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e-Counseling Education Services (e-CES) Effect on Quality of Life Post-Stroke Patients During the Covid-19 Pandemic

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ABSTRACT

Background: the COVID-19 pandemic has significantly reduced the quality of life for people who have a history of chronic disease, one of which is stroke. Along with the increasing number of post-stroke patients during this pandemic related to physical function and vitality, of course, it affects the inability of his capacity to check with health services. The implementation of education is directly hit by time constraints and the pandemic situation, therefore it is necessary to have individual counseling through e-Counseling.
Purpose: to analyze the effect of e-Counseling Education Services (e-CES) on WHO Quality Of Life (WHOQOL) Post-Stroke Patients during the Covid-19 Pandemic.
Methods: pre-experimental with pre-test post-test one group design. The population in this study were people with post-stroke disease who were in the Banjarmasin city area and were affected by the pandemic. The sampling technique in this study was accidental sampling. The stages are identifying several areas affected by the pandemic, socializing health counseling online, followed by e-CES intervention and seeing the impact on WHO Quality of Life. Paired t-test was used in analayzing the data.
Results: the pretest score with a mean of 72.67 was obtained, while in the post-test there was an increase in the average value of 75.23 with each *p*-value = 0.027.
Conclusion: there is an effect of e-Counseling Education Services (e-CES) on the WHO Quality of Life (WHOQOL) of post-stroke patients during the Covid-19 pandemic.

Keywords:
Stroke; e-Counseling Education Services; quality of life; Covid-19 pandemic

BACKGROUND

One type of disaster which related directly to health is epidemics and disease outbreaks. A global epidemic disaster even spread across countries called a pandemic (Alshehri A, 2012). One of the catastrophes of the pandemic which has recently become the hottest news in the world is the Novel Coronavirus Disease (COVID-19) which is a new virus that causes pneumonia with mild clinical symptoms such as the common cold and pharyngitis to severe such as SARS or MERS(Cui L et al. 2020). Disease during a pandemic that significantly reduces the quality of life, which is related to the physical function and vitality of people who have a history of chronic disease, one of which is stroke.(Geraldine,2010).

According to Riskesdas 2017, the prevalence of stroke in Indonesia has increased from 7% to 10.9%. This is evidenced by the results of Riskesdas 2018 which was 10.9%, an increase compared to Riskesdas 2013 which was 7%. The prevalence of stroke based on Doctor's Diagnosis by province is province of East Kalimantan which is the highest with 14.7% and followed by the province of DI Yogyakarta which is 14.6% while in the province of South Kalimantan in 2018 it was 12.7% per mil at the age of >15 years with the age group 75 years old and over 50.2%, male gender is 11.0% more likely, and living in urban areas is 12.6% higher than living in rural areas (Riskesdas, 2018).

Along with the increasing number of post-stroke sufferers during this pandemic related to physical function and vitality, it certainly affects the inability of their capacity to check with health services. Based on this, it is emphasized how important education is. The process of implementing education is hampered by time constraints and the pandemic situation in providing direct services, therefore it is necessary to have individual counseling through e-Counseling which is an alternative method that is considered appropriate during a pandemic.

e-Counseling is the provision of professional counseling through electronic communication. This guidance and counseling service is one of the innovative counseling service models in an effort to show practical services and can be done anywhere as long as there is a connection or connected to the internet.

OBJECTIVE

To analyze the effect of e-Counseling Education Services (e-CES) against WHO *Quality Of Life* (WHOQOL) Post-Stroke Patients during the Covid-19 Pandemic.

METHODS

This research was carried out in the city of Banjarmasin, South Kalimantan online using Zoom and WhatsApp media. The type of research is Quasi Experimental Research with Quasi Experimental One-group pre-post-test design.

The population in this study were people with post-stroke disease who were in the Banjarmasin city area and were affected by the pandemic. The sampling technique in this study was accidental sampling, namely families who experienced a poor quality of life due to the Covid-19 pandemic based on the results of the WHOQOL instrument assessment before and after the provision of e-Counseling Education Services (e-CES).
The analysis used in this study is a descriptive analysis which will describe the characteristics of the respondents, and the results of the WHOQOL measurements before and after the intervention was carried out on the respondents. The data is processed in the form of presentations and frequency distribution tables using a computer, so that a description of the characteristics of respondents, pretest and post-test data will be obtained about the description of the stress and anxiety levels of respondents before and after the provision of e-Counseling Education Services.

The analysis is carried out on two variables that are suspected to be related or correlated. Analysis data used the Paired *t*-test. If the *p*-value <0.05, it can be concluded

that there is an effect of e-Counseling Education Services (e-CES) against WHO *Quality Of Life* (WHOQOL) Post-Stroke Patients during the Covid-1 Pandemic.

