Original Article

Nutritional Intake and Physical Activity during a Pandemic: Heritage Fitness Group

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Abstract

Purpose: The world is experiencing extraordinary challenges that are changing extraordinary challenges that are life changing due to the covid-19 pandemic. The research aims to be used as a baseline to develop preventive actions that can be taken by the government.This study was designed as a cross-sectional online survey. Material and Methods: This study as conducted between May and July 2021, with a total of 370 respondents. The link to the online survey questionnaire was distributed through social media platforms and the personal contacts of the research group members. Results: surviving the pandemic, participants were important in consuming nutrients such as supplements of B6 Vitamin C and Vitamin E ($p<0.05$). In foods to prevent covid there are results that are of interest in yellow, red, and orange fruits and vegetables (23.51%). No difference was seen in physical activity during the pandemic and before the pandemic ($p<0.05$). Our data shows that the participants maintain physical fitness through sports activities with endurance training 2-3 days per week. Conclusion: This is accompanied by an optimal increase in body immunity, so as to avoid various kinds of virus attacks that harm the body's condition. The factor of exercise is very big influence so that the body's immunity is always maintained. The body's immunity can work optimally and perfectly because with a healthy lifestyle, nutrition can affect the health of the body not susceptible to disease.

Keywords: Nutrition, physical activity, pandemic covid-19.

Introduction

The corona virus pandemic has not ended in Indonesia, every day the number of sufferers is still increasing. It is a viral disease that affects people's health and quality of life, causing respiratory infections such as mild and moderate pneumonia [21]. This virus is transmitted between humans with an incubation period of 1-14 days and the symptoms are felt on the 3rd day to the 7th day. The covid-19 pandemic requires serious attention, especially in the health sector. In particular, previous research has demonstrated government actions related to spatial distancing as being effective public health measures; however, they could also health problems other than covid-19 infection such as psychological distress and fear [1]. Patients with covid-19 are positive if the immune system decreases, so that the virus attacks the body, causing several diseases, such as a temperature of 38C, a dry cough, and shortness of breath resulting in death. These recommendations are unfortunate because daily exercise may help combat the disease by boosting our immune systems and counteracting some of the co-morbidities like obesity, diabetes, hypertension, and serious heart conditions that make us more susceptible to severe covid-19 illness [22]. Nutritional influence on the immune system has been well documented in the literature [22]. This is especially relevant to covid-19 patients given the high rate of infection among lung alveolar epithelial cells and the involvement of lung tissue inflammation and alveolar damage in covid-19 pathology [23].

