PROCEEDING
3rd International Conference of Health Polytechnic of Jambi 2024
icon@poltekkesjambi.ac.id
http://journal.poltekkesjambi.ac.id/index.php/ICoHPJ
doi.org/10.35910/icohpj.v3i0

THE RELATIONSHIP OF MENSTRUAL STATUS AND AGE WITH CHOLESTEROL LEVELS IN THE COMMUNITY'S BLOOD TALANG BANJAR DISTRICT, JAMBI CITY

Iin Indrawati[1], Faridah[2]
[1]Undergraduate Study Program in Nutritional Sciences STIKes Baiturrahim Jambi
[2]DIII Study Program in Physiotherapy STIKes Baiturrahim Jambi
Correspondence Email: iinjan737497@gmail.com

ABSTRACT

Background: Cholesterol levels in women and men naturally increase with age. Menopause is often associated with increased cholesterol in women. This research aimed to see the relationship between menstrual status and age on cholesterol levels in the body.
Method: This research is a quantitative study with a cross-sectional design. The population of this research were residents of Talang Banjar sub-district, especially RT 29 and 30, who took part in the weekly exercise for mothers, totaling 52 people. Sample selection using a total sampling technique. Data were processed univariately and bivariately using Simple Linear Regression statistical tests to find relationships between the variables studied. The research was conducted on a women's exercise group in Talang Banjar Village, Jambi City.
Results: The results of the research showed that in the community of Talang Banjar Village in the women's exercise group, the majority, namely 37 people (71.15%) had menopause, 32 people (61.5%) were aged < 60 years (adults), and 40 people (76.93%)) have borderline high cholesterol levels (≥ 200 mg/dl).
Conclusion: There is a relationship between menstrual status and cholesterol levels with a significance value of 0.019 and an R Square of 0.106. There is a relationship between age and cholesterol levels with a significance value of 0.004 and an R Square of 0.152. It is necessary to remind every woman who is starting to enter the menopause phase and is entering pre-senior age that she must be careful in maintaining the condition of her body, especially in terms of consuming foods that contain saturated fat or trans fat and can regulate the pattern and type of food that will be consumed. check your cholesterol levels regularly as an anticipatory measure to prevent and control cholesterol levels in the body.

Keywords: Menstrual Status, Age, Cholesterol Levels

INTRODUCTION

Currently, efforts are growing rapidly to look for various factors that play a role in the emergence of various disease problems. Bearing in mind that the factors that because disease are more complex, so in epidemiology, we take a more risk-factor approach. Individual healthy living habits and people's beliefs about things related to health provide many risk values that often appear in epidemiological analyses of disease occurrence in society. Behavior is closely related to age, gender, ethnicity and race, occupation, social and economic status, and various other aspects of life.

In observational activities or epidemiological research, the role of vulnerability factors plays quite an important role. Individual characteristics such as age, marital status, menstrual status, gender, and so on are often risk factors for the occurrence of certain diseases such as infectious diseases, non-communicable diseases, metabolic diseases, degenerative diseases, and others. Some conditions that occur can be bad if someone is not aware of the situation.

One of the actions chosen to improve public health to reduce morbidity and

mortality rates is to raise awareness among the public about their physitoconditions. People need to be aware of the dangers that threaten their health, for example by knowing cholesterol levels in the blood, high or uncontrolled cholesterol levels can cause dangerous diseases. Starting from the age of 20, cholesterol levels tend to increase, with men at higher risk, but women's risk increases as they reach menopause. A slim or even thin body shape does not guarantee that someone has a safe cholesterol level. For this reason, make sure everyone has a good life cross-sectional body intending to be normal.