RESULTS

Banjarmasin City is one of the cities in South Kalimantan province which has 5 districts and is well-known as the City of a Thousand Rivers. It has an area of 98.46 km² and its territory is a delta or archipelago consisting of about 25 small islands (deltas) separated by rivers including the Lulut River. Based on data Ministry of Internal Affairs in 2020, Banjarmasin City has a population of 671,690 people with a density of 6,822 people/km². The city of Banjarmasin demographically consists of 5 sub-districts, namely; West Banjarmasin (11,404 people/km2), South Banjarmasin (4,120 people/km2), Central Banjarmasin (14,227 people/km2), East Banjarmasin (15,032 people/km2) and North Banjarmasin (9,263 people/km2). The location in this study was the city of Banjarmasin, where the sub-district was affected by the pandemic red zone after previously sloping down, the curve of the Covid-19 transmission in the City of Banjarmasin rose significantly again with the emergence of the pandemic wave II. Now, there are red zone villages in the city of Banjarmasin that are still implementing the Implementation of Community Activity Restrictions (PPKM) with levels III-IV.

Table 1 illustrates the characteristics of respondents obtained that the average gender in the community in this study is mostly female (63%). This shows that coincidentally the people who are active in participating in positive activities are women, in the sense that women as housewives are more often at home than men because most of them are working. The average age of most respondents is 18-25 years (60%). This shows that the age that most participate in these positive activities is early adulthood because the age is ready to get positive information to be understood and used by the family. The average public education is SMA (43%). This shows that this level of education rationally requires a fairly broad knowledge related to health during a pandemic. The average red zone area of the respondents by chance in this study was in the East Banjarmasin District (50%). This shows that coincidentally, the sub-district is in need of health information related to post-stroke care during the COVID-19 pandemic. The average type of stroke is ischemic stroke (90%). This shows that the damage caused by a stroke can be more severe because of the leakage of blood that comes out of the brain tissue with a high enough blood pressure. This can lead to death or severe disability. The average length of history of stroke is more than 1 year (93%). This shows that in the Banjarmasin city area, what we meet today are those who have suffered from a stroke for a long time. The average duration of post-stroke symptom conditions is currently the most Anxiety due to congenital disease (47%). This shows that psychological disorders will occur in patients with chronic diseases, one of which is a history of stroke.

Table 2 shows that the good quality of life of respondents before the e-Counseling Education Services (e-CES) was carried out as many as 17 people (57%) and after the e-Counseling Education Services (e-CES) treatment was carried out through online media (zoom education, flyers), education and chat) for 14 days (3-5 per day) and observed through sub-district What Sapp groups there was an increase of 28 people (93%), while the poor quality of life of respondents before e-Counseling Education Services (e-CES)

was conducted 13 people (43%) and after treatment, there was a decrease of 2 people (7%).

Before doing *e*-Counseling Education Services (e-CES), the quality of life of the respondents scored at least 59 and at most 87 with an average of 72.67 and *SD* = 6.591, whereas after e-Counseling Education Services (e-CES) the respondents had an increase in the quality of life in a good direction, the score was at least 64 and at most 87 with a mean of 75.23 and *SD* = 5.286, while the overall mean of the variables was analyzed with a 95% confidence level (see Table 3).

It can be seen in Table 4, that the score in the pretest with an average of 72.67 while in the post-test there was an increase in the average value of 75.23 with each *p*-value = 0.027 which means that e-Counseling Education Services (e-CES) has an effect on WHO Quality Of Life (WHOQOL) Post-Stroke Patients during the Covid-19 Pandemic. So it can be concluded that there is an effect of e-Counseling Education Services (e-CES) on the WHO Quality of Life (WHOQOL) of post-stroke patients during the Covid-19 pandemic.

Table 1. Characteristics of Research Respondents (*n*=30)

NO.	Characteristics of Respondents	*f*	%
1.	Gender		
	Man	11	37
	Woman	19	63
2.	Age		
	18 – 25 years	18	60
	26 – 35 years old	6	20
	36 – 45 years	3	10
	46 – 55 years old	3	10
3.	Level of education		
	JUNIOR HIGH SCHOOL	2	7
	SENIOR HIGH SCHOOL	13	43
	D3	7	23
	S1	8	27
4.	East Banjarmasin	15	50
	West Banjarmasin	2	7
	South Banjarmasin	7	23
	Central Banjarmasin	2	7
	North Banjarmasin	4	13

NO.	Characteristics of Respondents	*f*	%
5.	Types of Stroke History		
	Ischemic Stroke	27	90
	Hemorrhagic Stroke	3	10
6.	History of Stroke		
	< 1 year	2	7
	> 1 year	28	93
7.	Current Condition of Post-Stroke Symptoms		
	Anxiety due to congenital disease	14	47
	Fear of another stroke	9	30
	Changes in daily activities	4	13
	Changes in sports activities	3	10

