

Yoga intervention as a promising approach to improve quality of life for 21-60 years people with HIV: a literature review



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ABSTRACT

Background: Human immunodeficiency virus (HIV) prevalence is a critical challenge for global public health systems. People living with HIV (PLHIV) experience a variety of physical, mental, and social difficulties that can have a negative influence on their overall quality of life. Yoga, for example, has received attention for its potential to increase well-being in people living with HIV. This review of the literature investigates the effect of yoga intervention on the quality of life of PLHIV aged 21 to 60 years old.

Methods: This study employed library research, which drew on online scientific literature about the influence of yoga intervention on the quality of life of PLHIV aged 21 to 60. Six relevant papers demonstrating the beneficial effects of yoga on PLHIV were discovered in the review.

Results: When compared to control groups, yoga therapies significantly improved physical well-being, mental health, social functioning, and emotional well-being. Yoga's holistic and integrative nature, which included physical postures, breathing exercises, and meditation, helped PLHIV reduce stress, increase mood, and promote psychological well-being. Yoga benefits include increased physical fitness, flexibility, and a sense of community and togetherness.

Conclusion: Yoga intervention has the potential to improve the quality of life and overall health of PLHIV. Yoga can improve well-being and coping mechanisms when incorporated into HIV management plans.

Keywords: HIV, PLHIV, quality of life, yoga.

Cite This Article: Negara, A.A.G.A.P. 2023. Yoga intervention as a promising approach to improve quality of life for 21-60 years people with HIV: a literature review. *Physical Therapy Journal of Indonesia* 4(2): 241-245. DOI: 10.51559/ptji.v4i2.154

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Received: 2023-06-20

Accepted: 2023-09-11

Published: 2023-10-31

INTRODUCTION

Due to the continuous global presence of the human immunodeficiency virus (HIV), public health systems around the world continue to face considerable problems. According to the World Health Organization (WHO), around 0.7% (0.6-0.8%) of persons aged 15-49 years live with HIV worldwide.¹ In 2021, there will be roughly 38.4 million people living with HIV (PLHIV) worldwide. 36.7 million were adults, with the remaining 1.7 million being children under the age of 15.^{2,3} The vast majority of HIV patients live in low- and middle-income countries, with the WHO African Region bearing the brunt of the burden. One in every 25 adults (3.4%) in this region is infected with HIV, accounting for more than two-thirds of the global HIV population.¹ There were an estimated 1.5 million new HIV infections in 2021, a significant decline from the 3.2 million new infections reported in 1996.³

Over the years, the number of newly acquired HIV cases has decreased, while the number of HIV patients undergoing treatment in resource-poor nations has increased dramatically.²

Despite advancements in medical treatments, PLHIV often faces various physical, emotional, and social burdens that can significantly impact their overall quality of life. As a result, academics and healthcare providers have begun to investigate complementary interventions that help improve the well-being and coping mechanisms of PLHIV. A study published in the PubMed Central (PMC) database examines the role of socioeconomic inequalities and disease-related factors in the health-related quality of life (HRQOL) of PLHIV. The study emphasizes the significance of enhancing PLHIV's general well-being and life expectancy, as well as managing HIV as a chronic and curable disease.^{4,5} Another study published in the PMC database looks

at the relationship between HRQOL and social support among PLHIV in Ethiopia who are taking antiretroviral medication. The study emphasizes the serious social challenges that PLHIV encounters, such as rejection, abandonment, criticism, and stigma, all of which have a negative influence on their quality of life.⁶ The impact of the HIV epidemic on life expectancy in Sub-Saharan Africa is shown in Our World in Data. According to the data, the HIV epidemic had a major influence on life expectancy in the region, and it took a long time to return to pre-epidemic levels. Furthermore, Sub-Saharan Africa continues to have the greatest fatality rates, particularly among young adults and children.⁷

Yoga has emerged as a promising contender among these alternative therapies due to its holistic and integrative nature. Yoga blends physical postures, breathwork, meditation, and mindfulness practices to provide a holistic approach

to both the body and the mind. Its ability to reduce stress, increase immunological function, and encourage emotional resilience makes it an appealing therapeutic option for PLHIV.⁸ The efficacy of yoga therapies on psychological distress among PLHIV was explored in a comprehensive review and meta-analysis published in the PMC database. When compared to control groups, those who received yoga therapies had significant improvements in perceived stress, positive affect, and anxiety. As a result, the study indicated that yoga holds significant promise as a stress management strategy for PLHIV.⁸

