

COUNSELING AND SCREENING FOR RISK FACTORS FOR HYPERCHOLESTEROLEMIA IN CLASS II A WOMEN'S CORRECTIONAL INSTITUTIONS BANDAR LAMPUNG CITY IN 2024

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Abstract

The prevalence of hypercholesterolemia worldwide reaches around 45%. In the Southeast Asia region, the prevalence rate of hypercholesterolemia is around 30%, while in Indonesia it reaches 35%. Then the prevalence of high cholesterol levels in Lampung Province in 2018 reached 53.2%, this shows that in Lampung Province people with dyslipidemia are still high. The aim of this service is health screening and counseling to increase the knowledge of inmates regarding cholesterol disease. The service method is to carry out health screening such as checking blood pressure, weight, height and BMI then carrying out counseling activities related to preventing cholesterol disease. The service was carried out on January 19 2024 with a sample size of 235 inmates. at the Class IIA Women's Correctional Institution in Bandar Lampung City. The results of the service showed that those with good knowledge were 70.6% and those with poor knowledge were 29.4%. 21.7% of their families had a history of cholesterol and 78.3% of those did not have a history of cholesterol. experienced an increase in cholesterol levels by 72.8% and those who did not experienced an increase in cholesterol levels by 26.0%. had a BMI of very thin (0.9%), thin (69.8%), normal (22.1%) and fat (7.20%). The education level of the people who most often participate in this service is high school (66.0%). The people who most often participate in this service are aged 25-35 years (33.6%) and aged 36-45 years (32.3%). It is hoped that health workers can continue to improve health education and education regarding NCDs, especially cholesterol.

Keywords: Cholestro, Knowledge, PTM

INTRODUCTION

Cholesterol is a lipophilic molecule that is essential for human life and plays many roles that contribute to the normal function of cells. For example, cholesterol is an important component of cell membranes, contributing to the structural organization of membranes and regulating their fluidity (Azzahra & Zuhrotun, 2022). Cholesterol functions as a precursor molecule in the synthesis of vitamin D, steroid hormones (such as cortisol, aldosterone, and adrenal androgens), and sex hormones (such as testosterone, estrogen, and progesterone). Cholesterol is also a component of bile salts, which are used to facilitate the absorption of fat-

soluble vitamins A, D, E, and K during digestion. Cholesterol can be dangerous for the body if it reaches abnormal blood levels. When LDL cholesterol levels are too high, a condition called hypercholesterolemia increases the risk of early stage atherosclerosis disease (ASCVD)(Trisartiaka & Agustina, 2022).

Non-communicable diseases are chronic diseases that cannot be transmitted to other people. In Indonesia, this health problem continues to receive great attention currently along with the increase in non-communicable diseases caused by the unhealthy lifestyle of many people (Risikesdas, 2018). The increasing prevalence of non-communicable diseases (NCDs) is caused by various factors such as genetic factors, environmental factors and lifestyle. Non-Communicable Diseases (NCDs) are diseases that are not caused by infection with microorganisms such as viruses, bacteria, parasites or fungi. (Citizen & Nur, 2016).

Hypercholesterolemia is estimated to cause around 2.6 million deaths and 29.7 million disabilities each year. This state of hypercholesterolemia is a risk factor for various diseases. Research shows that high cholesterol is associated with an increased risk of coronary heart disease, stroke, high blood pressure, and obesity. Hypercholesterolemia often does not cause typical symptoms, and blood tests are needed to detect hypercholesterolemia. Hypercholesterolemia occurs if the test results show a cholesterol level of more than 200 mg/dL. According to the World Health Organization (WHO), the prevalence of hypercholesterolemia in 2019 was around 45% worldwide. In the Southeast Asia region, the prevalence of hypercholesterolemia is approximately 30%, while in Indonesia it reaches 35%. Second, the prevalence of high cholesterol in Lampung Province itself reached 53.2% in 2018. This indicates that there are quite a lot of dyslipidemia sufferers in Lampung Province and it is common in society. As we age, body organ function decreases, LDL receptor activity decreases, fatty plaque in the body increases, and total cholesterol levels increase, but HDL cholesterol levels remain relatively unchanged (Lestari et al., 2018).

Aging is a natural phenomenon and cannot be avoided. Adulthood is a time when the body reaches its maximum point and begins to shrink due to a reduction in the number of cells in the body. As a result, body functions slowly decline. This decline in function is often called the aging process (Alpin, 2016).