Sri Ujani's (2015) research results show that there is no significant relationship between gender and cholesterol levels, but women have a greater risk of experiencing increased cholesterol levels. Before menopause, women tend to have lower total cholesterol levels than men of the same age. Cholesterol levels in women and men naturally increase with age. Menopthis research aimedh increased cholesterol in women. In theory, age and gender factors influence blood cholesterol levels. In childhood, women have higher cholesterol values than men. Men show a significant decrease in cholesterol during adolescence, due to the influence of the hormone testosterone which increases during that time. Adult men over 20 years generally have higher cholesterol levels than women. After women reach menopause, they have higher cholesterol levels than men. This is due to reduced activity of the hormone estrogen after women experience menopause. Many other factors such the as influence cholesterol levels, including exercise, smoking, drinking alcohol, and so on were not observed by researchers during the study (Ujani, 2015).

The word cholesterol is often thrown around when eating together, on food labels, or in health advertisements. Cholesterol is a lipid or fat produced by liver cells and other body cells. Cholesterol has three main functions, namely making the outer layer of cells, helping digest food, and helping produce Vitamin D which produces sexual hormones in men and women. With this function, cholesterol is very important for our body. However, cholesterol will backfire if the levels are too high because it can cause various cardiovascular diseases such as heart disease, stroke, poor blood circulation, and so on. Blood cholesterol levels are the best indicator for determining whether someone will suffer from heart disease or not. In the blood, cholesterol is carried by protein. The combination of the two is called lipoprotein. The two main types of lipoproteins are low-density lipoproteins (LDL) which are usually called bad cholesterol and high-density lipoproteins (HDL) which are usually called good cholesterol. LDL's job is to transport cholesterol from the liver to the cells that need it. However, if the amount of cholesterol exceeds requirements, it can deposit on the walls of the arteries, causing disease (wikipedia, 2022). If the cholesterol level in the blood exceeds normal levels, then this condition is called hypercholesterolemia or high cholesterol. High cholesterol conditions can increase the risk of serious disease.

Based on the data and reasons explained above, researchers are interested in raising the research title "The Relationship between Menstrual Status and Age and Cholesterol Levels in the Blood of the Community in Talang Banjar Village, Jambi City". Researchers realize that this factor is a factor that cannot be avoided but can be prepared in good body condition so that it can anticipate uncontrolled cholesterol levels in the blood when a person gets older and enters menopause for women.

METHODS

This research is a quantitative study with a cross sectional design, with the aim of seeing the relationship between menstrual status and age with blood cholesterol levels using a simple linear regression statistical test.

The population in this study were women and mothers' exercise groups in Talang Banjar Village, Jambi City, especially those in RT 29 and 30 with a total of 52 people. The sampling technique used was total sampling.

RESULTS AND DISCUSSION

The aim of this research was to see the relationship between menstrual status and age with cholesterol levels in the blood of the people of Talang Banjar Village, Jambi City. The results obtained after conducting research in the form of collecting data directly in the community can be described as follows:

Menstrual Status, Age and Community Blood Cholesterol Levels

The menstrual status, age and cholesterol levels of the Talang Banjar Village community, especially mothers who take part in weekly exercise activities in RT 29 and 30, was data directly by the research team and the description can be seen in table 1 below

Table 1. Description of the Menstrual Status, Age and Blood Cholesterol Levels of the Community in Talang Banjar Village, Jambi City

No	Menstruation Status	n	%
1	Menstruation	15	28.85
2	Menopause	37	71.15
	Total	**52**	**100**
No	**Age**	**n**	**%**
1	Adult (<60 Years)	32	61.54
2	Elderly (≥ 60 years)	20	38.46
	Total	**52**	**100**
No	**Blood Cholesterol Levels**	**n**	**%**
1	< 200 mg/dl (still tolerable)	12	23.07
2	≥200 mg/dl (High threshold)	40	76.93
	Total	**52**	**100**

In table.1 Menstruation status can be seen that the majority of respondents, namely 37 people (71.15%) have menopause, this shows the condition of the menstrual status of the people of Talang Banjar sub-district, most of whom have entered a state of infertility. During this period, a person will usually experience hormonal changes, especially estrogen, which will also affect their physical health. Menopause is a process that causes women to no longer experience menstruation. Although it can have a big impact on women's health, as the beginning of a new phase, menopause is not a disease (Buleleng Regional Hospital, 2019).