An article on WebMD discusses the health benefits of yoga for PLHIV. According to the article, yoga helps reduce stress, enhance fitness and flexibility, and alleviate low back discomfort. Furthermore, the study found that more than half of PLHIV use non-drug therapy to manage virus-related symptoms, side effects, and mood.⁹ Another comprehensive review and meta-analysis published in the ScienceDirect database discovered that yoga is a promising stress management strategy for PLHIV. The study stated that randomized controlled trials with objective stress assessments are required to further investigate the advantages of yoga for PLHIV.⁸ A systematic scoping study published in the BioMed Central (BMC) Complementary Medicine and Therapies database discovered that PLHIV regularly employs mind-body practices, such as yoga, to reduce symptoms and increase well-being. Yoga also improves exercise capacity and health-related quality of life in those with heart disease, stroke, and chronic obstructive pulmonary disease, according to the study.¹⁰

Up until now, there has been a notable research gap concerning the impact of yoga intervention, specifically on PLHIV within the age range of 21 to 60 years old. Surprisingly, no studies have specifically explored the effects of yoga practices on this particular age group within the HIV community. The age range of 21 to 60 years is of significant importance due to several factors.

For starters, it denotes a critical phase in adulthood during which individuals are expected to face a variety of life obstacles and responsibilities. People in this age group frequently confront higher

stress levels, work commitments, and family responsibilities, which can have a significant impact on their general well-being.¹¹ Second, PLHIV may be grappling with continuing care of their condition, sticking to antiretroviral treatments, and managing potential drug side effects during these years. The physical and mental toll of HIV can be very severe in this age group, making it critical to investigate therapies that can improve their quality of life.¹² Third, people between the ages of 21 and 60 are more likely to be involved in social, professional, and personal activities. Understanding the possible advantages of yoga for this age group can, therefore, provide practical insights into how yoga intervention can improve their coping processes, stress management, and overall health.¹³

By addressing this research gap and examining the impact of yoga on PLHIV aged 21 to 60 years old, we can gain valuable knowledge about the specific needs and potential advantages of integrating yoga practices into the care and support provided to this particular age group. The ultimate goal of this investigation is to pave the path for customized and successful yoga therapies that can greatly improve the quality of life for PLHIV throughout their prime adult years. The purpose of this literature review is to investigate the impact of yoga treatments on the quality of life of PLHIV. We hope to provide a full picture of the effects of yoga practice on various facets of life for this specific group by thoroughly evaluating and analyzing relevant studies. This review will concentrate on research that evaluated the association between yoga therapies and PLHIV quality of life.

METHODS

This literature selected studies from the following database. A thorough search of electronic databases, including PMC, NCBI, ScienceDirect, and Google Scholar, will be conducted. The search terms will encompass various combinations of keywords related to PLHIV, yoga, and quality of life.

Studies eligible for inclusion in this literature review must meet the following criteria: 1) Published in peer-reviewed journals or reputable sources within ten

years, 2) Written in English, 3) Study design is a randomized controlled trial (RCTs), 4) Using sample between 21-60 years old, 5) Focus on yoga interventions and their impact on the quality of life among PLHIV, and 6) Include outcome measures related to quality of life. Studies will be excluded if they: 1) Are not directly related to yoga interventions, 2) Focus solely on children and animals, 3) Lack clear outcome measures related to quality of life, 4) Abstract, and 5)

The independent reviewer will be responsible for the initial screening of titles and abstracts to identify potentially relevant studies. Afterward, full-text articles from the selected studies will be obtained and carefully assessed for eligibility. During the data extraction process, the reviewer will gather information from the included studies, which will include study design, sample characteristics, intervention details, outcome measures, and critical findings.

The included studies' quality and risk of bias will be assessed using suitable tools, such as the Cochrane Risk of Bias tool, specifically designed for randomized controlled trials (RCTs). The findings from the selected studies will be synthesized and presented narratively. We will discuss the impact of yoga intervention on the quality of life of PLHIV, drawing connections between the outcomes reported in the studies. Possible limitations of the reviewed studies will be identified and discussed, such as small sample sizes, potential biases, and heterogeneity among the interventions.

