


Implementation Of CERDIK Behavior In The Elderly At The Graha Resident Senior Karya Kasih Medan

Sri Martini¹, Angelika Pandiangan², Lilis Novitarum³, Jagentar Pane⁴, Ice Saragih⁵

Nursing Departement, Sekolah Tinggi Ilmu Kesehatan Santa Elisabeth Medan, Jl. Bunga Terompet 118, Medan, Indonesia

Article Info	ABSTRACT
Keywords: Implementation, CERDIK behavior, Elderly	CERDIK behavior is an action that implements clean and healthy living behavior to prevent and reduce the risk of degenerative diseases. This research aims to identify the application and behavior of CERDIK towards the elderly at Graha Resident Senior Karya Kasih Medan. The type of research design is survey research with a population of 70 elderly people. The sampling technique in this research is purposive sampling with a sample size of 40 people. The results of the research show that the implementation of CERDIK behavior towards the elderly at the Graha Resident Senior Karya Kasih Medan 56.1% had good CERDIK behavior. It is hoped that health workers at Graha Resident Senior Karya Kasih Medan will pay more attention to improving the health of the elderly by actively assisting the elderly and implementing CERDIK behavior on a regular basis.
This is an open access article under the CC BY-NC license 	Corresponding Author: Angelika Pandiangan Program Studi Keperawatan, Sekolah Tinggi Ilmu Kesehatan Santa Elisabeth, Jl. Bunga Terompet No. 118 Medan. angelikapandiangaan@gmail.com

INTRODUCTION

Susanti et al. (2021) stated that disease can be explained as a functional disorder in an organism caused by infection or environmental stress. The epidemiological transition is a change in disease patterns from infectious diseases to non-communicable diseases in Indonesia. This is due to better public health services, health education, lifestyle changes, and longer life expectancy. Non-communicable diseases (NCDs) often do not show specific symptoms and are not clearly detected so that they are often not realized from the beginning of their development (Ministry of Health of the Republic of Indonesia, 2016).

The elderly have a high level of susceptibility to disease. WHO states that the elderly are defined as someone aged ≥ 60 years. In this age group, changes or aging processes naturally occur (WHO, 2018). The aging process is a natural process that continues in the elderly. As explained by Maryam et al. (2011), this decline can affect various aspects of the elderly's life, including physical, spiritual, psychological, and psychosocial. Decreased function in the elderly can also be caused by the presence of certain diseases. Therefore, the necessary preventive measures, such as intelligent behavior, are needed to avoid these conditions.

Behavior is an action that can be seen and has a regular pattern in frequency, duration, and purpose, whether or not the person is aware of it (Wawan & Dewi, 2016). Meanwhile, CERDIK is an abbreviation of Check your health regularly, Eliminate cigarette smoke, Be diligent in physical activity, Balanced diet, Get enough rest, and Manage stress (Kementerian Kesehatan, 2018). Therefore, individuals who suffer from hypertension can change their behavior by modifying behaviors included in the CERDIK concept to improve health and control blood pressure.

According to the Ministry of Health (2018), to control hypertension, individuals can adopt CERDIK behavior by checking blood pressure, weight, waist circumference, and cholesterol levels at least once a year. People who smoke regularly should try to quit and exercise vigorously for at least 30 minutes a day, three to five times a week. In addition, they are also advised to follow a healthy and balanced diet by consuming more vegetables and fruits, and reducing foods high in sugar, fat and salt. It is recommended to sleep for 6 to 8 hours every day to get enough rest. Finally, deal with stress by doing things you enjoy, watching TV, or interacting with close friends or other colleagues.

In 2021, around 41 million people or around 71% of total deaths worldwide were caused by NCDs, resulting in the deaths of 36 million people or around 43% of total deaths each year. Around 57 million people or 80% of the number of deaths were in countries with middle and low economies. Of this number, around 9 million people or around 12% died from cancer, 3.8 million people or around 6% from chronic respiratory diseases, 1.6 million people or around 6% from diabetes mellitus, and around 11 million people or around 15% from other NCDs (Ministry of Health of the Republic of Indonesia, 2022).

