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ARTICLE

DETERMINANTS OF ACTIVE AGING AFFECT HEALTHY LIFE EXPECTATION

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ABSTRACT

Life expectancy is an indicator of successful development, especially in the health sector. It is estimated that the elderly population will increase along with the increase in life expectancy. In 2050 there will be an increase in the number of elderly people three times from 2013. The increase in the number of elderly raises new complicated problems, especially in the health sector. The elderly group will experience a decrease in health status either naturally or due to illness. Some of the goals of the health program focus on life expectancy, one of which is the development of an integrated service post for the elderly. West Java is the largest proportion with *posbindu* Indramayu is a city in West Java that has a target life expectancy that reaches the target. The government's efforts to improve the welfare of the elderly are realized in various programs so that an increase in the elderly population does not increase problems, especially health problems. One indicator of elderly health can be measured by active aging (AA). Some of the determinants assessed on AA include health conditions, physical activity, economic activity, and housing conditions. The determinants of the AA component, which include aspects of health and well-being, are indicators for assessing healthy life expectancy in the elderly, which is one of the targets for national development goals. Assessment of healthy life expectancy is assessed from several determinants. With an assessment of healthy life expectancy, it is hoped that it can determine health development targets, especially in the elderly. This study associated dietary patterns and smoking habits with increased healthy life expectancy.

Keywords: Active Aging, Health Life Expectation.

АБСТРАКТ

Продолжительность жизни является показателем успешного развития, особенно в секторе здравоохранения. По оценкам, численность пожилого населения будет расти вместе с увеличением продолжительности жизни, в 2050 году количество пожилых людей увеличится в 3 раза по сравнению с 2013 годом. Увеличение числа пожилых людей порождает новые сложные проблемы, особенно в секторе здравоохранения. У пожилых людей будет наблюдаться снижение состояния здоровья либо естественным образом, либо в результате болезни. Некоторые цели программы здравоохранения направлены на увеличение продолжительности жизни, одной из них является развитие комплексного пункта обслуживания пожилых людей. Западная Ява имеет наибольшую долю с посбинду Индрамаю - город в Западной Яве, где целевая продолжительность жизни достигает целевого показателя. Усилия правительства по улучшению благосостояния пожилых людей реализуются в различных программах, чтобы увеличение численности пожилого населения не привело к росту проблем, особенно проблем со здоровьем. Один из показателей здоровья пожилых людей может быть измерен активным старением (АА). Некоторые из детерминант, оцениваемых по АА, включают состояние здоровья, физическую активность, экономическую активность и жилищные условия. Детерминанты компонента АА, включающие аспекты здоровья и благополучия, являются показателями для оценки продолжительности здоровой жизни пожилых людей, что является одной из задач национальных целей развития. Оценка ожидаемой продолжительности здоровой жизни проводится на основе нескольких детерминант. Есть надежда, что оценка продолжительности здоровой жизни позволит определить цели развития здравоохранения, особенно в пожилом возрасте.

Ключевые слова: Активное старение, ожидание здоровой жизни.

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INTRODUCTION

The elderly population in the world and Indonesia has increased significantly. It is estimated that by 2050 the number of elderly people will increase three times from 2013. This is due to an increase in life expectancy. [1]

Life expectancy is an indicator of the success of development, especially in the health sector. But the increase in life expectancy raises new problems. The elderly population experiences a decrease in health status naturally or due to illness. [1]

Health impacts that can occur as a result of an increase in life expectancy require special attention so that they do not become a burden on the government. Various kinds of efforts have been made to make the elderly as well as productive and independent. One of the efforts is the establishment of an integrated service post for the elderly (posbindu). One of the most posbindu is in West Java, Indramayu is a city in West Java with a life expectancy that exceeds the target. [1,2,3]

Promotive and preventive activities require an elderly profile. One indicator that can be used to assess the profile of the elderly is active aging (AA). Several determinants are used to assess the activity index of the elderly. Some of the determinants assessed include economic, physical activity, social activity, and welfare. There are several questions that cover these determinants. All questions posed will be analyzed.[4–6]

