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## ORIGINAL ARTICLES. PHYSICAL EDUCATION

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# Level of physical fitness of elderly people from 60 to 80 years old during a pandemic COVID-19

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### Abstract

**Aim:** to determine the level of physical fitness and the body mass index of older people aged 60 to 80 years.

**Material and methods.** This study used a descriptive method with survey and field measurement techniques. The participants in this study were 123 elderly people who collected fitness data using the Rockport test over a distance of 1600 meters, measured their heart rate before and after the test. Body mass index according to Quetelet was determined on the basis of measurements of body length and weight. The metabolic state of the elderly was distributed according to the Quetelet index: from underweight and normal weight to overweight and obesity. The study was conducted at the heart health club in Surakarta.

**Results.** It is shown that the level of physical fitness of the elderly according to the Rock Port test in 103 people was sufficient: the average travel time was 23.22 minutes; the level of physical fitness of 20 participants was not sufficient: the average travel time was 34.10 minutes. The results of determining the Body Mass Index (BMI): (1) at the age of 60-69 years, 94 people were tested, of which: 7 people were underweight, 30 were normal, 53 were overweight, 4 were obese; (2) 70-74 years: 16 people, including: 3 people in the thin category, 8 people - with normal weight, 2 people with overweight, 1 person - approaching obesity, 2 people - obese, (3) ; at the age of 75-80, 13 people were tested: 1 person in the lean category, 8 people with normal weight, 1 person - overweight, 3 people approaching obesity, 0 - obese people.

**Conclusions.** The informational content of the Rockport test for determining the level of physical fitness of elderly people aged 60 to 80 years is shown. This test is effective and available for independent use by elderly people to determine the level of their physical fitness, not only for people under 69, but also for older people.

**Keywords:** Physical Fitness, Body Mass Index, Elderly

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### Анотація

**Ханік Ліскустяті, Сламет Ріяді, Шрі Сантосо Сабаріні, Валуїо, Абдул Азіз Пурномо Шидік. Рівень фізичної підготовленості людей похилого віку від 60 до 80 років в період пандемії COVID-19**

**Мета:** визначити рівень фізичної підготовленості та індекс маси тіла людей похилого віку у віці від 60 до 80 років.

**Матеріал і методи.** У цьому дослідженні використовувався описовий метод із методами обстеження та польових вимірювань. Учасниками цього дослідження стали 123 люди похилого віку, які збирали дані про фізичну форму за допомогою тесту Рокпорта на відстані 1600 метрів, вимірювали частоту серцевих скорочень до і після тесту. Індекс маси тіла за Кетеле визначали на основі вимірювань довжини і ваги тіла. Метаболічний стан людей похилого віку розподілявся відповідно до індексу Квіле: від недостатньої ваги та нормальної ваги до надмірної ваги та ожиріння. Дослідження було проведено в клубі здоров'я серця в Суракарті.

**Результати.** Показано, що рівень фізичної підготовленості людей похилого віку за тестом Рок-Порта у 103 осіб був достатнім: середній час у дорозі становив 23,22 хв.; рівень фізичної підготовленості 20 учасників був недостатнім: середній час у дорозі становив 34,10 хв. Результати визначення Індексу маси тіла (ИМТ): (1) у віці 60-69 років пройшли обстеження 94 людини, з них: 7 людей мали вагу, 30 були нормальними, 53 мали надлишкову вагу, 4 страждали ожирінням; (2) 70-74 роки: 16 осіб, у тому числі: 3 особи в тонкій категорії, 8 людей - із нормальною вагою, 2 людини із зайвою вагою, 1 людина - наближення ожиріння, 2 людини - ожирінням, (3); у віці 75-80 років було обстежено 13 осіб: 1 людина в категорії худих, 8 людей з нормальною вагою, 1 людина - із зайвою вагою, 3 людини, що наближаються до ожиріння, 0 - люди з ожирінням.