This study seeks to give significant insights into the potential advantages of yoga as a supplemental intervention for PLHIV by performing a comprehensive literature review. The findings could help healthcare providers, academics, and policymakers understand the role of yoga in improving the overall quality of life and well-being of PLHIV.

RESULTS

The initial search across four databases yielded a total of 38 articles. Subsequently, applying the inclusion and exclusion criteria resulted in obtaining five relevant articles. A detailed explanation of the study selection process is provided in [Figure 1](#).

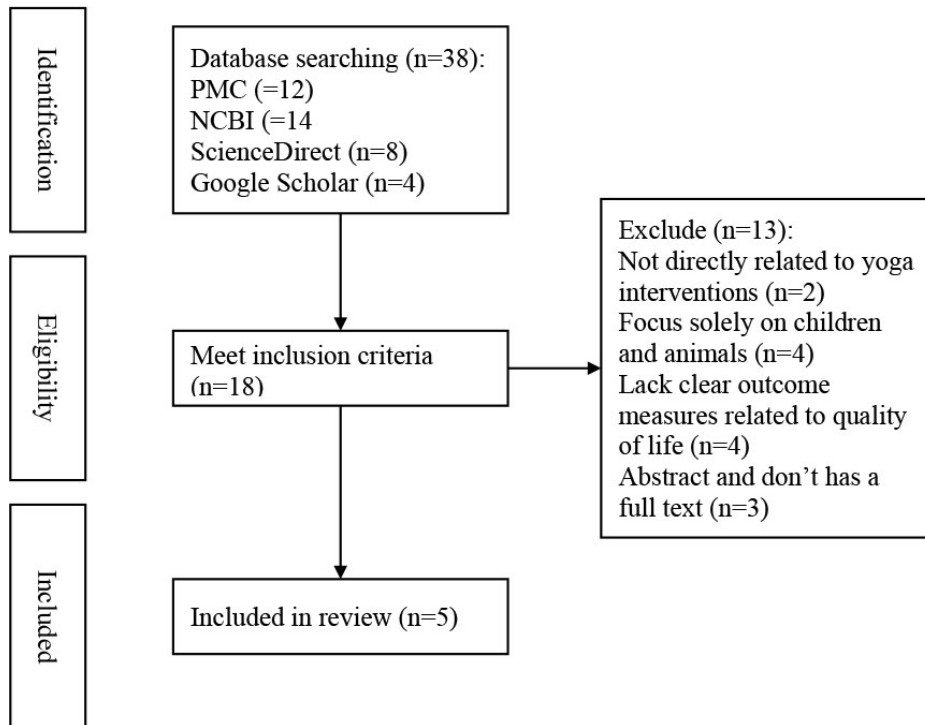


Figure 1. Flow chart of the search strategy.

Eighteen studies found the eligibility criteria that are thirteen samples including not directly related to yoga interventions (n=2), focus solely on children and animals (n=4), lack clear outcome measures related to quality of life (n=4), and abstract and don't has a full text (n=3).

Samples of the study mostly were older people aged 24-60 years old. They were eligible to be critical for people living with chronic diseases and accessible to people of all fitness levels, making them appropriate for those with a variety of health issues. The subjects were recruited using the following various methods: web page and posters around campus, volunteering, and campaign.

As shown in Table 1, the intervention for regular yoga intervention improves the overall quality of life of PLHIV. Yoga's mind-body practices aid in stress reduction, mood enhancement, and physical and psychological well-being. Those who participated in yoga sessions had better physical health, mental health, social functioning, and emotional well-being as compared to control groups.

DISCUSSION

The quality of life of PLHIV is a significant concern in healthcare, as they often face

various physical, psychological, and social challenges. Complementary interventions, such as yoga, have gained attention for their potential to improve the overall well-being and quality of life of PLHIV.

Agarwal et al. (2015) demonstrated that regular yoga intervention significantly improved the overall quality of life in PLHIV. The yoga intervention group showed positive changes in physical well-being, mental health, social functioning, and emotional well-being compared to the control group.¹⁴ This study supports the potential benefits of yoga in enhancing the quality of life for PLHIV. The mind-body practices of yoga may contribute to reducing stress, improving mood, and addressing both physical and psychological aspects of well-being.¹⁴