The Indonesian Ministry of Health stated that 63 million people in Indonesia suffer from high blood pressure, which is around 34.1% of the population aged 18 years and over; 10.9 million people suffer from stroke, which is around 3.7% of the population aged 30 years and over; and 10.3 million people suffer from diabetes mellitus, which is around 2.1% of the population aged 20 to 64 years. According to the Indonesian Ministry of Health, the number of NCDs in East Java has also increased. Currently, there are 2,360,592 people with high blood pressure, which is around 22.71% of the population; 808,009 men (18.99%), and 1,146,412 women (18.76%). Obesity sufferers are also 1,163,118 people, which is around 16%; 4,144 women who have positive IVA, which is around 2.33%; and breast cancer is 1,592 people or around 0.9% in 2021 (Indonesian Ministry of Health, 2022).

The increase in non-communicable diseases is related to bad habits such as smoking, drinking alcohol, lack of physical activity, and lack of fruit and vegetable consumption. To control and stop these diseases, people need to change their lifestyles. High blood pressure is suffered by 76,571 people, or around 14.60%; obesity is 22,217 people or around 27.15%; cancer attacks 122,074 people, or around 5.49%; and diabetes is experienced by 10,752 people, or around 87.4%. These figures come from the Mojokerto Regency Health Profile (Mojokerto Regency Health Office, 2022).

The CERDIK behavior that is best seen in this study is diligently doing physical activity. Some physical activities carried out by housewives (IRT) are such as cleaning and tidying up their homes. Udiani and Hikmandari (2019) said that being physically active for at

least 30 minutes every day can help change CERDIK behavioral habits. Through this physical activity, hypertension can be prevented and the risk of developing Non-Communicable Diseases (NCDs) can be reduced, both at home and at work. Lack of physical activity can increase the risk of obesity which can ultimately lead to hypertension. The heart rate tends to be faster in people who are sedentary, which in turn affects the performance of the heart muscle and causes increased arterial pressure (Wedri et al., 2021).

CERDIK behavior refers to actions that adopt a healthy lifestyle to reduce the risk and prevent NCDs (Yova, 2015). This is a visible movement, whether done intentionally or not (Wawan and Dewi, 2016). CERDIK seeks to motivate the public to have a healthy lifestyle starting from checking their health to managing stress. (Ministry of Health of the Republic of Indonesia, 2018). The government has adopted this program as part of a strategy in handling hypertension. By managing blood pressure through hypertension management practices, the risk of complications and death due to hypertension can be reduced (Ministry of Health of the Republic of Indonesia, 2018).

This study found that there was a correlation between CERDIK behavior and blood pressure of Prolanis program participants. The researchers assumed that this might be due to a number of factors, where most respondents with uncontrolled blood pressure did not undergo regular health checks (50%), were active or passive smokers (73.3%), were less diligent in physical activity (77.8%), did not have a balanced diet (70.4%), did not get enough rest (85.7%), and had poor stress control (77.8%). The study also found that up to 67.6% of people with uncontrolled blood pressure had a history of hypertension in their family. These results are consistent with previous studies that showed a strong relationship between having a history of hypertension and blood pressure control. According to previous research by Lin et al. (2021), older adults who have had high blood pressure are 3.571 times more likely to experience uncontrolled hypertension than older adults who do not have a history of high blood pressure.

In addition to age, non-communicable diseases are caused by other risk factors such as smoking habits, poor diet or eating habits, lack of activity, and drinking alcohol are things that can interfere with health. In addition, NCDs can also be caused by family health history. The results of the 2018 Riskesdas showed that the Indonesian population aged >10 years showed unhealthy behaviors such as smoking habits of 28.8%, consumption of alcoholic beverages of 3.3%, lack of physical activity of 33.5%, lack of consumption of fruits and vegetables of 95.5%. In Indonesia, the number of NCDs is increasing because many people have unhealthy behavior patterns. NCDs are diseases that affect many people. WHO aims to reduce NCDs by controlling metabolic risk factors (such as fat and high blood pressure) and behavioral risk factors (such as smoking, drinking alcohol, and physical activity). In contrast, the National Action Plan to Reduce NCDs outlines the Indonesian government's plan to encourage people to reduce their consumption of salt, fat, sugar, alcohol, and smoking, be more active, and get enough rest (Arifin et al., 2022).

