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The Relationship Between Physical Activity and Mental Health: A Literature Review

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Abstract

This study aims to examine the relationship between physical activity and mental health through a qualitative approach with a literature study method. The increasing prevalence of mental disorders such as depression, anxiety, and stress indicates the need for alternative non-pharmacological strategies that are effective, affordable, and applicable on a wide scale. Physical activity has been shown to provide significant benefits not only physiologically, but also psychologically and socially. Through an analysis of various national and international scientific literature in the period 2014–2024, this study found that physical activity can reduce symptoms of mental disorders through biological mechanisms such as the release of endorphins and increased positive neurotransmitters. In addition, exercise also contributes to increasing self-esteem, reducing loneliness, and building healthy social relationships. However, public literacy regarding the mental benefits of physical activity is still low. Therefore, the results of this study emphasize the need for educational campaigns, as well as the integration of physical activity in mental health policies. This study provides a theoretical and empirical basis for the development of health programs based on scientific evidence. Physical activity needs to be viewed as part of a promotive and preventive strategy in building sustainable psychological well-being of the community.

Keywords: Physical activity, Mental health, Literature study

Introduction

In recent years, mental health disorders have become a public health issue of great concern worldwide. A report from the World Health Organization (WHO) shows that more than 970 million people worldwide suffer from mental disorders, including depression, anxiety, and stress disorders. The COVID-19 pandemic that has hit since 2020 has worsened this condition, with increasing social isolation, economic stress, and uncertainty about the future affecting the psychological condition of the community at large. Mental disorders not only impact individuals personally, but also carry a major social and economic burden, including increasing health costs and decreasing work productivity. Therefore, a promotive and preventive approach is needed to reduce the

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prevalence of mental disorders, especially through methods that are affordable and accessible to all groups.

One of the non-pharmacological approaches that shows great potential in maintaining and improving mental health is physical activity. Physical activity such as regular exercise, walking, yoga, or other physical activities have been shown to improve mood, reduce anxiety symptoms, and reduce stress levels. This process occurs through physiological mechanisms such as the release of endorphins, serotonin, and dopamine—brain chemicals that play a role in producing positive and calming feelings. Various studies have supported these findings, for example the study by Mikkelsen et al. (2017) which showed that moderate to high intensity exercise can significantly reduce symptoms of depression. Thus, physical activity has a strategic value in supporting the mental health of people who are currently experiencing multidimensional pressure.

However, many people still do not understand the psychological benefits of physical activity. Generally, exercise is understood only as an effort to maintain fitness or lose weight, without realizing its contribution to improving mental health. This gap in understanding indicates the need to improve health literacy, especially that which links physical activity and psychological well-being. A study by O'Hara et al. (2020) revealed that most individuals are unaware that exercise can be an intervention for mental disorders. This indicates the importance of health education and campaigns that integrate a mental perspective in promoting an active lifestyle, so that people do not only focus on physical aspects but also emotional and mental balance.

Therefore, it is important to conduct a systematic literature study to collect and review existing scientific findings on the relationship between physical activity and mental health. This study is needed as a basis for developing health policies, preparing community intervention programs, and providing practical recommendations for mental health services. In various countries, the integration of physical activity into psychosocial approaches has begun, such as the "Exercise on Prescription" program in the UK which recommends physical activity as a therapy for mild to moderate depression. Literature studies play an important role in providing a comprehensive theoretical framework and empirical evidence to support this integration. Therefore, this study is not only academically relevant, but also has practical and applicable value in shaping the direction of promotive and preventive mental health policies in the present and future.

Method

This study uses a descriptive qualitative approach with a literature study method (library research) as the main strategy in data collection and analysis. This approach was chosen because the study aims to describe, explore, and analyze in depth various scientific findings related to the relationship

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between physical activity and mental health from various theoretical and empirical perspectives that have been published.

The data sources in this study come from secondary literature including national and international scientific journals, research articles, academic books, and reports from the World Health Organization (WHO) and trusted mental health institutions. Inclusion criteria in literature selection include publications relevant to the topic of physical activity and mental health, published in the last 10 years (2014–2024), and have open access or are available through academic databases such as PubMed, ScienceDirect, Google Scholar, and ResearchGate. Meanwhile, opinionated literature without empirical basis and non-scientific popular publications were excluded from the analysis.

The collected data was then analyzed using thematic content analysis, namely by identifying the main themes that emerged from various literatures, grouping them based on theoretical categories, and examining the relationships and tendencies that emerged between studies. Researchers also conducted a comparative process between the results of one study and another to identify general patterns, differences, and possible research gaps.

By using this approach, the research is expected to provide a comprehensive understanding of how physical activity contributes to mental health, as well as present a conceptual framework that can be the basis for further research and the formulation of evidence-based intervention policies and programs in the fields of public health and psychology.

Results and Discussion

Mental health is a dynamic condition that reflects an individual's ability to manage stress, build healthy social relationships, and be productive in everyday life. In a global context, mental health is getting more attention due to the increasing number of mental disorders such as depression and anxiety. The WHO report (2022) shows that more than 1 in 8 people in the world experience mental disorders, which ultimately impact productivity, quality of life, and the burden of health care costs. This phenomenon shows the importance of an approach that is not only oriented towards healing (curative), but also towards prevention and improving the quality of life as a whole. Within this framework, physical activity is starting to be considered as one of the potential and relatively inexpensive interventions to support mental health.