Age can be seen that more than half of the respondents were <60 years old (adults), namely 32 people (61.54%). This age shows the age that is still considered adult and pre-elderly. Respondents who were elderly were 20 people (38.46%). According to WHO, elderly people are 60- 74 years old. Elderly is an advanced stage of a life process characterized by a decrease in the body's ability to adapt to environmental stress. The high number of mothers entering old age certainly requires special attention in maintaining their health, because as people get older they will experience a process of decreasing ability and health, one of which is a lack of collagen production and experiencing menopause.

Blood cholesterol levels shows that there were more respondents who had high threshold cholesterol levels (≥ 200 mg/dl), namely 40 people (76.93%) compared to respondents who had cholesterol levels that were still tolerable (<200 mg/dl), namely 12 people (23 .07%). This is quite worrying considering the impact that may occur due to uncontrolled cholesterol levels. These dangers can include the emergence of dangerous diseases and even loss of life (death). This data is the basis for health workers to create programs to prevent diseases that occur as a result of uncontrolled cholesterol levels in the blood.

The relationship between Menstrual status and age with cholesterol levels in the blood and of the people of Talang Banjar Village, Jambi City

In hypothesis testing to see the relationship between the menstrual status variable and the blood cholesterol level variable, bivariate analysis was used, tested using a statistical test, namely simple linear regression.

Analysis of test results can be seen in table.2 below

Table 2. The Relationship between Menstrual Status and age Cholesterol Levels in the Blood of the Community in Talang Banjar Village, Jambi City

	Col. still tolerable		High Threshold		Total		p-value	R square
	n	%	n	%	n	%		
Mens. Status								
Yes	7	46.7	8	53.3	15	100		
No	5	13.5	32	86.5	37	100	0.019	0.106
Total	12	23.1	40	76.9	52	100		
Age								
Mature	12	37.5	20	62.5	32	100		
Elderly	0	0	20	100	20	100	0,004	0,152
Total	12	23.1	40	76.9	52	100		

Table. 2 explains the relationship between the menstrual status and the age with the blood cholesterol levels. That 5 people (13.5%) of respondents who had not experienced menstruation had cholesterol levels that were still tolerable and 32 people (86.5%) who had not experienced menstruation had their cholesterol levels at the high threshold. Statistical test results using a simple linear regression correlation test. The significance value from the Coefficients table obtained a significance value of 0.019 <0.05, so it can be concluded that the menstrual status variable (X) is related to the cholesterol level variable (Y). The R Square coefficient of determination was obtained at 0.106, which means that the influence of the menstrual status variable on the blood cholesterol level variable is 10.6%.

Looking at the results of statistical tests which explain the relationship between the condition of a person who no longer menstruates and an increase in cholesterol levels, it is necessary to remind every woman who is starting to enter the menopause phase that she must be careful in maintaining her body condition, especially in terms of consuming foods containing saturated fat. or trans fat. Because this can result in an increase in cholesterol levels in the blood. A low-fat diet is a good way to control blood cholesterol levels, this is something that must be instilled in society, especially in mothers who are.

The diagnosis of menopause is made after there has been amenorrhea for at least one year. Cessation of menstruation may be preceded by longer menstrual cycles, with reduced bleeding (Lubis, 2012). Every woman who experiences menopause shows almost the same reaction, both psychologically and physically. Entering menopause earlier is found in nulliparous women, women with diabetes mellitus (NIDDM), heavy smokers, malnourished women, vegetarian women, women with low socioeconomic status and women who live at an altitude of > 4,000m. Multiparous women and women who consume a lot of meat or drink alcohol will experience menopause more slowly (Lubis, 2012).