Nawar et al. (2015) revealed a significant improvement in the overall quality of life of PLHIV after an integrated yoga intervention. The integrated yoga group experienced positive effects on mental health, social relationships, and emotional well-being.¹⁵ Indeed, this study underscores the potential of integrated yoga as a comprehensive intervention to improve the quality of life among PLHIV. Yoga, which incorporates physical postures, breathing exercises, meditation, and relaxation techniques, may effectively

address many dimensions of well-being and foster higher mental and emotional health in this group.¹⁵

Kuloor et al. (2019) found that a 12-week yoga intervention enhanced the quality of life and mental health of drug-addicted PLHIV. The intervention improved depression symptoms, anxiety, and stress levels.¹⁶ Yoga may be a good intervention for drug-dependent PLHIV since it can improve their mental health and overall well-being, according to one study. Yoga's mind-body approach may be beneficial to this population's substance misuse treatment programs.¹⁶

According to Quigley et al. (2019), a yoga intervention improved fatigue, mood, and general quality of life in PLHIV. Participants who practiced yoga regularly reported less weariness and improved happiness and well-being.¹⁷ This study adds to the evidence that yoga may help PLHIV manage tiredness while also improving mood and quality of life. Yoga may be a non-pharmacological way to improve the health of persons afflicted with the virus.¹⁷

According to the most current study by Quigley et al. (2020), a 12-week yoga intervention showed a substantial positive impact on physical functioning and health-related quality of life among PLHIV.¹⁸ Yoga has the potential to improve physical functioning and overall quality of life in PLHIV, according to one study. Yoga practices on a regular basis may improve physical well-being and general health-related quality of life.¹⁸

Several studies have discovered that regular yoga intervention improves the overall quality of life of PLHIV. Yoga's mind-body practices aid in stress reduction, mood enhancement, and physical and psychological well-being. Those who participated in yoga sessions had better physical health, mental health, social functioning, and emotional well-being as compared to control groups. The comprehensive yoga intervention was especially beneficial, improving PLHIV's mental health, social interactions, and emotional well-being. Yoga's holistic approach, which incorporates physical postures, breathing exercises, meditation, and relaxation techniques, addresses a wide range of well-being issues. This all-

Table 1. Key features of studies included in the review

Authors (year)	Sample	Intervention	Outcomes measured	Results
Agarwal et al. (2015)	Age= 24-57 n=24	Yoga / Meditation Intervention Doses: 60-minute, twice a week for 2 months	- Quality Of Life (According To The Short Form-36, Perceived Stress Scale (PSS), and Impact of Events Scale (IES) - Salivary Cortisol - Dehydroepiandrosterone Sulfate (Dhea S)	The utilization of yoga or meditation has been found to enhance the quality of life and biomarkers of stress among PLHIV who also use crack cocaine. ¹⁴
Mawar et al. (2015)	Age= 28-40 n=61	Sudarshan Kriya yoga (SKY) Intervention D o s e s : 6 0 - m i n u t e s , 6-times a week for 3 months	- Quality of Life (QOL) Scores - Physical Health-Related QOL Domain - Psychological Health-Related QOL Domain - Level of Independence Health Related QOL Domain	Sudarshan Kriya yoga improved physical and psychological state of healthy PLHIV. ¹⁵
Kuloor et al. (2019)	Age= 30-50 n=60	Yoga Intervention D o s e s : 60-minutes, 5-times a week for 2 months	- Anxiety - Depression - Psychological Well Being - Quality of Life (QOL) - Fatigue	Yoga may be recommended as a complementary therapy to enhance conventional HIV care. ¹⁶
Quigley et al. (2019)	Age= 35-60 n=25	Yoga Intervention D o s e s : 60-minutes, 3-days a week for 3 months	- Cognition - Balance - Walking Speed - Physical Activity - Mental Health - Medication Adherence - Quality of Life	Yoga has been shown in numerous clinical populations to be a beneficial method of exercise and mindfulness-based stress reduction. ¹⁷
Quigley et al. (2020)	Age= 35-60 n=22	Yoga Intervention D o s e s : 60-minutes, 3-days a week for 3 months	- Cognition - Physical Function - Medication Adherence - Health Related Quality of Life (HRQOL) - Mental Health	Yoga is feasible and beneficial for PLHIV. ¹⁸

encompassing approach fosters improved mental and emotional health, which contributes to general well-being and balance.