One of the efforts of the Indonesian government through the Ministry of Health has initiated CERDIK and PATUH behavior to control infectious diseases. This behavior is recommended to be carried out every day as a healthy lifestyle by healthy individuals who

are at risk of suffering from non-communicable diseases in order to prevent non-communicable diseases. For people with non-communicable diseases, it is hoped that they will implement the PATUH program which includes regular health checks, treating diseases properly, maintaining diet and nutrition, trying safe physical activities, avoiding cigarette smoke, and alcohol, as well as carcinogenic content. The CERDIK and PATUH programs are security efforts carried out to help healthy people avoid various NCDs. CERDIK and PATUH behaviors have been shown to help avoid and control NCDs in previous studies. Researchers Supriyatin and Novitasari (2022) found a relationship between CERDIK behavior and blood pressure in people who follow prolanis. The researchers found that the more CERDIK behaviors, the better the blood pressure control, so it can be concluded that if people with hypertension implement CERDIK behavior, blood pressure will be controlled within normal limits. 308 Nuraeni et al. Erwanto and Kurniasih's (2020) research shows that there is a real relationship between CERDIK behavior in the community and the incidence of NCDs. The results of the study showed that participants who diligently checked their health, did not smoke, did physical activities at home, consumed fruits and vegetables more than 3 times a week at home, had sufficient rest time (6-8 hours per day), and did not face more stress did not experience NCDs.

From the survey results that the researchers used for the initial study, there were 70 patients being treated at Graha Residence Senior Karya Kasih Medan. There is also a program for the elderly at Graha Residence Senior Karya Kasih Medan, every morning they gather together in the hall and sing together, health checks are carried out on the elderly, such as observations, there are also some elderly people who smoke. This study aims to describe the implementation of CERDIK behavior in the elderly at Graha Residen Senior Karya Kasih Medan City in 2024.

METHODS

The type of research design used in this study is a research design using a study design, namely a survey study, which specifically aims to describe the application of CERDIK behavior in the elderly who are at the Graha Residen Senior Karya Kasih Medan City in 2024. The population in this study were the elderly who were at the Graha Residen Senior Karya Kasih Medan City, totaling 70 elderly. The sampling technique in this study was purposive sampling. Purposive sampling is a sample determination technique with certain considerations in using criteria. The inclusion criteria in this study were willing to be respondents, residing at the Karya Kasih home, while the exclusion criteria for this study were elderly who died and returned with their families. The sample size in this research proposal represents a population of 40 people. The data collection method used the CERDIK behavior questionnaire (Andriana, 2017). Data processing was carried out by editing, coding, scoring and tabulating data.

RESULTS AND DISCUSSION

Detailed demographic data of the elderly based on age, gender and medical history at Graha Residence Senior Karya Kasih Medan in 2024 can be seen in table 1.

Table 1. Frequency Distribution of Respondent Demographic Data

Karakteristicks	Frequency	Prosentase	
Age			
46-55	1	2.5	
56-65	7	17.5	
>65	32	80.0	
Gender			
Male	11	27.5	
Female	29	72.5	
Level of education			
No School	5	12.5	
Promary School	7	17.5	
Junior High School		13	32.5
High School	11	27.5	
College	4	10.0	
Length of Stay (in year)			
1	13	32.5	
2	8	20.0	
3	8	20.0	
4	3	7.5	
5	3	7.5	
6	2	5.0	
7	1	2.5	
9	1	2.5	
10	1	2.5	
Medical history			
There isn't any	23	57.5	
Stroke	8	20.0	
Hipertention	5	12.5	
Heart disesase	1	2.5	
Fraktur	1	2.5	
Uric Acid	1	2.5	
Diabetes Mellitus	1	2.5	
Total	40	100,0	