There are two types of health screening: primary prevention and selective secondary prevention. Primary prevention is carried out in healthy people by looking at their health history, and secondary prevention is carried out in people who are at high risk of chronic disease or cancer. The aim of health checks is to identify early risk factors for disease and increase awareness of the importance of maintaining one's health (Cholifah et al., 2019).

Apart from that, these efforts are also made to prevent excessive medical costs as well as morbidity and death rates due to this disease (Choirotussanijjah & Salim, 2022). Counseling is public health education and is an activity or effort to convey health messages to a community, group or individual so that they can gain better knowledge about health and ultimately improve people's behavior. I hope my health and health will change. Processes have input and output (Iyong et al., 2020). Health education is carried out on the basis of learning principles for the community to gain knowledge and change the will to achieve the desired life conditions and find ways to achieve these conditions individually and collectively (Muzdalia et al., 2022).

According to (Indonesian Ministry of Health, 2022) it is stated that health education is the expansion of knowledge and skills aimed at changing healthy living behavior in individuals,

groups and communities and is provided through learning or teaching. Dissemination activities can be carried out through two-way communication, where the communicator (advisor) creates opportunities to communicate and provide feedback on the material provided. It is hoped that interactive discussions in two-way communication can trigger desired behavioral changes. The success of health education depends not only on the content presented, but also on the interpersonal relationship between the giver and recipient. A direct measure of the success of expansion is the similarity of meaning or understanding of what is communicated by the communicator and what is received by the communicator. Extension activities provide education and inform target groups about the introduction of new ideas. This emphasizes the importance of the material not only for the communicator, but also for the communicator, ensuring that interests and motivations are aligned in bringing about behavioral change (Notoatmojo, 2014).

This community service aims to provide health examination services for non-communicable diseases, especially cholesterol, to inmates at the Class IIA Women's Detention Center in Bandar Lampung City. This training aims to expand knowledge about hypertension in WBP. This activity is expected to be the first step in preventing and minimizing the impact of cholesterol.

Based on the background that has been explained, researchers are interested in developing outreach and screening to increase knowledge about WBP. Therefore, researchers are interested in developing a research paper with the following title: "Education and screening for risk factors for hypercholesterolemia in the Class II A Women's Correctional Institution, Bandar Lampung City in 2024."

IMPLEMENTATION METHOD

Community service activities were carried out on Saturday 19 January 2024 with a sample size of 235 assisted residents. The sample used in this research was a sample that had been determined by health officers at the Class IIA Women's Correctional Institution in Bandar Lampung City.



Figure 1. Atmosphere of Material Delivery

Before conducting counseling, the preparations made were to coordinate with related parties such as the head of the Class IIA Women's Community Institution in Bandar Lampung City and the staff involved. Preparing outreach tools, namely laptops and LCDs as well as questionnaire sheets for media during outreach/education and distributing snacks to residents assisted by the Class IIA Women's Community Institution in Bandar Lampung City and providing door prizes.



Figure 2. Health check atmosphere

Apart from counselors, there are activities such as checking cholesterol levels for free, measuring body height, weight and BMI as well as discussions and questions and answers to increase the inmates' understanding of the material that has been presented.

RESULTS AND DISCUSSION

The results of community service activities that have been carried out can be seen in the explanation below:

Table 1. Frequency Distribution of Target Groups Based on Age

Age (Years)	Frekuensi	Persentase (%)
17-25	18	7,70
26-35	79	33,6
36-45	76	32,3
46-55	62	26,4
Total	235	100,0

The number of people who took part in community service activities was 235 respondents. The people who most often participate in this service are aged 25-35 years (33.6%) and aged 36-45 years (32.3%).

Table 2. Frequency Distribution Based on Education

Education	Frekuensi	Persentase (%)
Didn't graduate from elementary school	12	5,1
SD	18	7,7
SMP	35	14,9
SMA	155	66,0
PT	15	6,4
Total	235	100,0

The number of people who took part in community service activities was 235 respondents. The education level of the people who most often participate in this service is high school (66.0%).

Table 3. Frequency Distribution Based on length of detention

Length of detention	Frekuensi	Persentase (%)
>3 year	152	64,68
<3 year	83	35,51
Total	235	100,0

A total of 235 people in the Class IIA Women's Community Institution in Bandar Lampung City were targeted in this community service activity. Most of the inmates were detained for >3 years (64.68%)

Table 4. Frequency Distribution Based on BMI

IMT	Frekuensi	Persentase (%)
Very thin	2	0,9
thin	52	69,8
Normal	164	22,1
Fat	17	7,20
Total	235	100,0

Of the 235 inmates at the Class IIA Women's Community Institution in Bandar Lampung City, those with a BMI were very thin (0.9%), thin (69.8%), normal (22.1%) and fat (7.20%).