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The increasing mortality causes how many efforts to overcome it, one of which is by increasing the body's immunity through nutritional intake and doing physical activity. If a person has physical fitness and nutritional status that is not balanced, development and growth disorders can occur because every time a student makes a motion requires energy [24]. Health must be considered in these considered in these circumstance since there is no reliable cure for this disease yet, and apart from vaccination, its resolution remains unpredictable [2]. Therefore, a good motion must be supported by sufficient energy, sufficient normal physiological functions, and good health Handling the virus depends on lifestyle and health patterns [24]. Proper nutrition results in the fulfillment of nutrients so that they can fight the covid-19 virus [24]. Balanced nutrition is an arrangement of daily food containing nutrients in the type and amount according to the body's needs, taking into account the principles of food diversity, physical activity, healthy lifestyle behavior and paying attention to normal weight to prevent nutritional problems. From the perspective of prevention, a healthy lifestyle is crucial [2]. Therefore, assessing nutrition status is necessary and important during COVID-19 infection [22]. According to Black [25], one factor that affects physical fitness is nutrition or food There is scientific evidence showing that the substitution of homemade and fresh foods with the so-called ultra-processed ones contributes to the increase in the prevalence of overweight, chronic non-communicable diseases, and specific nutritional deficiencies in all life-cycle phases, especially in adolescence [22]. Education is needed to increase understanding that balanced nutrition and physical activity do not have to be expensive. Public gyms have been closed due to the stay-at-home policy [3]. Online education needs to be done in an effort to improve health, especially during the covid-19 pandemic in the GYM heritage fitness environment. The public health recommendations (i.e., stay-at-home orders, closures of parks, gymnasiums, and fitness centers) to prevent SARS-CoV-2 spread have the potential to reduce daily physical activity (PA) [4]. In general, where practicable, an efficient way to reduce the risk of viral infections is to regulate the actions of the inflammation mediators through adaptable risk factors such as diet, exercise, and healthful lifestyle habits [25]. Admittedly, it is well described that the diet regimen strongly influences the immune system responses [26]. Some reports [27] have indicated that a high body mass index (BMI) or excessive adiposity may be risk factors for complications during COVID-19 infection. This may be caused by the presence of different pulmonary diseases in overweight and obese populations compared to healthy weight subjects [28].The implementation of the adaptation of new habits to prevent an increase in positive cases of covid-19 has increasingly made the use of technology, and all the lifestyle flows of urbanization, globalization, industrialization increasingly passive. Previous research linking covid-19 and lifestyle patterns illustrated that an individual's lifestyle is a crucial factor for preventing infectious diseases [5]. Everyone can shop, fulfill their daily needs and activities by staying at home, even if they have to leave the house by minimizing meetings with other people. If not accompanied by a balanced diet and balanced physical activity and physical activity. One of the factors that influence nutritional status is nutritional knowledge including exercise and physical activity, as well as a healthy diet. Therefore, supplementation of proper amounts of vitamins and trace elements may enhance immunity against covid-19 [22]. Conversely, improvements in nutritional behaviour can have a beneficial therapeutic effect in populations both with and without clinical symptoms [24]. Knowledge of nutrition and nutrition will affect attitudes and behavior in food selection. At this time in the selection of food is influenced by taste and desire tends to choose food that is chosen by taste and desire tends to choose foods that are high in calories and fat so that it can trigger weight growth. Physical activity by exercising at least 3-5 times a week with a minimum duration of 30 minutes is a recommendation contained in the nutritional guidelines during the covid-19 pandemic that has been issued by the government. The suggestion to do exercise regularly is often ignored by the community.

In addition, recent studies have reported the positive influence of nutritional status and food intake in COVID-19 patients [30]. However, in consideration of the novelty of the SARS-CoV-2 infection, studies on the effects of certain nutrients are scarce, and in some investigations these data are obtained from ecological studies [31]. Numerous scientific studies show that adequate nutrition is required for all cells, including those of the immune system, to function at their best [36]. An "activated" immune system additionally enhances energy demands during the SARS-CoV-2 infection, with an increased basal metabolic rate. Therefore, optimized nutrition for the best immune outcomes would be one that supports immune cell function by allowing them to engage robust responses to pathogens, but also to improve the responsiveness when appropriate, avoiding any underlying chronic inflammation [30]. Therefore, optimized nutrition for the best immune outcomes would be one that supports immune cell function by allowing them to engage robust responses to pathogens, but also to improve the responsiveness when appropriate, avoiding any underlying chronic inflammation. In another important review, the authors concluded that a poor nutritional status appears to be a predictor of mortality in acute viral infection and critical disease, particularly for elderly subjects. Zhang and Liu recently proposed a comprehensive list of nutritional supplements with possible beneficial effects in covid-19 patients based on clinical studies and in vitro studies [32]. Nevertheless, to date, no paper has been published focusing on the thematic of how to improve the current recommendations and guidelines for nutrition to this poorly known disease. In this regard, various nutrients are also determinants of gut microbial composition and shaping immune responsiveness in the body. Hence, several studies suggest that reinforcing the immune system represents one sustainable way to improve the possibility to survive in this

pandemic situation [30].