Physical activity not only has an impact on physical health such as cardiovascular fitness or weight loss, but also has a significant contribution to psychological well-being. The biological mechanisms that occur during physical activity include the release of endorphins, serotonin, and dopamine, which are neurotransmitters that play a role in improving mood and reducing anxiety. A study by Kandola et al. (2019) showed that regular exercise is negatively correlated with

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depression levels, and individuals who are physically active have a lower risk of developing mental disorders than individuals who are sedentary. These positive effects can even be achieved with moderate-intensity physical activity such as walking for 30 minutes per day.

In addition to biological mechanisms, physical activity also provides psychosocial effects that are no less important. Through physical activities that are carried out routinely and in a structured manner, individuals can experience increased self-confidence, self-control, and personal achievement. In the context of group sports, social aspects such as peer support and social interaction also strengthen the positive impact on mental health. According to a study by McDowell et al. (2017), participation in a sports community or group gymnastics can improve mood and reduce feelings of loneliness. This shows that physical activity also functions as a medium for building positive social connectedness, which is an important element in maintaining mental health.

On the other hand, lack of physical activity can actually increase the risk of mental disorders. A sedentary lifestyle, which is common in today's digital era, has been associated with increased stress, depression, and sleep disorders. A study by Teychenne et al. (2020) stated that prolonged sitting without balanced physical activity can trigger mood disorders and interfere with cognitive function. This confirms that physical activity is not only a complement to maintaining mental health, but is an essential component. Therefore, it is important to build active living habits as part of a promotive strategy in public health.

However, the implementation of physical activity as a mental health intervention still faces challenges, especially in terms of public literacy. Many individuals do not yet understand that exercise is not only beneficial for physical health, but is also a form of inexpensive and accessible psychological care. A study by O'Hara et al. (2020) revealed that public awareness of the relationship between exercise and mental health is still low, especially in developing countries. This shows the importance of educational and socialization campaigns that emphasize not only physical fitness but also the mental benefits of physical activity.

This study also shows that the benefits of physical activity on mental health apply to various age groups. In adolescents, physical activity helps reduce levels of social anxiety and increase self-esteem, while in adults and the elderly, physical activity has been shown to slow cognitive decline and improve overall quality of life. A meta-analysis by Schuch et al. (2016) found that exercise has a significant therapeutic effect in reducing symptoms of mild to moderate depression, and can be used as an alternative or complement to pharmacological therapy. Therefore, a physical activity-based approach can be flexibly adapted according to the needs and characteristics of the target group.

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Furthermore, the results of this study indicate that the most effective form of physical activity for mental health is activity that is regular, measurable, and in accordance with individual capacity. Activities such as aerobics, yoga, brisk walking, and competitive sports provide different benefits, depending on the intensity, duration, and motivation of the individual. According to research by Biddle et al. (2019), moderate-intensity exercise that is done consistently is more effective in reducing symptoms of mental disorders than sporadic vigorous activity. This reinforces the importance of an individual and contextual approach in designing exercise-based interventions for mental health.

The findings of this literature study also support the need to develop public policies that integrate physical activity programs as part of mental health services. For example, the implementation of "exercise referral schemes" in several developed countries has proven the effectiveness of exercise prescribed by health workers to patients with mild psychological disorders. This program shows positive results in increasing community motivation and participation in exercise, while reducing dependence on pharmacological interventions. In Indonesia, this kind of approach is still minimal, and the results of this study can be the basis for the government to develop similar policies based on scientific evidence.

Overall, this literature review strengthens the understanding that physical activity has a strategic role in maintaining and improving the mental health of individuals and the wider community. Its multidimensional impacts—both biological, psychological, and social—show that exercise not only affects the body, but also mental and emotional balance. Therefore, there needs to be a joint effort from the government, educational institutions, communities, and health practitioners to make physical activity an integral part of a healthy lifestyle and a comprehensive mental health intervention strategy.

Conclusion

Based on the results of the literature review that has been conducted, it can be concluded that physical activity has an important and strategic role in supporting individual mental health. Physical activity has been shown to reduce symptoms of psychological disorders such as depression, anxiety, and stress through biological mechanisms such as the release of endorphins and other neurotransmitters that have a positive impact on mood. In addition, exercise also provides psychosocial benefits, such as increased self-confidence, self-achievement, and the quality of social relationships. Studies show that participation in regular physical activity contributes to an increase in overall quality of life. However, public awareness of these benefits is still relatively low, so integrated health literacy efforts are needed. Physical activity that is carried out regularly and according to individual capacity has been shown to be more effective than

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sporadic activity. Mental health programs that integrate physical activity have been shown to reduce dependence on pharmacological therapy. Therefore, physical activity needs to be positioned as part of a preventive and promotive strategy in national mental health policies. This study also emphasizes that this non-pharmacological approach can be applied to various age groups. Thus, exercise is a simple form of intervention but has a major impact on mental well-being. This literature study is an important basis for further research that is more in-depth and applicable. Ultimately, the synergy between physical activity and mental health must be a priority in the public health development agenda.

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