Yoga has been shown to improve the quality of life of PLHIV in a variety of ways. Yoga, with its holistic and integrative approach, addresses both the physical and psychological aspects of wellness, making it a valuable complementary intervention for PLHIV. Mind-body practices in yoga, such as physical postures (asanas), controlled breathing (pranayama), and meditation, aid in stress reduction and relaxation, which is especially beneficial for HIV patients. Yoga encourages relaxation and awareness, which help with the management of emotional distress and anxiety, hence improving mental health and emotional well-being.^{8,19}

Yoga also improves physical fitness and flexibility, which leads to increased energy and better physical functioning. Yoga is a

gentle and adaptable form of exercise that helps the overall health of PLHIV, who may face weariness and physical restrictions. Additionally, the meditative component of yoga enhances self-awareness and acceptance, allowing patients to develop resilience and effectively handle PLHIV difficulties.^{19,20} Furthermore, the social part of yoga courses develops a sense of community and belonging, which helps PLHIV overcome feelings of loneliness. Yoga classes with others create a warm setting in which people may share their experiences and emotions, establishing a sense of belonging.^{8,19}

Yoga has distinct advantages for PLHIV when compared to other forms of exercise. A combination of physical motions, controlled breathing, and meditation promotes mindfulness and inner awareness.^{8,20,21} This mind-body connection is especially good for stress management, which is critical for people

living with chronic diseases like HIV.^{8,20} Furthermore, yoga is a low-impact activity that is accessible to people of all fitness levels, making it appropriate for those with a variety of health issues.^{8,20} Yoga, as opposed to high-intensity activities, has a low impact on the body, making it an excellent choice for individuals with physical limitations or underlying health conditions.²⁰ Yoga has been found to boost psychological well-being. Consistent yoga practice helps reduce sadness and anxiety levels, contributing to improved mental health and overall psychological well-being.^{8,21} It encourages relaxation and mindfulness, assisting people in dealing with emotional distress and worry.^{8,20}

Overall, yoga's multidimensional approach contributes to reducing stress, improving mood, enhancing physical well-being, and promoting emotional resilience among PLHIV.^{8,19-21} By embracing yoga as a regular practice,

individuals can experience an improved quality of life, better management of HIV-related symptoms, and a positive outlook on their overall health and well-being. It is important to note, however, that yoga is a complementary therapy and should not be utilized in place of established medical care.^{8,20}

Yoga's positive impact on PLHIV quality of life has significant clinical consequences. Healthcare practitioners should investigate yoga sessions as complementary therapies for HIV management. Yoga can be included in current treatment programs to promote general well-being and coping skills in PLHIV. Yoga can be recommended by clinicians as a non-pharmacological strategy for managing stress, exhaustion, and mental health difficulties that PLHIV regularly faces.

The studies included PLHIV aged 21 to 60 years old, representing a crucial age group in terms of managing the condition and maintaining a good quality of life. Therefore, the findings are particularly relevant and applicable to this age range within the HIV population. However, it is essential to note that the generalization of these findings to other age groups and diverse populations requires further research.

While the studies show promising results, they are not without limitations. The sample sizes in some studies were relatively small, and the duration of the interventions varied. Future research could greatly benefit from using larger and more diverse samples to enhance the generalizability of the findings. Furthermore, conducting longer-term studies is essential to investigate the sustained effects of yoga interventions on the quality of life among PLHIV. Additionally, comparative studies that directly assess the superiority of yoga over other forms of exercise would be valuable in establishing its unique benefits.

CONCLUSION

Yoga intervention holds promise in significantly enhancing the quality of life of PLHIV. Its holistic and integrative approach, encompassing physical movements, controlled breathing, and meditation, positively influences physical,

mental, emotional, and social aspects of well-being. Yoga's advantages over other forms of exercise make it an attractive complementary therapy for PLHIV. As healthcare professionals continue their efforts to enhance the overall well-being of PLHIV, integrating yoga interventions into treatment plans can prove to be a valuable strategy for promoting better quality of life and overall health. Nevertheless, further research is essential to bolster the evidence and broaden the application of yoga in HIV management.

CONFLICT OF INTEREST

There is no conflict of interest in this study.

FUNDING

This study was not funded by any grant source.

AUTHOR CONTRIBUTIONS

AAGAPN gathered data, compiled literature, devised the study design, chose relevant material, and produced the article for publication.

ETHICS CONSIDERATION

In this study, the researchers conducted a review of previous literature. Since this study involved analyzing existing data and did not directly involve human subjects or collect new data, there was no need to obtain ethical clearance.

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