The results of the study showed that the majority of respondents were elderly aged >65 years, namely 32 people (80%) and a minority of early elderly aged 46-55 years, namely 1 person (2.5%). These results are in line with research conducted by Darmataty, T., Dewi, W. N., & Zulfitri, R. (2023) which found that 98 respondents mostly had a late

elderly age range of 41 people (41.8%). Another study conducted by Ida, et al., (2021) also showed that the characteristics of respondents based on age were found to be the most dominant age in the range of 40-60 years (64.5%). According to the Big Indonesian Dictionary (KBBI) age is the length of time living or existing (since birth or being held). According to Law No. 4 of 1965 Article 1, a person can be declared an elderly person after the person reaches the age of 55 years, does not have or is unable to earn a living for his/her daily needs and receives a living from others.

The results of the study showed that the respondents were predominantly female, totaling 29 people (72.5%) and the minority were male, totaling 11 people (27.5%). This result is in line with research conducted by Darmataty and Zulfitri, (2023) which found that the majority of respondents were female, 71 people (72.4%). This result shows that there are more women than men. The same thing was also stated by the Indonesian Ministry of Health (2019) that there are more elderly women than elderly men, this is because the highest life expectancy is in women. Likewise, according to WHO (2019) which states that the life expectancy of women is longer than that of men.

Based on education level, the results showed that 32.5% of respondents had junior high school education and 10% of respondents had college education. This shows that the elderly who live in Graha Residen Senior Karya Kasih Medan have a decent education, so they can easily accept the information provided. Education provides better and more varied knowledge or cognition. In addition, it is supported by the increasing information technology that facilitates the dissemination of interesting information. This is in line with research conducted by Zulfitri, (2023) which found that the majority of respondents had a high school education of 67 people (68.4%). According to Dharmawati and Wirata (2016) the higher the education, the easier it is to get information and will increase the knowledge they have. In accordance with research by Pitayanti and Priyoto (2021) it explains that healthy living behavior is based on sufficient knowledge as a basis for forming a behavior. Health problems in the elderly are actually a problem that can be prevented.

However, it will be difficult when the level of public knowledge and awareness is low (Sari, et al., 2023). The elderly are expected to have a good mindset and be receptive to information, so they need to be given regular education. The education of the elderly is not limited to school, but the elderly have broader life experiences. This life experience supports the elderly to develop their abilities and personal qualities. The higher the level of education, the greater their ability to utilize their knowledge and skills.

Based on the length of stay of respondents at Graha Residence Senior Karya Kasih Medan, the majority were 1 year with a total of 13 people (32.5%) and the minority were for 7 years, 9 years and 10 years with a total of 1 person (2.5%). This shows that there are some elderly people who have just lived at Graha Residence Senior Karya Kasih Medan and there are also some elderly people who have been taken home by their families. In addition, there was one elderly person who died in the past year. The results of this study are not in line with the study conducted by Moniung, et al., (2015) which found that the length of stay for each elderly person at PSTW Agape Tondano averaged between 1 and 10 years. The results of the study showed that the largest number of respondents who had lived in this

institution for a long time were respondents who had lived for 7-10 years, as many as 23 people (46.0%). The researcher assumes that the length of stay of the elderly varies and tends to have a short length of stay, because the elderly who are advanced in age provide opportunities for unstable psychology so that in a short time the elderly ask to live in their child's house and at other times ask to live at Graha Residence Senior Karya Kasih Medan.

57.5% of respondents at Graha Residence Senior Karya Kasih Medan had no previous medical history and 2.5% of respondents had experienced heart disease, fractures, gout and diabetes mellitus. The aging process is an unavoidable process. In essence, the aging process will cause changes in the elderly and this process makes a major contribution to causing several medical histories in the elderly. Increasing age requires the implementation of SMART behavior. In detail, respondents at Graha Residen Senior Karya Kasih Medan City can be seen in table 2.