Table 5. Frequency distribution of cholesterol measurement results

cholesterol measurement results	Frekuensi	Persentase (%)
Increased	171	72,8
No increase	64	27,2
Total	235	100,0

Of the 235 inmates at the Class IIA Women's Community Institution in Bandar Lampung City, 72.8% experienced an increase in their cholesterol levels and 26.0% did not experience an increase in their cholesterol levels.

Table.6 Frequency Distribution Based on Family Cholesterol History

Family Cholesterol History	Frekuensi	Persentase (%)
Yes	51	21,7
No	184	78,3
Total	235	100,0

Of the 235 inmates at the Class IIA Women's Community Institution in Bandar Lampung City, 21.7% of those in their families had a history of cholesterol and 78.3% of those without a history of cholesterol.

Table 7. Frequency Distribution Based on Knowledge

Knowledge	Frekuensi	Persentase (%)
Good	166	70,6
Bad	69	29,4
Total	235	100,0

Of the 235 inmates at the Class IIA Women's Community Institution in Bandar Lampung City, 70.6% had good knowledge and 29.4% had poor knowledge.

DISCUSSION

It is very important to carry out this outreach with the target community, because it is to increase knowledge and insight into cholesterol disease. Results obtained from outreach activities to the community at the Class IIA Women's Community Institution in Bandar Lampung City.

Based on the results obtained at the Class IIA Women's Community Institution in Bandar Lampung City in 2024, those with good knowledge were 70.6% and those with poor knowledge were 29.4%. 21.7% of their families had a history of cholesterol and 78.3% of those did not have a history of cholesterol. experienced an increase in cholesterol levels by 72.8% and those who did not experienced an increase in cholesterol levels by 26.0%. had a BMI of very thin (0.9%), thin (69.8%), normal (22.1%) and fat (7.20%). The education level of the people who most often participate in this service is high school (66.0%). The people who most often participate in this service are aged 25-35 years (33.6%) and aged 36-45 years (32.3%).

Cholesterol is a component of fat formation. Fat contains various components such as triglycerides, phospholipids, free fatty acids, and cholesterol. In general, cholesterol functions to build walls (cell membranes) in body cells. In addition, cholesterol plays an important role in the production of sex hormones and vitamin D, as well as the performance of nerve and brain functions (Karminingtyas et al., 2021). The aim of health checks is to identify early risk factors for disease and increase awareness of the importance of maintaining one's health (Cholifah et al., 2019).

Although knowledge is an important predisposing factor, increasing knowledge does not always lead to changes in behavior. Mothers' knowledge about cholesterol due to the use of used cooking oil influences the occurrence of disease, and knowledge about cholesterol, disease or health problems can influence motivation to take preventive measures. Knowledge is not the only factor that influences the appearance of cholesterol, but is a permanent aspect that is very important for human behavior (Nadirawati & Muthmainnah, 2010)

Knowledge plays a very important role in implementing a low cholesterol diet, because it influences the behavior of elderly people who routinely store and consume high amounts of cholesterol every day (Trisartiaka & Agustina, 2022).

The inmates at the Class IIA Women's Community Institution in Bandar Lampung City are very active in asking and answering questions given by the presenters, and judging from this situation, it turns out that the people easily understand and listen well to the material presented, they are starting to know a lot about cholesterol disease.

CONCLUSION

Based on the results of the service that has been carried out, it can be concluded that 70.6% of the inmates have good knowledge and 29.4% have poor knowledge. 21.7% of their families had a history of cholesterol and 78.3% of those did not have a history of cholesterol. experienced an increase in cholesterol levels by 72.8% and those who did not experienced an increase in cholesterol levels by 26.0%. had a BMI of very thin (0.9%), thin (69.8%), normal (22.1%) and fat (7.20%). The education level of the people who most often participate in this service is high school (66.0%). The people who most often participate in this service are aged 25-35 years (33.6%) and aged 36-45 years (32.3%). It is hoped that health workers can continue to improve health counseling and education related to NCDs, especially cholesterol, to improve the health status of assisted residents in Class IIA Women's Community Institutions in Bandar Lampung City. It is hoped that the inmates will be able to carry out GERMAS such as exercising regularly, regularly checking their cholesterol, consuming foods low in cholesterol.