**Висновки.** Наведено інформаційний зміст тесту Рокпорта для визначення рівня фізичної підготовленості людей похилого віку у віці від 60 до 80 років. Цей тест ефективний і доступний для самостійного використання людьми похилого віку для визначення рівня їхньої фізичної підготовленості не лише для людей до 69 років, але і для людей похилого віку.

**Ключові слова:** фізична підготовленість, індекс маси тіла, літні люди

### Аннотация

**Ханик Лискустявати, Сламет Рияди, Шри Сантосо Сабарини, Валуїо, Абдул Азіз Пурномо Шидик. Уровень физической подготовленности людей пожилого возраста от 60 до 80 лет в период пандемии COVID-19**

**Цель:** определить уровень физической подготовленности и Индекс массы тела пожилых людей в возрасте от 60 до 80 лет.

**Материал и методы.** В этом исследовании использовался описательный метод с методами съёмки и полевых измерений. Участниками этого исследования были 123 пожилых человека, которые собирали данные о физической подготовке с помощью теста Rockport с помощью прохождения дистанции 1600 м, измеряли свой пульс до и после проведения теста. На основе измерения длины и массы тела определялся индекс массы тела по Кетле. Состояние метаболизма пожилых людей было распределено согласно индексу Кетле: от недостаточного и нормального веса до избыточного веса и ожирения. Исследование проводилось на базе клуба здоровья сердца в Суракарте

**Результаты.** Показано, что уровень физической подготовленности пожилых людей по тесту «Рок порт» у 103 человек оказался достаточным: среднее время прохождения пути составило 23,22 минуты; у 20 участников уровень физической подготовленности – не достаточный: среднее время в пути составило 34,10 минут. Результаты определения Индекс массы тела (ИМТ): (1) в возрасте 60-69 лет было протестировано 94 человека, из них: 7 человек - с недостаточным весом, 30 – с нормальным, 53 человека - с избыточным весом, 4 человека с ожирением; (2) 70-74 лет: 16 человек, в том числе: 3 человека в категории худых, 8 человек – с нормальным весом, 2 человека с избыточным весом, 1 человек – приближается к ожирению, 2 человека - с ожирением, (3); в возрасте 75-80 лет было протестировано 13 человек: 1 человек в категории худых, 8 человек – с нормальным весом, 1 человек - с избыточным весом, 3 человека – приближаются к ожирению, 0 - тучных людей.

**Выводы.** Показана информативность теста Rockport для определения уровня физической подготовленности пожилых людей в возрасте от 60 до 80 лет. Данный тест является эффективным и доступным для самостоятельного применения людьми пожилого возраста для определения уровня своей физической подготовленности не только для людей до 69 лет, но и для людей более старшего возраста.

**Ключевые слова:** физическая подготовка, индекс массы тела, пожилые люди.



## Introduction

Old age is the last stage of the human life cycle, which will certainly experience changes both physically and mentally [1]. The aging of the population in Indonesia is growing rapidly. Currently the elderly population in Indonesia has increased from the previous number of around 24 million and in 2020 it is estimated that it will increase by around 30-40 million. An elderly person is someone who due to his age experiences biological, physical, and social changes. These changes have an impact on all aspects of life, including health [2]. Elderly is someone who because of his age experiences biological, physical, psychological and social changes. As a person ages, several vital functions in the body also experience functional deterioration [3]. Her hearing began to decline, her vision became blurred, and her physical strength began to weaken.

Currently, the COVID19 Virus pandemic has spread to more than 102 countries [4]. Initially this virus spread widely from the mainland of the Chinese province of Wuhan [5]. To deal with the pandemic of this virus spread, the Indonesian government recommends that all people practice social distance and even physical distance. For office workers, work is carried out at home or wroke from home (WHF), including for students and school children in the learning process online.