Since initial lockdown restrictions have been implemented, several online surveys have been conducted to examine how physical activity levels changed as a result of the lockdown [6]. A multi-country survey found a significant reduction in all intensity levels of physical activity have ben confinement [7]. Physical activity requires energy and then there is a process of formation and decomposition of nutrients in the body, so a balance between physical activity and energy intake is needed during the covid-19 pandemic. Nutritional status in adolescents is very important to note. The potential for food products, as functional foods or nutraceutical extracts from foods, to alleviate or modify covid-19 transmission, morbidity or mortality is an especially attractive hypothesis when vaccines are not available [24]. The condition of the covid-19 pandemic is a challenge to stay physically active and later this physical activity can affect a healthy quality of life. In light physical activity requires little effort and usually does not experience changes in breathing and endurance. Problems that are often encountered in adolescents, dietary patterns that lead to adolescents, food patterns that lead to disproportionate nutrition, and have not implemented balanced nutrition, such as consuming less fruit and vegetables, liking to consume soft drinks and fast food. Initiatives toward healthier eating behavior at home are thus essential, and relevant updates have been recently published for further action [8]. During the Covid-19 period, it is necessary to study nutrition and recommendations for physical activity. Supplementation of the diet with vitamin D has received particular attention as apotential therapy for covid-19 infection [24]. findings from the study will not only help evaluate effects of covid-19 restrictions on population level physical activity, but also identify the subpopulations at risk of a sedentary life style during the pandemic to inform preventive intervention strategies.

A healthy lifestyle that must be developed in the new normal is not only in the form of healthy behavior. However, because what the community is facing is the corona virus, which until now has not found a drug or vaccine that has been proven effective or has been applied in the community in general, the body's immunity is important. One of these immunity is with a good and healthy diet balanced with exercise to maintain body fitness so that it can increase body immunity. To prepare for future problems with infectious diseases or pandemics, it is necessary to conduct a comparative analysis before and after infectious diseases break out and take suitable measures. Additionally, among studies related to infectious diseases, there is insufficient research on the changes in life styles of people before and after covid-19, and there are few studies on how infectious diseases affect life styles, nutrition, and quality of life. The hypothesis of this research is that there is an effect of nutrition and physical activity on COVID-19. Therefore, this study summarizes these factors using basic data.

Problems that occur with the infectious disease covid-19, it is necessary to carry out a comparative analysis before and before covid-19 and take appropriate action. However, there has not been enough research on changes in physical activity, participants' beliefs about food to prevent COVID-19 and nutrition, especially among fitness groups in Singaraja Bali before the pandemic and before the pandemic. Therefore, it is necessary to study, analyze and provide education to the fitness group, this study summarizes these factors using a basic questionnaire survey. The purpose of this study was to determine the participants' physical activity, nutrition and beliefs about COVID-19 prevention foods. This research was conducted through an online questionnaire based on lifestyle profile issues related to COVID-19. Moreover, based on studies of changing lifestyle conditions due to the pandemic. The research aims to be used as a baseline to develop preventive actions that can be taken by the government.

Method

This study was designed as a cross-sectional online survey. Our findings, based on prospectively collected objective data, mostly confirmed findings form survey-based cross-sectional and retrospective studies [6]. Because of the implementation of social distancing due to the covid-19 pandemic, as well as our limited resources, we used an online survey method. The online survey was conducted using the google forms web survey platform. The link to the online survey questionnaire was distributed through social media platforms such as email, and the personal contacts of the research group members. We also asked participants to share the questionnaire link to increase the number of participants in this study. In this study, the sample signed a statement to be willing to follow the protocol during the study. The inclusion criteria for the study included: (1) community dwelling adults aged over 18 years and (2) join a fitness group in Singaraja. Individuals who agreed to participants the study checked the consent via email [2]. Those who participated were asked to complete online questionnaires and also answered questions regarding their general information and their lifestyle changes using the Yonsei Lifestyle Profile which had been developed based on previous research [9]. This study as conducted between May and July 2021, with a total of 370 respondents. This study was carried out with approval for ethical procedures. A total 60 items of the YLP measure three different lifestyle factors: (1) physical activity, (2) participation in activities, and (3) nutrition. Respondents are asked about of their participation in certain activities, and the number of times they consumed certain foods for week. In addition, satisfaction with their participation in physical activities and their participation in activities, as well as satisfaction with their consumption of nutrition were assessed. Therefore, YLP-S was developed to measure satisfaction lifestyle [36]. Rasch analysis provides estimates of principal components analysis (PCA) of Rasch residuals, item fit, rating scale properties, and internal consistency. This study measures multifaceted lifestyle factors among fitness groups. Responses were asked about

the frequency of their participation in activities, food and nutrition. They were asked to answer questions basing their answers on their typical routine before and before the onset of COVID-19. In addition, satisfaction with their participation in physical activity, food and nutrition.