Cholesterol is actually beneficial for body health. Cholesterol helps the body produce vitamin D, a number of hormones, and bile acids to digest fat. Cholesterol at appropriate levels is actually needed by the body to help build new cells so that the body can continue to function normally. However, if cholesterol levels are too high, then this is dangerous for the body because it will cause various diseases and complications. Cholesterol itself is a waxy fatty compound which is mostly produced in the liver and some is obtained from food. In general, heart attacks and strokes are diseases that lurk in people with high cholesterol, which are caused by excessive cholesterol deposition in the blood vessels. The recommended blood cholesterol levels for each person vary, depending on whether each person has a higher or lower risk of developing arterial disease. As people age, cholesterol levels tend to increase, with men at higher risk. However, women's risk increases when they reach menopause. This is in line with the results of statistical tests in this study where the results explain the relationship between menopausal conditions and cholesterol levels in the blood.

Cholesterol biosynthesis is directly regulated by existing cholesterol levels, although the Mechanism homeostasis

involved is only partially understood. Higher intakes from food cause a net decrease in endogenous production, whereas lower intakes from food have the opposite effect. The main regulatory mechanism is cholesterol sensing intracellular inendoplasmic reticulumby protein SREBP(sterol regulatory element-binding protein 1 and 2).

Some foods that are on the list of types of food that have high cholesterol and are not recommended to be consumed in excess are fried foods, beef brains and innards, egg yolks, liver, butter, shrimp, fast food. However, there are also several types of food that are recommended for consumption because they can help reduce or balance cholesterol in the blood. The types of food are: wheat grains and various types of cereals with the epidermis still intact, oils derived from plants such as canola oil, sunflower and olive oil, fish (consume around 2-3 servings of fish per week), nuts such as red beans and almonds, consume apples, grapes and oranges which are rich in pectin, a soluble fiber that suppresses LDL. Eggplant also contains high levels of soluble fiber, apart from consuming avocados which are high in unsaturated fat content, then consuming soybeans and processed products from soybeans, such as tempeh, tofu and soy milk (Aulia, 2017).

This research has proven the relationship between menopausal conditions in a woman and cholesterol levels in the blood. Where someone entering menopause must be more vigilant than other women in consuming foods identified as containing cholesterol in order to maintain their old age in a healthy condition regardless of the threat of disease that could occur if their cholesterol levels enter the high threshold.

The age variable that all elderly respondents (≥ 60 years) had cholesterol levels within the high threshold, namely 20 people (100%). Statistical test results using a simple linear regression correlation test The significance value from the Coefficients table obtained a significance value of 0.004 <0.05, so it can be concluded that the age variable (X) is related to the cholesterol level variable (Y). The R Square coefficient of determination was obtained at 0.152, which means that the influence of the age variable on the variable of cholesterol levels in the blood is 15.2%.

Looking at the data from statistical tests which show that there is a relationship between the variable age and cholesterol levels in the blood with a magnitude of 15.2%, it is necessary for all people who are starting to enter old age to be aware of how to regulate the pattern and type of food they will consume. If you look at the large influence of age on blood cholesterol levels, namely 15.2%, then this can be considered quite serious. For elderly people who are known to experience a decrease in cell regeneration during the aging process, they need to be selective in choosing the type of food. Because in theory it is known that cholesterol is also beneficial for body health, including regenerating cells.

Cholesterol at appropriate levels is actually needed by the body to help build new cells so that the body can continue to function normally. With this function, cholesterol is very important for our body.

However, cholesterol will backfire if the levels are too high, because it can cause various cardiovascular diseases such as heart disease, stroke, poor blood circulation, and so on. The recommended blood cholesterol levels for each person vary. It depends on each person whether they have a higher or lower risk of developing arterial disease. When deposits occur on the artery walls due to excessive cholesterol levels, obstructions to blood flow in the heart, brain and other parts of the body can occur. High cholesterol increases a person's risk of narrowing of the arteries or atherosclerosis, blood clots in certain parts of the body, mild stroke, stroke, and heart attack.

