cohort study', *Environmental Research*, 195(January), p. 110828.
- Rahayu, I. and Sukardi (2020) 'The Development Of E-Modules Project Based Learning for Students of Computer and Basic Networks at Vocational School', *Journal of Education Technology*, 4(4), pp. 398–403.
- Sabarudin *et al.* (2020) 'Efektivitas Pemberian Edukasi secara Online melalui Media Video dan Leaflet terhadap Tingkat Pengetahuan Pencegahan Covid-19 di Kota Baubau', *Jurnal Farmasi Galenika (Galenika Journal of Pharmacy) (e-Journal)*, 6(2), pp. 309–318.
- Safitri, Y. L., Sulistyowati, E. and Ambarwati, R. (2021) 'Pengaruh Edukasi Gizi Dengan Media Puzzle Terhadap Pengetahuan Dan Sikap Tentang Sayur Dan Buah Pada Anak Sekolah Dasar', *Journal of Nutrition College*, 10(2), pp. 100–104.
- Silalahi, V., Lismidiati, W. and Hakimi, M. (2018) 'Efektivitas Audiovisual dan Booklet sebagai Media Edukasi untuk Meningkatkan Perilaku Skrining IVA', *JURNAL MKMI*, 14(3), pp. 304–315.
- Tang, W. *et al.* (2020) 'The role of alexithymia in the mental health problems of home-quarantined university students during the COVID-19 pandemic in China', *Personality and Individual Differences*, 165(June), p. 110131.
- The Ministry of Health RI (2021) *Ikhtisar Mingguan COVID-19 Indonesia, 28 Agustus - 3 September 2021*. Jakarta: The Ministry of Health RI.
- Tim Pakar Satuan Tugas Penanganan COVID-19 (2021) *Analisis Data Covid-19 Indonesia Update Per 03 Januari 2021*. Jakarta: Satuan Tugas Penanganan COVID-19.
- Warsita, B. (2017) 'Peran dan Tantangan Profesi Pengembang Teknologi Pembelajaran Pada Pembelajaran Abad 21', *Kwangsan: Jurnal Teknologi Pendidikan*, 5(2), pp. 77–90.
- Wilder-Smith, A. and Freedman, D. O. (2020) 'Isolation, Quarantine, Social Distancing and Community Containment: Pivotal Role for Old-Style Public Health Measures in the Novel Coronavirus (2019-nCoV) Outbreak', *Journal of Travel Medicine*, 27(2), pp. 1–4.
- Yoshimoto, T. *et al.* (2021) 'Pain Status and Its Association with Physical Activity, Psychological Stress, and Telework among Japanese Workers with Pain during the COVID-19 Pandemic', *International Journal of Environmental Research and Public Health*, 18(May), pp. 1–10.