A total of six items for physical activity were assessed using a five point Likert scale to measure the frequencies of respondents participation in six different physical activities and their satisfaction with their participation in these physical activities. Eight items for nutrition were assessed using a point Likert scale to measure nutrition during the week before and after covid-19 in order to measure the participants nutritional status. Finally, eight items for beliefs about Foods that Prevent covid-19 were assessed using a point Likert scale.

To investigate changes in life style and nutritional intake due to covid-19, this study calculated the descriptive statistics of indicators measured before and after the pandemic. A paired t test was used for analysis, and the confidence interval was set at 95%. The p-value was two sided, and statistical significance as set at $p<0.05$ all statistical analyses were performed using SPSS software version 23.0. missing data was processed using pairwise deletions. Therefore, the reaming items were used in the analysis, expect for the data of those who did not respond.

Results

Characteristics of the study population

Table 1. Demographic characteristics of the participants

Variables		n	(%)
Gender	Male	200	54,05
	Female	170	45,94
Continent	Kanaya gym	120	32,43
	Kebo Iwa gym	90	24,32
	Martuti gym	80	21,62
	Pusaka gym	80	21,62
Age (years)	18-35	120	32,43
	36-55	140	37,83
	>55	110	29,72

Table 1 Above there are 200 men and 170 women. There are several fitness clubs that became the research population, namely; kanaya as many as 120 people with a percentage of 32.43%; kebo iwa as many as 90 people with a percentage of 24.32%; martuti as many as 80 people with a percentage of 21.62% and gym heirlooms as many as 80 people with a percentage of 21.62%. age range from 18-35 years as many as 120 people with a percentage of 32.43%; age range 36-55 years as many as 140 people with a percentage of 37.83% and over 55 years as many as 110 people with a percentage of 29.72%.

Table 2. Nutritional Supplements Usage by Participants before and during Covid-19

Supplement	Before covid-19		During covid-19		T-test
	N	%	N	%	
Not used	50	13,51	50	13,51	0.18
Vitamin B12	60	16,21	40	10,81	0.12*
Vitamin C	80	21,62	10	2,70	0.09*
Iron	40	10,81	50	13,51	0.20
Vitamin D	23	6,21	70	18,91	0.15
Folic acid	40	10,81	40	10,81	0.01*
Omega-3	37	10	60	16,21	0.08
Propolis	40	10,81	50	13,51	0.05

Table 2 above contains 50 vitamin B12 supplements before covid-19 with a percentage of 13.51% while during covid-19 as many as 50 with a percentage of 13.51%; vitamin C supplements before covid-19 were 80 with a percentage of 21.62% while during covid-19 as many as 10 with a percentage of 2.70%; supplement iron before covid-19 was 40 with a percentage of 10.81 while during covid-19 it was 50 with a percentage of 13.51; vitamin D supplements as many as 23 with a percentage of 6.21% while during covid-19 as many as 70 with a percentage of 18.91%; folic acid supplements before covid-19 were 40 with a percentage of 10.81 while during covid-19 it was 40 with a percentage of 10.81; omega-3 supplements before covid-19 were 37 with a percentage of 10 while during covid-19 there were 60 with a percentage of 16.21; 40 propolis supplements with a percentage of 10.81 while during covid-19 it was 50 with a percentage and not used supplements were 50 with a percentage of 13.51% while during covid-19 it was 50 with a percentage of 13.51%. The only nutritional supplement that has increased in use is vitamin C [36].