The purpose of promotive and preventive activities is to improve health status, with the ultimate goal being to improve quality of life. The success of health status can be assessed by a healthy life expectancy. Healthy life expectancy is the average number of healthy living ages. [7,8,9]

Parameters used in measuring healthy life expectancy include age, weight, height, educational status, economic status, physical activity, health condition at the time of assessment, eating patterns, sleep patterns, smoking habits, social activities, and alcohol consumption habits. Based on these data, it can be calculated, and the results of the expected status of a healthy age can be obtained. [7,8,9]

Indicators to determine healthy aging can be measured by aging active (AA). Several determinants are used to measure this index. The measurement of the aging index is expected to be able to determine the healthy life expectancy of the elderly, and in the end, promotive and preventive efforts can be made related to the findings in certain populations. [4,6]

MATERIAL AND METHODS

This research is analytical research with a cross-sectional design. The research was conducted in the working area of the Rajaiyang Public Health Center, Indramayu. The population of this study was 140 pre-elderly and elderly. This study used a non-probability sampling technique (purposive sampling).

The inclusion criteria for this study were populations aged over 55 years. Meanwhile, the exclusion criteria for this study were populations with mental disorders.

This study uses a questionnaire based on the active aging index. These characteristics are entered into the healthy life expectancy calculator.

The results of this study will be analyzed into univariate, bivariate, and multivariate analyses. The univariate analysis will describe characteristics based on gender, nutritional status, and income. Occupation, social activities, diet, smoking, independence, and access to health facilities. Bivariate analysis was conducted to analyze the relationship between independent and dependent variables. The results of bivariate analysis using the Chi-square test. A multivariate test was conducted to analyze the factors that most influence the Cox regression test.

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RESULT

Table 1. Subject Characteristics

Variable	Frequency	Percentage (%)
Gender		
Male	66	44
Female	84	56
Nutritional status		
Normal	102	68
Obese	24	16
Overweight	17	11.3
Underweight	7	4.7
Income		
Less than the regional minimum wage	147	98
More than the regional minimum wage	3	2
Occupation		
Work	64	42.7
Jobless	86	57.3
Social activity		
Routine activity (social and religious)	31	20.7
Organization	3	2
None	116	77.3
Eating habit		
Poor	23	15.3
Good	127	84.7
Smoking habit		
Yes	25	16.7
No	125	83.3
Independence		
Yes	57	38
No	93	62
Access to healthcare service		
Hard to reach	84	56
Easy to reach	64	42.7
Stressor		
Financial	4	2.7
Living alone	1	0.7
Live far from government facilities	1	0.7
None	144	96
Healthy life expectancy		
< 80	43	28.7
>80	107	71.3

Determinants of AA include health status (nutritional status, diet, independence, illness, smoking habits), psychological (stressors), economic (income, employment), social (activity in social activities) access to health services, and stressors .[10,11,12,13,14] Characteristics of the elderly in Rajaiyang village, most of whom are women. Eating habits affect nutritional status. Most of them have good nutritional status but are still found to have poor nutritional status in the elderly. This is related to irregular eating habits, in addition to the lack of income and access to health services that are still difficult to reach, which contribute to an undernourished status (Table 1). [12]

The determinants of economic factors, most respondents do not work, and a few of them work. Most of the work is farming (farm labor),

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and most of the respondents have an income below the regional average income for the Indramayu area. This is related to education, almost all respondents have low education (table 1). [15,16]

The determinants of social factors, most of the respondents did not have social activities, and some took part in organizational and religious activities. All respondents have low education, so most prefer daily activities over social activities (table 1) [15,16]

The healthy life expectancy in Rayaiyang village is mostly more than 80 years. This exceeds the healthy life expectancy in the world in general, and in Indonesia in particular. The healthy life expectancy in Indonesia in 2022 is 72 years (table 1). [17]