Table 2. Frequency distribution of pre-post e-Counseling Education Services (e-CES) respondents to WHO Quality of Life (WHOQOL) post-stroke patients (*n*=30)

No	Quality Of Life	Pre		Post	
		f	%	*f*	%
1.	Well	17	57%	28	93%
2.	Bad	13	43%	2	7%

Table 3. Distribution of Average Pre-Post e-Counseling Education Services (e-CES)

No.	Variable	mean	Min	Max	*SD*	95% *CI*
1	Pretest Quality Of Life	72.67	59	87	6,591	70.33 – 75.40
2	Posttest Quality Of Life	75.23	64	87	5,286	73.42 – 77.44

Table 4. Statistical Test Results Statistical Paired *t*-test.

No.	Variable	mean	*p*-value
1	Pretest Quality Of Life	72.67	0.027
2	Posttest Quality Of Life	75.23	

DISCUSSION

Characteristics of Post-Stroke Patients during the Covid-19 Pandemic

Based on the characteristics (Table 1) obtained in this study, the average gender in the community in this study was mostly female (63%). This shows that people who are

active in participating in positive activities such as education and consultation through online media are women, in the sense that women as housewives are more often at home than men because they mostly work. Gender can show the difference in the choice of mass media between women and men. This study shows that men prefer newspapers and women prefer magazines. Consumers of male gender access the internet to find information, games and spend less time on social media.

Based on the characteristics (Table 1) obtained in this study, the average age of most respondents was 18-25 years (60%). This shows that the age that most participate in positive activities such as education and consultation through online media is early adulthood because that age is ready to get positive information to be understood and used by the family. The average community education is high school (43%). This shows that this level of education rationally requires a fairly broad knowledge of health information during a pandemic. Morissan, (2008: 173) argues that audiences are differentiated according to age, including children, adolescents, adults, and the elderly. Morissan also mentioned that there are differences in program choice between women and men. Respondents of male gender tend to use the internet to find information, games, and spend less time on social media. While respondents of female gender at that age almost 100% use the internet for social media. Advances in technology to access the internet while using cellphones make respondents at this age choose to seek information, socialize on media, as well as seek entertainment through tools that are more practical to use (Nur, 2014).

Based on the characteristics (Table 1) obtained in this study, the average red zone area of the respondents was mostly in the District of East Banjarmasin (50%). This shows from the profile of Banjarmasin that the sub-district is an area with a high population density (15,032 people/km2) so it is very necessary related to health information during the pandemic, both education and consultation. Based on research by Goodwin et al (2011) which states that the level of understanding of each individual towards the pandemic will be different depending on the risk factors exposed and demographic, such as a virus can be transmitted more and more easily in areas where the population denser (Taylor, 2019).

Based on the characteristics (Table 1) obtained in this study, the most common types of stroke were ischemic stroke (90%). This shows that the type of stroke is related to the level of disability and severity. Ischemic stroke occurs when a blood vessel that supplies blood to the brain becomes blocked. While a hemorrhagic stroke, a blood vessel bursts, causing obstruction to normal blood flow and blood seeping into other parts of the brain and causing damage. The effects of the two are different. The damage caused by hemorrhagic stroke can be more severe because of the leakage of blood that comes out

to the brain tissue with high enough blood pressure. This can cause death or severe disability (Rosemarie, 2010).

Based on the characteristics (Table 1) obtained in this study, the average length of history of stroke was >1 year (93%). This shows that the length of stroke varies and has implications for disability in stroke patients and receiving poor treatment. The results of this study is in line with the study by Feigin (2009), that some strokes are fatal, while others cause permanent or temporary disability. The longer the time that passes after a stroke, the lower the risk of dying from a stroke.

Based on the characteristics (Table 1) obtained in this study, the average duration of post-stroke symptoms is currently anxiety due to congenital disease (47%). This shows that stroke can also cause anxiety to depression, so family support is needed so that stroke patients can carry out activities. It is hoped that the family will create a calm situation, and create activities that are beneficial for the independence of post-stroke people (Karunia, 2016).

Effects Before and After Providing e-Counseling Education Services (e-CES) on changes in WHO Quality of Life (WHOQOL) for Post-Stroke Patients during the Covid-19 Pandemic

Based on table 2 above, it was found that the good quality of life of respondents before e-Counseling Education Services (e-CES) was 17 people (57%) and after e-Counseling Education Services (e-CES) treatment was carried out through online media (zoom education), flyer education and chat) for 14 days (3-5 per day) and observed through sub-district WhatsApp groups, there was an increase of 28 people (93%), while the poor quality of life of respondents prior to e-Counseling Education Services (e-CES))were as many as 13 people (43%) and after treatment there was a decrease of 2 people (7%).