Table 3. Participants Beliefs about Foods that Prevent Covid-19

Thoughts	n	%
Adequate and balanced diet is important, not a single food	30	8,10
Garlic	40	10,81
Yellow, red, and orange colored fruits and vegetables	50	23,51*
Vinegar	70	18,91
Yogurt, kefir, etc	80	21,62
Sumac	30	8,10
Giblets	36	9,72
Tumeric	34	9,18

Table 3 participants' beliefs about preventing COVID-19 include; adequate and balanced diet is important, not a single food as much as 30 with 8.10%; garlic as much as 40 with 10.81%; yellow, red, and orange colored fruits and vegetables as many as 50 with 13.51%; vinegar as much as 70 with 18.91%; yogurt, kefir, etc as much as 80 with 21.61%; sumac as much as 30 with 8.10%; giblets as many as 36 with 9.72%; turmeric was 34 with 9.18%. Prevention of the spread of COVID-19 by building body [34] is carried out with proper nutritional intake in the form of vegetables containing

minerals, vitamins, and bioactive compounds contained.

Table 4. Responses to the physical activity questionnaire recorded before and during covid-19

		before confinement	during confinement	t Test	P Value	Cohen's d
Vigorous intensity	Days/week	1.20 ± 1.11	1.10 ± 1.08	6.413	<0.001	0.342
	Min/week	21.2 ± 15.7	11.3 ± 10.2	2.334	<0.001	0.983
Moderate intensity	Days/week	23.21 ± 22.09	18.05 ± 15.30	6. 276	<0.001	0.246
	Min/week	22.12 ± 12.19	19.08 ± 12.20	4.523	<0.001	0.146
Walking	Days/week	30.12 ± 19.08	27.12 ± 22.12	5.735	<0.001	0.348
	Min/week	28.92 ± 26.02	23.09 ± 21.12	3.275	<0.001	0.269
ALL PA	Days/week	31.78 ± 28.98	28.67 ± 25.06	8.721	<0.001	0.239
	Min/week	27.53 ± 23.09	25.36 ± 24. 02	7.482	<0.001	0.754
Sitting	Hours/day	4.32 ± 3.22	3.22 ± 206	-21.347	<0.001	0.367

Table 4. responses to the physical activity questionnaire recorded before and during covid-19, among others; vigorous intensity Days/week before confinement of 1.20 ± 1.11, during confinement of 1.10 ± 1.08, t Test of 6.413, Cohen's d of 0.342; Min/week before confinement is 21.2 ± 15.7, during confinement is 11.3 ± 10.2, t Test is 2,334, Cohen's d is 0.983. Exercise increases the response of cells and the immune system within seconds to minutes after starting to exercise [25]

Moderate intensity Days/week before confinement is 23.21 ± 22.09, during confinement is 18.05 ± 15.30, t Test is 6. 276, Cohen's d is 0.246; Min/week before confinement is 22.12 ± 12.19, during confinement is 19.08 ± 12.20, t Test is 4,523, Cohen's d is 0.146. So, it is recommended to exercise regularly so that immunity is well maintained [25]

Walking Days/week before confinement of 30.12 ± 19.08, during confinement of 27.12 ± 22.12, t Test of 5.735, Cohen's d of 0.348; Min/week before confinement is 28.92 ± 26.02, during confinement is 23.09 ± 21.12, t Test is 3.275, Cohen's d is 0.269.

ALL PA Days/week before confinement of 31.78 ± 28.98, during confinement of 28.67 ± 25.06, t Test of 8.721, Cohen's d of 0.239. Min/week before confinement of 27.53 ± 23.09, during confinement of 25.36 ± 24. 02, t Test of 7.482, Cohen's d of 0.754 Sitting Hours/day before confinement of 4.32 ± 3.22, during confinement of 3.22 ± 206, t Test of - 21,347, Cohen's d of 0.367. A good practice is to start exercising at lower intensities and durations and build up slowly [22]. In terms of steps walked, ~10,000 steps/day is generally considered as a high level of PA, while ~1500 steps/day is classified as a low level of PA [37].

Discussion

This study provides a timely investigation of a multifaceted lifestyle (physical activity, food selection and nutrition) in the fitness group during the covid-19 pandemic. The main finding of this study showed that participants were important in consuming nutrients such as vitamin B6 supplements and Vitamin E ($p<0.05$). In foods that prevent covid, there are interesting results in yellow, red, and orange fruits and vegetables (23.51%). No difference was seen in physical activity during the pandemic and before the pandemic ($p<0.05$). Our data show that practitioners maintain physical fitness through sports activities with resistance training 2-3 days per week. This study shows that all physical activity did not decrease during the pandemic and before the pandemic. The group maintains stamina and maintains exercise stamina with a healthy diet and nutrition.