When seniors eat together with younger groups, they should not be tempted to eat freely. Remembering that the body's abilities have changed differently from when they were young. Consuming foods that contain cholesterol can be done by remembering whether the type of cholesterol in the food is LDL or HDL. Considering this, some people consider old age to be an unpleasant time. The aging process can be seen physically by the changes that occur in the body and various organs.

An elderly person is someone who has reached the age of 60 years or above. According to Health Law no. 23 of 1992, an elderly person is someone who, due to age, experiences physical, psychological and social changes. These changes have an impact on all aspects of life, including health. The aging process is a process of gradual loss of the tissue's ability to repair itself and maintain its normal structure and function so that it cannot withstand disease (including infection) and loses the ability to repair the damage suffered.

There are several steps that can help keep cholesterol stable, namely consuming heart-friendly foods (fish, oatmeal, nuts and olive oil), exercising regularly, not smoking, losing weight, limiting alcohol consumption, reducing stress, taking appropriate medication. doctor's prescription and recommendations. One thing that should not be neglected by someone who is at risk of increasing cholesterol is having their cholesterol levels checked regularly as an anticipatory measure to prevent and control cholesterollevels in the body. Monitoring by health workers is also needed by the community. Collaboration between community officers, sub-district officials, community leaders and the community itself will certainly be able to create an independent community, alert and concerned about the health of themselves, their families and the surrounding environment.

Regarding the influence of age on cholesterol levels in the body, it is clear that as a person gets older, there will be an increase in cholesterol levels in the body. This will of course be exacerbated if the lifestyle of the elderly is unhealthy. As is known, there are several factors that cause increased cholesterol levels in the body. Eating foods with high cholesterol content or lack of exercise can cause excess cholesterol, but heredity can also be a trigger for cholesterol. Checking cholesterol levels in the blood should be carried out if a person experiences symptoms of being overweight, high blood pressure, has diabetes, or has other diseases that can increase cholesterol levels, especially if the person has a family history of diseases resulting from high levels of cholesterol in the blood. Changing eating habits can be confusing when trying to lower high cholesterol.

CONCLUSION

Talang Banjar Village Community. In the women's exercise group, the majority, namely 37 people (71.15%) had menopause, the majority, namely 32 people (61.5%) were aged < 60 years (adults) and the majority, namely 40 people (76.93%) had borderline high cholesterol levels (≥ 200 mg/dl). There is a relationship between menstrual status and cholesterol levels, with a significance value of 0.019 and an R Square of 0.106. There is a relationship between age and cholesterol levels, with a significance value of 0.004 and an R Square of 0.152.

It is necessary to remind every woman who is starting to enter the menopause phase that she must be careful in maintaining the condition of her body, especially in terms of food consumption. It’s better for the communityThose who are starting to enter old age can regulate the pattern and type of food they will consume. People should have their cholesterol levels checked regularly as

an anticipatory measure to prevent and control cholesterol levels in the body.

CONFLICT OF INTEREST

All authors declared that there was no conflict of interest.

REFFERENCE

Aulia. (2017). Avoid these high cholesterol foods. Ministry of Health of the Republic of Indonesia.

Bowers, E. S. (2017). Best and Worst Foods for People With High Cholesterol. Everyday Health.

https://www.everydayhealth.com/hs/healthy-living-with-high-cholesterol/best-and-worst-foods-for- high-cholesterol/

Lubis, N.L. (2012). Female Reproductive Psychology & Reproductive Development (1st ed.). Kencana Prenada Media Group.

Buleleng Regional Hospital. (2019). Why Do Women Experience Menopause? Buleleng Regency Government Regional General Hospital. https://rsud.bulelengkab.go.id/information/detail/article/mengapa-Perempuan-mengalami-menopause- 92

Ujani, S. (2015). The Relationship Between Age and Gender and Cholesterol Levels of Obese Patients at Abdul Moeloek Hospital, Lampung Province. Lesehatan Polytechnic, Ministry of Health, Tanjung Karang, Health Journal, 6(Health). https://doi.org/http://dx.doi.org/10.26 630/jk.v6i1.24