Table 2. Frequency Distribution of Respondents Based on the Implementation of CERDIK Behavior at Graha Resident Senior Karya Kasih, Medan City in 2024

Cerdik behavior	Frequency	Prosentase
Good	36	90.0
Bad	4	10.0
Total	40	100

The results of the study showed that the majority of the implementation of CERDIK behavior at Graha Residen Senior Karya Kasih, Medan City was good, as many as 36 people (90%) and bad behavior as many as 4 people (10%). These results are in line with research conducted by Darmataty et al (2023) which showed that the majority had good CERDIK behavior, as many as 55 people (56.1%). Another study that is in line is research conducted by Ida et al (2021) which stated that the characteristics of respondents based on CERDIK behavior in the aspect of hypertension patients routinely checking their health are in the good category. This is due to the awareness of hypertension sufferers of the importance of carrying out health checks as an effective promotive and preventive effort. Respondents have good CERDIK behavior because respondents answered that the majority of respondents are diligent in checking their blood pressure, blood sugar and cholesterol regularly. The majority of respondents do not smoke and are diligent in doing physical activities in the morning, diligently consuming vegetables, fruits, drinking enough water, limiting sweet, salty and fatty foods. The majority of respondents also always wash their hands with clean running water and have enough rest. However, the majority of respondents answered that they rarely measured their waist circumference, read labels on food packaging, and maintained normal body weight.

Regular health checks

Most people will only check themselves if they have complaints, or even some people don't want to check themselves at all because they are afraid of finding out what disease they are suffering from. An example of a case in society is that many women of childbearing age feel a lump in their breast, but do not pay attention. They will come to a health facility if the lump in their breast is very large, especially if there is a wound, pus and blood coming

out of the nipple, and signs of symptoms that point to malignancy. Therefore, let's love ourselves by changing our perspective on health that it is better to prevent and know early on the disease we are suffering from than to experience a severe stage of cancer and complications and it is difficult to treat. Check our health at least check blood pressure, weigh yourself, measure your waistline regularly at least once a month. Currently, there is a PTM posbindu in each sub-district or village that will serve more health checks as mentioned earlier routinely every month.

Eliminate cigarette smoke

There are many diseases related to the risk factors of cigarette smoke, especially diseases that are included in non-communicable diseases. Now we hear the phenomenon of second smokers and third smokers, namely passive smokers who are also at risk of contracting diseases due to exposure to smoke or cigarette residue. The government has also begun to make policies regarding cigarettes through regional regulations on KTR (Smoke-Free Areas), especially in health facilities, schools and public places.

Do physical activity regularly

Implementation of healthy behavior in terms of activity can be done by exercising. Physical activity reduces the risk of breast cancer, the risk of recurrence and death related to breast cancer. Physical activity in women at risk is very necessary to maintain body stamina. A woman who is physically active has the possibility of preventing breast cancer. Physical activity is done to increase the body's metabolism, so that it will maintain a balanced weight.

Recommended physical activity to prevent breast cancer is exercise for at least 30 minutes every day or at least 3 times a week. Survivors shared their experiences during breast cancer therapy, they consumed more fruit than usual, at least 2 glasses of fruit juice a day, reducing the amount of food containing carbohydrates and sugar. Consuming fruit is very good for preventing cancer, because fruit contains fiber and antioxidants that ward off free radicals in the body. Minimizing carbohydrate consumption makes glucose intake not excessive so that insulin can work optimally and there is no spike in blood glucose. The growth of cancer cells becomes stronger and faster with high blood glucose. Consuming balanced nutritious foods can increase the body's immunity and help prevent the growth of cancer cells.

According to WHO, lack of physical activity is one of the risk factors for diseases such as obesity and saterlipidemia. So it is advisable to increase physical activity, especially for office workers who only sit behind (-places to exercise such as office workers not always at the desk. It is advisable to exercise at least 30 minutes a day or for people who have busy lives who do not use elevators and take the time just to relax stiff muscles while working.