REFERENCES

- Alpin, H. (2016). The relationship between joint movement function and the level of independence of the elderly at the Tresna Werdha Gau Mabaji Social Home, Gowa Regency. *Sandi Husada Health Scientific Journal*, 4(1), 43–49. <https://doi.org/10.35816/jiskh.v4i1.84>
- Azzahra, R. W., & Zuhrotun, A. (2022). Indonesian Journal of Biological Pharmacy Review Article: Potential Anti-Cholesterol Plants Based on In-Vitro Studies. *Indonesian Journal of Biological Pharmacy*, 2(2), 67–75. <https://jurnal.unpad.ac.id/ijbp/article/download/39708/pdf>
- Choirotussanijjah, C., & Salim, H. M. (2022). Health Screening in PP. KHA. Wahid Hasyim, Bangil. *National Seminar on Community Service 2021*, 1(1), 121–125. <https://doi.org/10.33086/snpm.v1i1.796>
- Cholifah, Ameli, P., & Nisak, U. K. (2019). *PUBLIC HEALTH SCIENCES COURSE TEXTBOOK* Published by UMSIDA PRESS (Vol. 1).

- <https://press.umsida.ac.id/index.php/umsidapress/article/download/978-602-5914-93-5/1036/>
- Iyong, E. A., Kairupan, B. H. R., & Engkeng, S. (2020). The Influence of Health Education on Knowledge about Balanced Nutrition among Students at SMP Negeri 1 Nanusa, Talaud Regency. *Journal of Public Health*, 9(7), 59–66. <https://ejournal.unsrat.ac.id/index.php/kesmas/article/view/31613/30196>
- Karminingtyas, S. R., Vifta, R. L., & Lestari, P. (2021). Early Prevention of the Dangers of Cholesterol and Its Concomitants Through Processing Used Cooking Waste into Multi-Purpose Waste Soap. *Indonesian Journal of Community Empowerment (Ijce)*, 3(1), 6. <https://doi.org/10.35473/ijce.v3i1.890>
- Indonesian Ministry of Health. (2022). Indonesian Health Profile 2021. In Farida Sibue (Ed.), *Pusdatin.Kemendes.Go.Id (2021st ed.)*. Ministry of Health of the Republic of Indonesia. <https://www.globalhep.org/sites/default/files/content/resource/files/2022-11/Profil-Kesehatan-2021.pdf>
- Lestari, A., Handini, M. C., & Sinaga, T. R. (2018). Risk factors of dyslipidemia events in the elderly (Case study of control in the elderly in the elderly polyclinic Bangkinang Hospital Kampar Regency 2016 - 2017). *Hesti Medan Research Journal*, 3(2), 16–26. <https://jurnal.kesdammedan.ac.id/index.php/jurhesti/article/download/35/32>
- Muzdalia, I., Darmawan, S., La, S., & Muzzakkir. (2022). Learning Health Promotion (Burchanuddin (ed.); First). Eksismedia Grafisindo. [https://repository.unibos.ac.id/xmlui/bitstream/handle/123456789/709/BELAJAR PROMOSI KESEHATAN.pdf?sequence=1&isAllowed=y](https://repository.unibos.ac.id/xmlui/bitstream/handle/123456789/709/BELAJAR%20PROMOSI%20KESEHATAN.pdf?sequence=1&isAllowed=y)
- Nadirawati & Muthmainnah, N. N. (2010). Housewives' knowledge about cholesterol and the use of used cooking oil. *Soedirman Nursing Journal*, 5(2), 58–65. <https://media.neliti.com/media/publications/106505-ID-knowledge-ibu-rumah-tangga-tangan-kol.pdf>
- Notoatmojo, S. (2014). *Health Behavior Science (2nd)*. Pt. Rineka Cipta.
- Riskesdas. (2018). 2018 National Riskesdas Report.pdf. In Balitbangkes Publishing Institute. [https://repository.badanpolitik.kemkes.go.id/id/eprint/3514/1/National 2018 Riskesdas Report.pdf](https://repository.badanpolitik.kemkes.go.id/id/eprint/3514/1/National%202018%20Riskesdas%20Report.pdf)
- Trisartiaka, R. C., & Agustina, F. (2022). The Relationship between Knowledge and Compliance of the Elderly in Efforts to Control Cholesterol Levels. *Babul Ilmi Multi Science Health Journal*, 14(1). <https://doi.org/10.36729/bi.v14i1.816>
- Warganegara, E., & Nur, Nida Nabilah. (2016). Behavioral Risk Factors for Non-Communicable Diseases. *Majority*, 5(2), 88–94. <http://juke.kedokteran.unila.ac.id/index.php/majority/article/view/1082>