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Socialization of Osteoporosis Prevention Exercise and Covid-19 Vaccination Education

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A B S T R A C T

Gymnastics prevention for osteoporosis is a combination of several exercises with various benefits. Exercises such as low-impact aerobics, which helps improve heart and lung fitness, weight-bearing exercise to increase bone density, resistance to increase muscle strength and bone density, as well as coordination and balance which are beneficial to reduce the risk of falls and fractures. Community Service by the Association of Indonesian Healthy Bone Citizens (PERWATUSI) of Bali Province collaborates with the Clinical Pharmacy and Physiotherapy Study Program at the University of Bali International to educate the general public. The education regarding knowledge, beliefs, and appropriate exercise practices to prevent the early occurrence of osteoporosis and efforts to improve the immunity system for the Covid 19 vaccination preference. The service method is carried out by socializing and practicing gymnastics in the field, followed by discussions and questions and answers with a resource person. During this study, approximately 50 public communities were enrolled. The activity went smoothly and was supported by outstanding attention from the participants. The implementation of community service with various parts needs to be intensified to provide benefits to improve the health status of the community.

INTRODUCTION

Osteoporosis is often called the silent disease or latent bone loss because it is "silent" and often has no symptoms. However, if osteoporosis is a complication, it leads to severe problems such as chronic pain and disability, loss of self-control, decreased quality of life, and increased mortality (Ali et al., 2018). Hence For chronic diseases such as osteoporosis, Health care systems must focus on raising awareness of this disease through education. Educational interventions are ideal for osteoporosis because of various modifiable risk factors, such as inadequate calcium intake and limited physical activity. It also has the potential to increase poor adherence to osteoporosis treatment. Previous research has shown that interventions ranging from weeks to single sessions can increase awareness of osteoporosis and increase calcium intake and endurance exercises.

Anyone can experience osteoporosis, including children and adults. However, the condition is more common in postmenopausal women due to decreased estrogen levels, essential in maintaining bone density. Osteoporosis is a condition in which bones become weak and break easily. The body is constantly absorbing and replacing bone tissue. In osteoporosis, the rate of new bone formation is slower than in removing old bone tissue. Many people have no symptoms until they break a bone. Treatment for

osteoporosis includes medication, healthy eating, and strength training to help prevent bone loss or strengthen weak bones.

Exercise to prevent osteoporosis will increase the lungs and heart work efficiency and helps improve and maintain essential fitness components, including cardiovascular endurance (heart - lungs - blood circulation), body fat, muscle strength and joint flexibility. Exercise exercises work to synthesize the cardiovascular and respiratory systems to meet the O₂ needs of active tissues and can remove CO₂ and heat generated during exercise. Several studies have shown that aerobic exercise improves cardiovascular performance in healthy elderly people with a marked increase in VO₂max (Brecher et al., 2002). Counseling and introduction of osteoporosis exercise are expected to improve fitness so that the body's resistance is better to prepare for many vaccinations and get through the Covid-19 pandemic.

Coronavirus Disease 2019, or what is often called Covid-19, is a pandemic that has resulted in several significant changes in various sectors. Data from the Ministry of Health of the Republic of Indonesia as of April 3, 2020, stated that 1,821,703 positive cases of Covid-19, 1,669,119 people recovered, and 50,578 deaths. Various regulations have been implemented, including implementing social distancing for all forms of activity, Large-Scale Social Restrictions (PSBB) as included in Government Regulation No. 21 of 2020 concerning Health Quarantine. Even to the Enforcement of Restrictions on Community Activities (PPKM) as contained in the Instruction of the Minister of Home Affairs Number 1 of 2021 concerning PPKM in Java-Bali and government efforts currently being implemented, namely the vaccination program.

However, the Covid-19 vaccination program has given rise to a new polemic in which not a few people have taken this vaccination program for granted. There are many presses and conditions to the Covid-19 vaccination program imposed by the government. The reasons of pros and cons of having a vaccination program are one of the interesting issues related to vaccination. In Indonesia, the vaccine is an obligation or right of every citizen. The vaccination issue gives pretty risky symptoms, especially people with chronic diseases and the elderly. The Covid-19 vaccination is one of the many government programs tackling the Covid-19 outbreak. The Presidential Decree No. 12 of 2020 regarding the Determination of Non-Natural Disasters stated the spread of Corona Virus Disease 2019 (Covid-19) as National Disasters. The purpose of this activity is to provide evidence-based education related to knowledge, beliefs, and appropriate exercise practices to prevent the early occurrence of osteoporosis for the general public and give preference to readiness for Covid-19 vaccination.