The community is faced with this pandemic condition. YLP-S compatibility represents all items according to one model. Finally, the results of the Rasch analysis of the YLP-S revealed the underlying hierarchical order of item difficulty. following physical exercise with a strong intensity for a week is an item that is difficult to see from the analysis of statistical results there are differences before and before during the covid-19 pandemic. It is described in this item requires strong physical function compared to daily life. satisfaction at moderate intensity for a week and every day there are statistical differences before and before the results of the covid-19 pandemic. These findings indicate that adults tend to participate in daily activity intensity exercises. goals with ongoing activities for a week and every day there are statistics on the results of the analysis of differences before and before during the covid-19 pandemic. This finding shows that adults are busy with activities in the office, therefore in their spare time they carry out gymnastics activities. On the satisfaction of All PA for a week and every day there are statistical analysis of differences before and before the results of the covid-19 pandemic. This finding shows that adults do physical activity only on holidays and free time. goals with sitting activities for an hour or per day show the difference before and before during the covid-19 pandemic. The YLP-S statistics showed good fit. Although the new type of coronavirus epidemic has affected the world, both health, entertainment and have seriously affected many sports [10]. To prevent the spread of covid-19, everyone must increase their immune system by

regulating a balanced and healthy diet. Nutritional status in adolescents is very important to note. The major findings of this study indicate that covid-19 has had a negative impact on healthy and active life styles, as well as mental health and quality of life [2]. During the covid-19 pandemic, physical activity and nutritional intake tend to decrease. The importance of physical activity during the covid-19 pandemic is also related to the immune system. The most important issue for the nutritional prevention of COVID-19 disease is an adequate and balanced diet to support the immune system. The covid-19 pandemic condition is a challenge to stay physically active and later this physical activity can affect a healthy quality of life. Our study illustrated that different factors that affect individuals lifestyle including physical activity, participation in activities, and nutrition, changed significantly before and after the pandemic, which led participants to lead not only a sedentary life but also an imbalanced one [2].

Improving the physical quality of the body can be achieved by activating the body to always move and do sports. Physical activity is essential for maintaining proper health and physical function even during a pandemic [11]. During this covid-19 pandemic, many sports buildings and fitness centers are closed in order to comply with government regulations. Physical exercise at home is easily carried out and will help maintain fitness levels [12]. Based on the data and facts obtained, it is hoped that the fitness community will always maintain and increase their physical activity during the covid-19 pandemic. Increased physical activity levels and fitness help alleviate or relieve covid-19 associated health problems such as depression, anxiety and stress (mental health) and at this time if an individual follows was a physical activity lifestyle or participate regularly in home based physical activity, it has been found to be an effective way of improving fitness and overall health of individual [13]. However, it should be noted that there was a significant floor effect in the aspect of nutrition [36]. Previous studies have shown that older people tend to have decreased appetite and nutritional

deficiencies because of physical limitations and chronic diseases [40]. Moreover, there was a significant difference in nutrition levels between older people who lived in metropolitan areas and older people who lived in small cities and rural areas [41]. Thus, it can be seen that there is a difference in the degree of satisfaction with the activities of daily living among age groups.