The right exercise can provide immunity to the elderly during the COVID19 virus pandemic [6]. One form of exercise is good for the elderly is walking. Walking are two forms of exercise that aim to increase vascular cardia [7]. Therefore, gymnastics for the elderly is highly recommended to obtain cardiovascular fitness. Almost anyone can do it, the movement is easy, the implementation is cheap because it is free of cost.

The percentage of Indonesian elderly people has about twofold increased (1971-2019), namely to 9.6% (25 million) where female elderly are about 1% more than male elderly (10.10% vs 9.10%). This increase made it possible for the elderly not to understand or not yet understand the benefits of having good or very good physical fitness [8]. Another possibility is that the elderly who do sports usually do not know the predetermined exercise program, even though the program is very important, because training that is not in accordance with the exercise program has no effect on the body [9].

These fitness constraints should be a concern in order to suppress the downturn of the elderly, one of which is by doing simple physical activities, easy to do and without expensive costs [10]. The elderly should know their fitness level, this is done to

measure the maximum functional ability a person has at the time of the measurement. Functional ability is measured by the amount of motion that can be done [11].

The amount of ability to move is determined by the body's ability to produce power (energy). If the body can generate a large amount of power, it can also produce a small amount of power, but that does not mean otherwise. This means that if the body is only able to produce a small amount of power, then the amount of motion that can be generated is also only small, and it is impossible to produce large / high intensity movements, except after practicing. If the ability to generate power is large, it means that it can realize motion / work with large / high intensity and also with a long duration [12]. This intensity and duration has a special physiological relationship system, namely: the intensity of motion / work is high (large), then the duration of motion / work is short / short. The higher the intensity of the motion / work, the shorter the duration. So if you want to extend the duration of movement / work, then the intensity should not be too high.

Elderly participation in regular physical activity or a structured physical exercise program is highly recommended and has many benefits. Improvement in gait, balance, general body functional capacity and bone health can be achieved through exercise [13]. To be able to deal with elderly people who can enjoy their lives and maintain their health and fitness, they must do regular sports activities, have a healthy lifestyle, rest, not smoke and have regular health checks. One of the efforts to achieve health by exercising so that the elderly to be able to obtain a healthy body, one of which must be routine sports activities. Regular exercise is an effective and safe alternative to improve or maintain fitness and health if done properly. Aerobic activities suitable for the elderly include: walking, low impac aerobic exercise, elderly exercise, cycling, swimming and so on. Whether the exercise program carried out by the elderly is useful or not also depends on the program being implemented. It is recommended that the training program that is carried out must meet the FITT concept (Frequency, Intensity, Time, Type). Sports health for the elderly is an important thing that must be programmed, both from health workers, sports professionals, and the community. The cardiovascular system is a system that facilitates the transportation of various substances to and from the body's cells. Exercise will have an acute or temporary effect on the body that affects: the muscular system, hormonal system, circulatory and respiratory systems, digestive system, metabolism, and exhaust system [14].



This physical activity has involved most of the body's muscles and increases the physiological efficiency of the body, such as the heart and blood circulation (cardiovascular), the lungs for breathing and the formation of muscle strength and joints [15]. It can be concluded that the type of activity relevant to this opinion is aerobic exercise that is carried out regularly and continuously [16].

Through training, it can be determined with certainty the measure of exercise intensity, the frequency of exercise, the length of time for the exercise and the physical fitness test methods that must be carried out by a man and woman in an effort to improve physical fitness efficiently and effectively based on the age group and the size of the travel time [17]. Duration of training is the length of time spent exercising entirely (full) after deducting the time used for rest. Duration of training here means the length of the entire training time after deducting the rest time. The length of exercise in question is closely related to the intensity of the exercise that improves the cardiorespiratory system [18].

The effect of exercise to increase the work efficiency of the lungs, which allows the lungs of a person who is exercising to process more air with less energy [19]. During tiring work, a trained person can process almost twice as much blood per minute as a non-trainee. Effect of exercise increases blood volume [20]. This means also increasing the means of delivering more oxygen throughout the network body. The effect of exercise increases the maximum oxygen consumption [21]. This is achieved by increasing the working efficiency of all oxygen delivery means. In this process of improvement, the overall condition of the body will also improve, especially the most important body parts of the lungs, heart, blood vessels, and all body tissues [22].