METHOD

This activity was held on Friday, April 4, 2021, at 07.00-09.00 WITA using the field method to socialize the Osteoporosis Prevention Exercise Series I and counsel about Covid-19 vaccination given to residents

of residential areas in the East Denpasar area. This activity is a community service that aims to increase understanding and awareness of the proper exercise for the community and increase body immunity during the Covid-19 pandemic.

The resource persons for this activity are:

1. dr. Ida Ayu Ratih Wulasari Manuaba, Sp.pD-KR, MM., M.Kes., FINASIM, FINEM.
2. apt. I Gusti Ayu Rai Widowati, S.Si., M.Kes.
3. apt. Ida Ayu Manik Partha Sutema S.Farm., M.Farm.

Gymnastics instructor:

1. Mrs. Komang Suratni
2. Mrs. Dedek

RESULT AND DISCUSSION

The activity was held with several participants, 60 people held according to schedule. Participants' enthusiasm looked very good, as evidenced by the number of questions asked throughout the activity, interactive and straightforwardly directed discussions.

This activity provides information about osteoporosis knowledge and a healthy lifestyle. We understand that a simple intervention in the form of socialization will be beneficial in increasing knowledge about osteoporosis in the community. Additional information about the risk of fracture also helps in making lifestyle changes. It is hoped that in the future, people will be more familiar with osteoporosis prevention from an early age, including by being active in sports such as gymnastics. In addition to preventing osteoporosis, it also helps nourish other organs of the body.

Osteoporosis is a growing burden on individuals and society. There is no known cure for this complex disorder, and non-pharmacological interventions must be clearly defined. Exercise therapy has a positive impact on the quality of life of people with osteoporosis, and the condition has some aspects of other chronic pain conditions. The understanding of osteoporosis and its manifestations has improved in recent years; therefore, therapies and treatment options are available to manage the disease (Edwards & Hackell, 2016). In primary care, home exercise and self-exercise can reduce the intensity of knee and hip pain (Dell'Isola et al., 2020). Social support is most often offered through peers, healthcare professionals, but also through sports coaches/instructors. A healthy diet and lifestyle can help prevent osteoporosis. The positive social interactions provided and the emotional/informative support provided by healthcare professionals help provide insight into best practices for patients' self-governing programs (Bidwell et al., 2018)(Laslett et al., 2011).

A practical and safe vaccine must be rapidly and widely available to the public as soon as possible to significantly reduce the morbidity and mortality of COVID19. However, vaccine availability alone is not

sufficient to guarantee broad-spectrum immune protection; Vaccines must also be acceptable to the health care community and the general public. Hesitancy with vaccines is a significant obstacle to vaccination and obtaining the herd immunity needed to protect the most vulnerable populations. Depending on various biological, environmental, and social factors, the threshold for herd immunity to COVID19 can vary from 55% to 82% of the population (Lee et al., 2013).

Frontline health workers play a central role in promoting vaccination against COVID19. Many studies have shown that doctors and healthcare professionals have the most significant influence on vaccination decisions (Sanche et al., 2020). Therefore, strong recommendations from health care workers can increase public support. Community and individual exposure to COVID19 vaccination (Winzenberg et al., 2005). Several studies examining the role of physicians and the influence of health care professionals on patient attitudes and beliefs about immunization are also important. This activity ensures that all communities have confidence in the safety and effectiveness of the COVID19 vaccine and ensures strong community support for proactive immunization. In addition, osteoporosis exercise counseling will increase readiness to participate in the Covid 19 vaccination, where this exercise functions to increase the fitness and immunity of the elderly.

In conclusion, simple educational interventions for participants in the form of socialization and counseling on the implementation of elderly gymnastics regularly basis are quite effective in increasing knowledge of early osteoporosis prevention and readiness to participate in the Covid 19 vaccination program. Health education may benefit from providing information about the risk of osteoporosis-related fractures, raising awareness about the prevention or treatment of chronic diseases such as osteoporosis, and exercise preferences for those with osteoporosis to improve their physical condition. In addition, this activity will reduce the burden of osteoporosis at the national level and bring success to the vaccination against Covid 19.



Figure 1. Photo of Osteoporosis Prevention Gymnastics Socialization Activities



Figure 2. Photo of Covid-19 Vaccination Counseling Activities

CONCLUSION

The Socialization of Osteoporosis Prevention Gymnastics and Covid-19 Vaccination Counseling was carried out smoothly and supported by good attention from residents of the residential area in East Denpasar. The activity output shows that the participants' absorption is very good for the result. It is hoped that this will become the foundation for fit behavior in the community to increase the body's immune system and how to choose the right, regular, and measurable exercise. The activities implementation with the community and the community needs to be intensified so that it can provide practical benefits for the community

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