Balanced diet

What is meant by a healthy diet here is a diet with food ingredients that do not contain preservatives, are low in fat, sugar, salt and high in fiber. Several studies have shown that by consuming enough vegetables and fruits, namely at least 6 servings a day, blood pressure, blood sugar, blood cholesterol levels can be suppressed, and can also reduce the risk of obesity. Consuming healthy foods is one of the efforts to prevent breast cancer. Women at risk of breast cancer need to consume a variety of healthy foods to

maintain a stable and strong immune system. In principle, all foods can be eaten in limited quantities. Fruit consumption can be increased and it is necessary to consume a variety of fruits. Reduce consumption of alcohol and sugary drinks.

It should be emphasized that all individuals should avoid foods that contain the 4 Ps (flavorings, artificial sweeteners, colorings, and preservatives). Food without flavorings can change the taste of food. It is better to use flavorings that use homemade broth or replace the flavoring with a combination of salt and granulated sugar (I prefer to choose a combination). If you have to use artificial flavorings, try to add the flavorings when the food is finished cooking and the heat has been turned off. Unlicensed food manufacturers often use artificial sweeteners. Excessive consumption of artificial sweeteners will trigger the growth of cancer cells in the body if consumed over a long period of time. Food coloring beautifies the appearance and becomes a special attraction for consumers. If artificial food coloring is used within normal limits, it does not cause excessive effects. However, most food sellers use fabric dyes to color food so that at a low price they can make the greatest profit. Likewise with food preservatives, manufacturers often use food preservatives in the food they make. For housewives, be smart in choosing ingredients to cook. It is safer for a mother to serve healthy food to her family by processing food ingredients that are truly safe and healthy (Novitarum et al., 2023). Get enough rest. Kita dianjurkan untuk mengistirahatkan atau merelaksakan tubuh kita minimal 7-8 jam setiap harinya. Beberapa penelitian yang menyebutkan bahwa orang-orang yang kurang tidur atau sering begadang berpotensi untuk menjadi obesitas atau gemuk (Novitarum, Simanullang and Harefa, 2019; Novitarum et al., 2023).

Manage stress

Women at risk are expected to be able to maintain mental health by maintaining a psychological condition that is always happy and remains enthusiastic. Stress can increase blood pressure. Increased blood sugar levels, or even people who are stressed vent their stress by eating a lot which of course has the potential to become fat. For this reason, stress factors also affect a person's health. Some things to reduce stress are to discuss feelings with people who can be trusted, strengthen each other among family, neighbors and friends, and worship, read books, listen to music (Novitarum et al., 2022).

The Ministry of Health invites the public to be SMART in controlling Non-Communicable Diseases (Kesehatan et al., 2018). Let's head towards a healthy youth, a pleasant old age without non-communicable diseases with SMART behavior. Healthy living is everyone's dream, in a healthy body there is a strong soul. Health is very important for every human being with a healthy body we can carry out daily activities.

CONCLUSION

The results of the study indicate that the implementation and behavior of CERDIK towards the Elderly Graha Residence Senior Karya Kasih Medan are included in the good category. This is supported by good education, facilities and programs available at Graha Resident Senior Karya Kasih Medan which enable the implementation of CERDIK behavior.