An elderly who experiences a sports program demands a portion can actually increase the degree of health and the level of physical fitness [23], because through regular exercise, muscles can develop / increase, both in size, power and durability [24]. Likewise, the heart muscle is also the limb (extremity). One of the parameters of physical fitness is measuring the maximum oxygen consumption ( $VO_{2max}$ ). The degree of physical fitness, with the  $VO_{2max}$  benchmark, will increase if regular, measured, programmed and overloaded physical training is carried out. The most important element in physical fitness is cardiorespiratory endurance, influenced by various physiological factors:

1. Heredity, it is known that 93.4% of  $VO_{2max}$  is determined by genetic factors. This can be changed by an optimal mechanism,
2. Age, cardiorespiratory endurance increases from childhood and reaches a peak at

the age of 18-20 years. Children who are still growing and developing ( $\pm 13$  years) when exercising will increase  $VO_{2max}$  10-20% greater than those who do not practice,

3. Gender, before puberty there is no difference in  $VO_{2max}$  between men and women. After this age the  $VO_{2max}$  of women is only about 70-75% of men,

4. Physical activity, the rate of oxygen consumption increases with increasing work intensity depending on the maximum level. Maximum oxygen use or work, maximal aerobic varies for each individual and is increased with appropriate training.

**Aim:** to determine the level of physical fitness and the body mass index of older people aged 60 to 80 years.

## Materials and methods

### *Participants*

This study used a descriptive method with survey techniques and field measurements. The participants who were the subjects of this study were 123 elderly people, among them: at the age of 60-69 years, 94 people were tested; 70-74 years: 16 people; 13 people aged 75-80 were tested.

### *Procedure*

#### *Rockport test (classic procedure)*

Physical fitness data collection using the Rockport test as far as 1600 m, check pulse before and after doing the test, measurement of height and weight. Rockport One Mile Walking Test (Rockport Shoes Walking Institute, 1986). The Rockport Walking Test is a sub-maximal field test to estimate  $VO_{2max}$  in males and females ages 20 to 69 years. The participant is required to walk one mile (1.6 kilometers) as quickly as possible. The test is easily administered and is well-suited for sedentary and/or older individuals. Equipment: One mile (1.6km) track (not on a treadmill) and stopwatch(s).

We decided to apply this test to a wider age group of older people: the age of the study participants was 60-80 years.

1. A level, one mile (1.6 km) course is required. The inside lane of a one mile (or 400 m) track is preferred, but any uninterrupted course of precisely one mile (1.6 km) is suitable.





2. Participants should wear appropriate clothing plus shoes and perform 5-10 min of light stretching before commencing the walk. 0

3. Instruct the participant to walk the one mile as quickly as possible (but not speed walking).

4. Record the participant's heart rate (HR) immediately upon the completion of the mile. It is preferable to have the participant wear a heart rate monitor for this measurement but the assessment of HR via palpation (using a 15 sec count from the carotid or radial artery) is a suitable alternative. 0

5. Estimate the participant's  $VO_{2max}$  using the following formula which incorporates his/her body weight (lb), age (yr), gender (males = 1, females = 0), time to complete one mile (min), and postexercise heart rate (bpm):

$$\text{Estimated } VO_{2max} \text{ ml} \cdot \text{kg}^{-1} \cdot \text{min}^{-1} = 132.853 - 0.0769(\text{Weight}) - 0.3877(\text{Age}) + 6.315(\text{Gender}) - 3.2649(\text{Time}) - 0.1565(\text{HR})$$

### Physical Fitness test

#### Procedure for implementing the Rockport test in the this research

1. Before doing the test, stretch the whole body especially the leg muscles and end with a warm-up in the form of walking slowly b. When starting the test, the timer is turned on.