Table 3 shows that before doing *e*-Counseling Education Services (e-CES), the quality of life of the respondents scored at least 59 and at most 87 with a mean of 72.67 and *SD* = 6.591. After conducting e-Counseling Education Services (e-CES) respondents experienced an increase in the quality of life in a good direction, the score was at least 64 and at most 87 with an average of 75.23 and *SD* = 5.286, while the average of all variables analyzed with a 95% confidence level.

According to Nilsson Carina et al. (2006) in their research entitled Information and Communication Technology Supporting People with Serious Chronic Illness Living at Home an Intervention Study, there are things to have a large positive impact so that they can make a patient feel better after receiving an intervention or remote treatment using communication media. What is meant in this research is the sense of trust and the treatment that will be given by medical personnel will be able to have a positive effect

on overcoming problems that arise from the pain experienced by the patient so far. Telenursing can help reduce the number of days of care for patients with chronic diseases in the hospital because patients can be monitored again via remote telecommunications regarding conditions and complaints that occur when the patient is at home (Wootton et al, 2009). In addition, telenursing also increases the sense of security (safety) of nurses and clients (Pratama, 2019).

Effect of e-Counseling Education Services (e-CES) on WHO Quality Of Life (WHOQOL) Post-Stroke Patients during the Covid-19 Pandemic

Based on the paired t-test (Table 4), it was found that the score in the pretest with an average of 72.67, while in the posttest there was an increase in the average value of 75.23 with each p value = 0.027, which means e-Counseling Education Services (e-CES) affect the WHO Quality of Life (WHOQOL) post-stroke patients during the Covid-19 pandemic. So it can be concluded that there is an effect of e-Counseling Education Services (e-CES) on the WHO Quality of Life (WHOQOL) of post-stroke patients during the Covid-19 pandemic.

Based on a literature study, it was found that the effectiveness of telenursing interventions in the care of patients with chronic diseases that can be used as a reference in an effort to achieve a patient's quality of life is by implementing a telenursing-based health information system. Time can be more efficient because patients do not need to use transportation to get it. This can improve the patient's quality of life (Brodtkorb, Helde, Bovim, & Bra, 2005).

Interventions using telenursing can effectively help improve the quality of life in patients with chronic diseases. In their research, Woodend et al (2008) found that telehome intervention was proven to significantly improve the quality of life in heart failure patients, the intervention consisted of video conferencing and telephone line transmission, blood pressure, and electrocardiogram. When myocardial infarction patients were given interventions to improve the quality of life, participants reported a significant improvement over time from providing telenursing to chronic disease patients (Hanssen et al., 2009). Based on the above study, an illustration of the effectiveness of telenursing interventions can be used as a reference in an effort to improve the quality of life in patients suffering from chronic diseases.

Utilization of telenursing, patients and their families can take part in the treatment process, so that patients with chronic diseases can help in terms of self-management, minimize the schedule of visits to the hospital and reduce the length of treatment. Telenursing is not only beneficial for patients, telenursing has proven to be able to help the role of nurses as caregivers or efforts to improve the quality of life of patients. In the

application of telenursing, nurses provide nursing care services in the form of preventive and rehabilitative actions (Uslu et al., 2019).

According to the American Nurse Association (ANA), telenursing is part of telehealth that focuses on nursing practice (Asiri, 2016) which occurs when nurses meet the basic needs of clients by using information communication technology and web-based systems (Schlachta et al, 2007). Telenursing is also defined as a process of providing, regulating and coordinating care and the delivery of health services through information and communication technology (Fadhila, 2020).

The technology that can be used in telenursing varies widely including: telephone, personal digital assistants, smartphones, facsimile machines, tablets, computers, internet, video and audio conferencing as well as computer information systems (Scotia, 2017). Although there is a slight change in the provision of nursing care through telenursing, this does not fundamentally change the principle of providing nursing care (Fadhila, 2020).

Nurses who perform telenursing continue to use the nursing process to review, plan, implement, evaluate and document nursing care (Sanderson, 2018). Telenursing also involves the process of providing health education to clients, as well as having a referral system. In addition, telenursing also still requires a therapeutic relationship between nurses and clients, in telenursing this relationship can be fostered through the use of telephone, internet or other communication tools (Fadhila, 2020).

To become a telenurse, a nurse must have a positive attitude, open mind, knowledge and technology skills. Nurses must be able to assess the client's hospitalization needs and be able to change the treatment plan (Souza, 2015). No service can be delivered effectively without competent communication skills.

CONCLUSION

There is an effect of e-Counseling Education Services (e-CES) on the WHO Quality of Life (WHOQOL) of post-stroke patients during the Covid-19 pandemic. This has become one of the innovative counseling service models in an effort to show services that are practical and can be done anywhere as long as there is an internet connection.

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