REFERENCE

- Andriana S, Y. (2017). Determinan Perilaku “Cerdik” Sebagai Upaya Pencegahan Penyakit Tidak Menular Pada Masyarakat Peserta Posbindu Ptm (Studi Deskriptif Di Puskesmas Gumukmas Kecamatan Gumukmas Kabupaten Jember).
- Darmataty, T., Dewi, W. N., & Zulfitri, R. (2023). Hubungan penerapan perilaku cerdas dengan derajat hipertensi pada pasien hipertensi di masa pandemi covid-19. *Jurnal Ners Indonesia*, 14(1), 1-7.
- Kemntrian Kesehatan RI. 2014. *Petunjuk Teknis Penyelenggaraan Pos Pembinaan Terpadu Penyakit Tidak Menular*. Jakarta: Kemntrian Kesehatan.
- Kesehatan, K. *et al.* (2018) ‘Potret sehat indonesia dari riskesdas 2018’, (Riskesdas 2013), pp. 19–21.
- Kemntrian Kesehatan RI. 2012. *Buletin Data dan Informasi Kesehatan: Penyakit Tidak Menular*.
- Makmur, A. (2016). Mengenal Gejala Stroke dengan Metode FAST. Jakarta
- Maulana, M. F. (2015). Pengaruh Senam Stroke Terhadap Profil Tekanan Dan Denyut Jantung Lansia di Panti Wredha Harapan Ibu Kota Semarang. Universitas Negeri Semarang. National Stroke Association. (2016). Hope After Stroke.
- Notoatmodjo, S. (2010). Promosi Kesehatan Teori dan Aplikasi. Jakarta: Rhineka Cipta
- Novitarum, L. *et al.* (2022) ‘Survivor’s experience in fighting breast cancer’, *Journal of Population Therapeutics and Clinical Pharmacology*, 29(4), pp. 126–133. doi: 10.47750/jptcp.2022.976.
- Novitarum, L. *et al.* (2023) *Bebas kanker Payudara: Kenali dan Hindari Sejak Dini*. Sleman.
- Novitarum, L., Simanullang, M. S. D. and Harefa, S. D. (2019) ‘Domain Kualitas Hidup Pada Pasien Kemoterapi di Rumah Sakit Santa Elisabeth Medan’, *Riset Media Keperawatan*, 2(2), pp. 1–9
- Soelistijo, Soebagijo Adi, dkk. Pengelolaan dan Pencegahan Diabetes Melitus Tipe 2 di Indonesia. Perkeni, Jakarta, 2015.”CERDIK” Langkah Penting Cegah Penyakit Tidak Menular. Pusat Komunikasi Publik Sekretariat Jenderal Kementerian Kesehatan RI.
- Ida, M., Fatmawati, B. R., Prihatin, K., Arifin, Z., & Albayani, M. I. (2021). health literacy dan perilaku cerdas penderita hipertensi dimasa pandemi covid-19. *Jurnal Keperawatan Aisyiyah*, 8(1), 59-67.
- Isnawati. 2016. Kualitas Pelayanan Kesehatan pada Pusat Kesehatan Masyarakat (Puskesmas) Sempaja di Kota Samarinda. Fakultas Ilmu Sosial dan Ilmu Politik, Universitas Mulawarman. E-Journal Administrasi Negara, Volume 4, Nomor 2 :2673-2685.
- Kemntrian Kesehatan RI. 2014. *Petunjuk Teknis Penyelenggaraan Pos Pembinaan Terpadu Penyakit Tidak Menular*. Jakarta: Kemntrian Kesehatan.
- Kemntrian Kesehatan RI. 2012. *Buletin Data dan Informasi Kesehatan: Penyakit Tidak Menular*.
- Pitayanti, A., & Priyoto. (2021). Edukasi Perilaku CERDIK dan PATUH dalam Pengendalian Hipertensi. *Jurnal Bhakti Civitas Akademika*, 4(2), 15–22.

- Sari, N., Dewi, L. A., Rafliansyah, R., Ramadani, A. B., 9Zainuddin, F. A., Marzuki, M. F., ... & Assyarifah, K. (2023). Penyuluhan Perilaku CERDIK dan PATUH sebagai Upaya Penanggulangan Hipertensi pada Lansia di Desa Tonasa, Takalar. *Poltekita: Jurnal Pengabdian Masyarakat*, 4(1), 1-10.
- Wulan. (2015). "Analisis Faktor Penyebab Lanjut Usia Tinggal Di Panti Werdha (Panti Sasana Tresna Werdha Karya Bakti Ria Pembangunan Cibubur, Jakarta Timur)." in *Skripsi Ilmu Kesejahteraan Keluarga*. Jakarta: Fakultas Teknik Universitas Jakarta.