2. Walk as fast or run as constantly as possible over a predetermined distance (1.6 km), on a flat track: straight or in a circle (standard football field: circumference 400 m).

3. The test taker can be individually or in groups, standing behind the "start" line.

4. After the "ready" signal, the test taker takes a standing stance, ready to walk / run.

5. After the "yes" signal, the test taker runs towards the finish line, covering the distance according to the distance of 1600 m

6. Record the travel time (minutes & seconds) and enter it in table 1:

Table 1

Travel Time -  $VO_{2Max}$  Relationship

Number	Traveling Time	$VO_{2Max}$ ml / kg / minute
1	5'18" – 5'23"	62
2	5'24" – 5'29"	61
3	5'30" – 5'35"	60
4	5'36" – 5'42"	59
5	5'43" – 5'49"	58
6	5'50" – 5'56"	57
7	5'57" – 6'04"	56
8	6'05" – 6'12"	55
9	6'13" – 6'20"	54
10	6'21" – 6'29"	53
11	6'30" – 6'38"	52
12	6'39" – 6'48"	51
13	6'49" – 6'57"	50
14	6'58" – 7'08"	49
15	7'09" – 7'19"	48
16	7'20" – 7'31"	47
17	7'32" – 7'43"	46
18	7'44" – 7'56"	45



19	7'57" – 8'10"	44
20	8'11" – 8'24"	43
21	8'25" – 8'40"	42
22	8'41" – 8'56"	41
23	8'57" – 9'14"	40
24	9'15" – 9'32"	39
25	9'33" – 9'52"	38
26	9'53" – 10'14"	37
27	10'15" – 10'36"	36
28	10'37" – 11'01"	35
29	11'02" – 11'28"	34
30	11'29" – 11'57"	33
31	11'58" – 12'29"	32
32	12'30" – 13'03"	31
33	13'04" – 13'41"	30
34	13'42" – 14'23"	29
35	14'24" – 15'08"	28
36	15'09" – 16'00"	27
37	16'01" – 16'57"	26
38	16'58" – 18'02"	25
39	18'03" – 19'15"	24
40	19'16" – 20'39"	23
41	20'40" – 22'17"	22
42	22'18" – 24'11"	21

*Tabel 2*

AHA (America of Heart Association) – 1972

Gender	Age	Very Less	Less	Enough	Good	Very well
Woman	20 – 29	< 24	24 – 30	31 – 37	38 – 48	49+
	30 – 39	< 20	20 – 27	28 – 33	34 – 44	45+
	40 – 49	< 17	17 – 23	24 – 30	31 – 41	42+
	50 – 59	< 15	15 – 20	21 – 27	28 – 37	38+
	60 – 69	< 13	13 – 17	18 – 23	24 – 34	35+
Men	20 – 29	< 25	25 – 33	34 – 42	43 – 52	53+
	30 – 39	< 23	23 – 30	31 – 38	39 – 48	49+
	40 – 49	< 20	20 – 26	27 – 35	36 – 44	45+
	50 – 59	< 18	18 – 24	25 – 33	34 – 42	43+
	60 – 69	< 16	16 – 22	23 – 30	31 – 40	41+



As a consideration in measuring  $VO_{2\max}$  is that the test must be created that way such that the pressure on the oxygen supply to the heart muscle must take place maximum. Physical activities that meet these criteria must:

- a. Involves at least 50% of the total muscle mass. Activities that meet these criteria is running, cycling, rowing. The most common way this is done is by running on treadmill, which can be adjusted speed from the angle of inclination
- b. The length of the test must ensure maximum heart work. Generally lasts at least 6 to 12 minutes.