By maintaining body fitness through exercise activities accompanied by increasing optimal body immunity, so as to avoid various kinds of virus attacks that harm the body's condition. The frequency of exercise is set at >5 times per week, with 2-3 days per week of resistance exercise [3]. During the covid-19 pandemic, it is very important to maintain a good pattern of physical activity and the intake of food consumed because these two things greatly affect a person's immunity so that they are able to avoid various diseases or other viruses. Our study also showed that during the pandemic, the physical activity levels significantly decreased in all age groups considered [14]. The factor of exercise is very big influence so that the body's immunity is always maintained. We provide exercise interventions that can help support the maintenance of physical activity of low-to moderate-intensity during the current pandemic [15]. A good exercise to do to maintain the body's immunity is to do exercise with moderate intensity but for a longer duration. A good practice is to start exercising at lower intensities and durations and build up sowly [4]. Good nutritional status is needed to maintain a degree of fitness and health, help growth for a person, and support the development of athlete achievement [24]. With the limited distance according to government regulations, where each individual is required to maintain a distance and practice a healthy lifestyle by wearing a mask, washing hands, and several other rules, it is very unlikely that it will affect our space in carrying out sports activities. Still, the imposed social distancing rules and heightened concerns about being exposed to the virus might reduce the number of exercise participants in gym [16]. Therefore, it is very important for us to be able to carry out sports activities by implementing health protocols.

The body's immunity can work optimally and perfectly because with a healthy lifestyle, nutrition can affect the health of the body, not susceptible to disease. Research have shown that low to moderate-intensity exercise has far more significant effects on the immune system [17]. The steps taken to maintain and increase the body's immunity are like eating more vegetables and fruit. Nutrition has a critical role in the optimal functioning of the immune system and the resistance to infection, especially nutrients such as vitamin B6, vitamin C and zinc, among others [18]. Supplements containing vitamin B6, vitamin C and vitamin E are recommended. Among micronutrients, vitamin D is highly recommended as an essential nutrient that enters the body through the sun’s ultraviolet rays or some food sources such as fish and grains, egg yolks, and dried mushrooms [19]. The reader is referred to a comprehensive review of the potential for vitamin D supplementation to alter the immune system during infections elsewhere [25]. Moreover, considering that vitamin D plays a pivotal role in other important functions such as musculoskeletal activities, its supplementation could be potentially beneficial in the management of covid-19 patients [33]. Even if further studies should be performed to produce conclusive data on the role of vitamin D in influencing the outcome of covid-19 patients, collectively this evidence provides a strong rationale for future clinical research. Therefore, due to the restrictions and quarantine and the absence of people in the outdoor environment and not facing sunlight, the use of a diet rich in vitamin D can raise immune system function [20]. These three vitamins can provide benefits for the body to boost the immune system more optimally. Virus infections are marked by impairment of the immune system with a subsequent insufficient micronutrient reserve, as shown in a recent review, when several substances, such as vitamins (including vitamins A, B6, B12, C, D, E, and folate) and other elements (i.e., zinc,

iron, selenium, magnesium, and copper), are deficient [33]. With nutrition will provide foods high in calories, protein and enough vitamins and minerals to achieve optimal nutritional status.

Finally, it is important to note that vitamin D deficiency is often linked to an increased risk of respiratory infections: The latter point could be crucial in viral infections such as covid-19 [34]. For these reasons, in the scenario of a pandemic infection, although there is still no evidence in the literature that demonstrates with certainty the role of vitamin D in preventing the onset of covid-19, the use of supplements based on vitamin D has often been discussed as it is believed to play an important role in the prevention of viral infections. Several limitations should be considered in this research. First, the current study was based on data derived from a relatively small sample consisting of community-gymnastics. Therefore, the results of the study should careful implemented, and further studies should be conducted. Second, the data of this study were gathered through survey.

In general, Indonesians eat three times a day, namely breakfast, lunch and dinner. Growth requires nourishment for its development, especially puberty. Nutritional status is influenced indirectly by age, gender, and physical exercise. These three factors affect the level of nutritional needs and thus affect the state of nutrition.

Conclusion

Supplements containing vitamin B6, vitamin C and vitamin E are recommended. By maintaining body fitness through exercise activities accompanied by increasing optimal body immunity, so as to avoid various kinds of virus attacks that harm the body's condition. The frequency of exercise is set at >5 times per week, with 2-3 days per week of resistance exercise. Research have shown that low to moderate-intensity exercise has far more significant effects on the immune system [17]. Based on the data and facts obtained, it is hoped that the fitness community will always maintain and increase their physical activity during the COVID-19 pandemic. With nutrition will provide foods high in calories, protein and enough vitamins and minerals to achieve optimal nutritional status.

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