Table 2. Relation between Determinants and Healthy Life Expectancy

Variable	HLE		P-value	RR (CI95%)
	< 80	>80		
	N (%)	N (%)		
Gender				
Male	25 (37.9)	41 (62.1)	0.030*	1.768 (1.058-2.952)
Female	18 (21.4)	66 (78.6)		
Nutrisional status				
Normal/Underweight	38 (34.9)	71 (65.1)	0.008*	2.859 (1.209-6.759)
Obese/Overweight	5 (12.2)	36 (87.8)		
Income				
Less than the regional minimum wage	43 (29.3)	194 (70.7)	N/A	
More than the regional minimum wage	0	3 (100)		
Occupation				
Work	14 (21.9)	50 (78.1)	0.114	0.649 (0.374-1.124)
Jobless	29 (33.7)	57 (66.3)		
Social activity				
Routine activity (social and religious)	12 (38.7)	19 (61.3)	0.361	0.841 (0.600-1.179)
Organization	0	3 (100)		
None	31 (26.7)	85 (73.3)		
Eating habit				
Poor	15 (65.2)	8 (34.8)	0.000*	58 (1.900-4.606)
Good	28 (22)	99 (78)		
Smoking habit				
Yes	15 (60)	10 (40)	0.000*	2.679 (1.696-4.231)
No	28 (22.4)	97 (77.6)		
Independence				
Yes	16 (28.1)	41 (71.9)	0.899	0.967 (0.573-1.631)
No	27 (29	66 (71)		
Access to healthcare service				
Hard to reach	28 (33.3)	56 (66.7)	0.080	1.641 (0.926 - 2.907)
Easy to reach	13 (20.3)	51 (79.7)		
Stressor				
Financial	0	4 (100)	0.506	41 (0.565-3.182)
Living alone	1 (100)	0		
Live far from government facilities	0	1 (100)		
None	42 (29.2)	102 (70.8)		

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Table 3. The Most Influenced Factors of Healthy Life Expectancy

Variable	B	p-value	RR (CI 95%)
Gender	0.213	0.664	1.238 (0.473-3.239)
Smoking habit	1.628	0.001*	5.092 (1.888-13.732)
Access to healthcare service	0.570	0.202	1.768 (0.737-4.239)
Eating Habit	1.960	0.000*	7.098 (2.516-20.020)
Nutritional Status	1.040	0.060	2.830 (0.956-8.383)

*p-value < 0.05

DISCUSSION

The longer-lived female population is a phenomenon in the 20th century. This event occurs in almost all countries in various parts of the world. This is related to biological factors and environmental factors. Several diseases are associated with increased mortality in males. In addition, habit factors affect healthy life expectancy. Smoking habits in the study were associated with a lower healthy life expectancy than non-smokers. [18]

Nutritional status and eating habits affect the aging process, a diet rich in fiber, and limiting meat consumption can lengthen telomeres. A good diet and good nutrition are associated with a healthy life expectancy. [19]

This study did not find a relationship between social activity, work, independence, and access to health facilities as well as stressors on an increase in healthy life expectancy. Most of the population has low education, so they feel uncomfortable participating in various social activities. Independence does not necessarily increase healthy life expectancy, getting older will be dependent on other people. Difficult access to health facilities does not always mean that the elderly do not seek treatment at the hospital. Various dynamic factors affect healthy life expectancy. [20]

Smoking habits and eating habits affect healthy life expectancy. Smoking reduces the age of 10 years compared to non-smokers. Smoking is associated with the incidence of several diseases. The population who quit smoking can increase the population's healthy life span by 15 years. [21,22]

A diet rich in fiber and low in calories and low in animal protein increases telomere length. In addition, these foods' good content of vitamins and minerals results in better metabolic activity. [19,23]

CONCLUSION

The healthy life expectancy is higher than the national healthy life expectancy. The determinants of habit are related to healthy life expectancy, especially diet and smoking habits.

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All authors listed on the title page have contributed significantly to the work, have read the manuscript, attest to the validity and legitimacy of the data and its interpretation, and agree to submission.

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SUGGESTION

Research can be carried out in various regions. The increase in healthy life expectancy should be facilitated by the local government with various accessible health services.

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