One tool to measure the ability of endurance / lung fitness ( $VO_{2\max}$ ) is the Rockport method, this method is quite simple, without expensive costs and the accuracy is quite reasonable. The method of implementing this method is:

1. The test begins with warming up and stretching the whole body, especially the leg muscles and continued with walking. Mix for 10-15 minute.
2. At the start of the test, the timer is activated. The test is carried out by brisk walking or jogging at a constant speed along the 1.6 km.
3. Record the travel time obtained by the test taker.
4. Use table 1 to get  $VO_{2\max}$ .
5. Use table 2 to determine the cardiovascular fitness category according to type gender and age group.
6. Using color charts according to age groups, provide sign (\*) corresponds to the participant's  $VO_{2\max}$  result.

7. Carry out a physical exercise program according to the color chart.
8. Repeat this test every 3 months.

Example: As an example, if a 33 year old male (who weighed 160 lbs) completed the walk in 11 min & 20 sec and had a post-exercise HR of 160 bpm, his estimated  $VO_{2\max}$  would be  $52 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$  (as calculated below): It is important to note that completion time must be converted to minutes. This is accomplished by dividing the number of seconds by 60 and adding this value to the whole value for minutes. In the above example, the total time was 11 min and 20 sec. When expressed as min, this equals  $11 \text{ min} + (20/60 \text{ sec})$  or 11.33 min.

$$\text{Estimated } VO_{2\max} = 132.853 - 0.0769(160) - 0.3877(33) + 6.315(1) - 3.2649(11.33) - 0.1565(160) = 52 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$$

Zone: Excellent

#### Body Mass Index (BMI)

Body Mass Index can be obtained by calculating the following formula:

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height(m)} \times \text{Height(m)}}$$

BMI has the main advantage of being able to describe excessive body fat, is simple and can be used in large-scale population studies. The measurement only requires 2 things, namely body weight and height.

Table 3

Body Mass Index (BMI) or BMI based on the Indonesian Ministry of Health

BMI Value (BMI)	Category
< 17,0	Thin, underweight
17,0 – 18,4	Thin, lightly underweight
18,5 – 25,0	Normal
25,1 – 27,0	Fat, overweight, light levels
> 27	Fat, overweight levels of weight

Source: Ministry of Health, Republic of Indonesia



## Results

The results of research data analysis can be seen in the following table 4:

Table 4

Results of the Physical Fitness test

Number of participants	Average Travel time	Average VO <sub>2max</sub>	Category
103	23.22	21	enough
20	34.10	17	Less

(Source of Research Results)

The results of research data analysis can be seen in the following table 5:

Table 5

Body Mass Index test results

Age (years)	Amount	Thin	Normal	Overweight	Pra Obese	Obese
60 - 69	94	7	30	11	42	4
70 - 74	16	3	8	2	1	2
75 - 80	13	1	8	1	3	-
Total	123					

(Source of Research Results)

Based on the table above, it is known that of the 123 elderly participants have an average physical fitness. The different physical fitness shows the different level of physical ability of the elderly. Measurements were made using the rockport test. With the same physical fitness test, everyone can find out the extent of their physical abilities and physical fitness. Not everyone knows and is aware of their physical fitness. With a physical fitness test, a person can find out his physical abilities.

## Discussion

The results of measuring their fitness level are still lacking, so participants can train again and maintain their lifestyle in order to improve their physical fitness. A person's level of physical fitness can change over time. This change is influenced by many factors, including the activities undertaken, the routine in exercising and physical activity, diet and sleeping or resting patterns, and so on. The development of a person's physical fitness over time can get better or even decrease. This change can be detected by doing regular physical fitness tests. If a person's physical fitness has decreased or is not up to

the standards of people his age, then it is better to try to improve his physical fitness [25].

Nutritional status is a component consisting of several food inputs for nutritional adequacy which can be seen using the Body Mass Index (BMI) [26]. The normal adult weight limit is determined by adults and is based on the body mass index (BMI) value [27]. In Indonesia, the term BMI is translated as body mass index (BMI). BMI is a simple tool for monitoring the nutritional status of adults, especially in relation to underweight and overweight. So maintaining a normal weight allows a person to reach a longer life expectancy. Where to find out the BMI the following formula is used  $BMI = \text{body weight (kg)} / \text{Height (m)}$ .

The nutritional status of the elderly at heart healthy clubs in the city of Surakarta in 2020 during the Covid pandemic is very evenly distributed, ranging from underweight, normal, overweight, pre-obesity to obesity. In its development, the elderly will experience various health problems, one of which is the problem of malnutrition according to the Ministry of Health 2009 which is 3.4%. Adequacy of healthy food is very important for the elderly [28]. People who are 70 years old, have the same nutritional needs as when they were in their 50s. Their biological appetite tends to continue to decline and their diet





becomes irregular. Therefore, efforts must be made to consume nutritious foods. The normal body weight limit for adults is determined based on the body mass index (BMI) value. In Indonesia, the term BMI is translated as body mass index (BMI). BMI is a simple tool for monitoring the nutritional status of adults, especially in relation to underweight and overweight [29]. Thus, maintaining a normal weight allows a person to achieve a longer life expectancy. Balanced nutrition for the elderly needs to be applied by looking at their conditions, whether they can still chew well or not. If not, try to eat soft foods and still meet their nutritional needs. It is better if someone adjusts the menu so that they do not experience problems due to the wrong food.

Balanced nutrition for the elderly needs to be applied by looking at their conditions, whether they can chew well or not [30]. If not, try to eat soft foods and still meet their nutritional needs. It is better if someone adjusts the menu so that they do not experience problems due to the wrong food. If you have a disease, you should monitor and adjust the menu so that your health can be maintained [31]. These risks that may occur in the elderly who are malnourished are weight loss, reduced physical abilities, food fulfillment, loneliness, depression, and mental confusion which will affect eating habits. Nutritional status is a state of the body which is a reflection of what we eat everyday. Nutritional status is said to be good if our diet is balanced. This means that the intake, frequency and type of food consumed must be in accordance with the body's needs. When food consumption exceeds the need, the body will become overweight. Conversely, food intake is less than what is needed, the body will become thin and sickly. Obesity also does not mean healthy because it can spur various diseases. Inadequate nutritional status or over nutritional status will have a negative impact on body health. Both of these conditions are known as malnutrition.

## Conclusion

1. Differences in physical fitness indicate differences in the level of physical ability of the elderly. With the same physical fitness test, everyone can see the extent of their physical

abilities and physical fitness. Not everyone knows and is aware of their physical fitness. With a physical fitness test, a person can see his physical abilities. BMI is a simple tool for monitoring the nutritional status of adults, especially with regard to underweight and overweight.

2. During their development, the elderly will experience various health problems, one of which is malnutrition. The nutritional status of the elderly in 2020 during the Covid pandemic was very evenly distributed, ranging from underweight, normal, overweight, pre obesity to obesity. Because maintaining a normal weight allows a person to achieve a longer life expectancy
3. The fitness level of the elderly with the rockport test: (1) the participants were 103 people, average travel time was 23.22 minutes in the physical fitness category was sufficient; (2) 20 participants, the average travel time was 34.10 minutes in the physical fitness category. Body Mass Index (BMI): (1) aged 60 - 69, a total of 94 people each 7 underweight, 30 normal, 11 overweight, 42 pre-obese, 4 obese, (2) 70-74 people 16 people, consisting of: 3 people under thin category, 8 normal people, 2 overweight people, 1 pre obesity, 2 obese people, (3) ages 75-80 consist of: 1 person under thin category, 8 normal people, 1 overweight person, 3 pre obesity, 0 obese people.
4. The informational content of the Rockport test was shown to determine the level of physical fitness of elderly people aged 60 to 80 years. This test is effective and available for independent use by elderly people to determine the level of their physical fitness, not only for people under 69, but also for older people.

## Conflict of interest

The authors declare that there is no conflict of interest.

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