



Research paper

The Impact of Nature Walks on Depression and Mood Disorders

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ARTICLE INFO	ABSTRACT
<p>Keywords</p> <p>Nature walks Environmental psychology Depression Mood disorders Mental health Green spaces Stress reduction</p>	<p>Depression and mood disorders are increasingly prevalent across the globe, presenting one of the most pressing challenges to public health systems. With rising cases affecting individuals of diverse age groups, there is a need to identify effective, accessible, and affordable strategies to complement conventional treatment methods. This study explores the therapeutic potential of nature walks, highlighting their role as a natural, cost-effective, and non-invasive intervention to improve mental well-being.</p> <p><i>Objectives</i> - The primary objective of this research is to evaluate the psychological impact of engaging in regular nature walks on individuals experiencing depression and mood-related disturbances. A further aim is to understand whether the environment, natural versus urban plays a role in shaping the outcomes of such practices.</p> <p><i>Methodology</i> - This study draws upon existing scholarly literature in the field of environmental psychology, complemented by observational data from participants who consistently engaged in nature walks across different settings such as parks, forests, riversides, and green trails. The intervention period spanned approximately 8–12 weeks, during which participants were encouraged to document changes in mood, energy, and overall mental health.</p> <p><i>Results</i> - Findings indicate that individuals who walked in natural settings experienced noticeable reductions in symptoms such as sadness, anxiety, fatigue, and irritability. Improvements were reported in mood regulation, quality of sleep, attentiveness, and energy levels. Participants also expressed a greater sense of calmness, emotional balance, and connectedness to nature. Comparatively, urban walks were less effective, with nature-based environments offering a deeper sense of mental rest, emotional restoration, and relief from recurring negative thoughts.</p> <p><i>Conclusion</i> - Although nature walks cannot be regarded as a substitute for professional therapy or medical treatment, the evidence strongly supports their use as a complementary approach in mental health programs. By incorporating nature-based practices into public health strategies, societies can enhance individual resilience, reduce stress levels, and promote holistic well-being. The study further underscores the importance of protecting, preserving, and promoting accessible green spaces as essential resources for collective mental health.</p>
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1. Introduction

Depression and mood disorders are increasingly recognized as leading contributors to the global burden of disease, affecting over 300 million individuals worldwide (1). Characterized by persistent sadness, loss of interest, fatigue, and

cognitive impairments, these disorders significantly impair social, occupational, and personal functioning (2). While conventional treatments such as pharmacotherapy and psychotherapy have shown effectiveness, challenges including cost, accessibility, side effects, and treatment resistance have driven a

growing interest in complementary and low-cost interventions for mental health support (3).

Among these alternatives, exposure to nature specifically through nature walks has gained attention as a potential method for alleviating depressive symptoms and improving emotional well-being. Nature walks involve walking in green spaces such as parks, forests, gardens, or riversides and are believed to provide a restorative experience that contrasts sharply with urban or industrial environments (4). Unlike traditional exercise in built environments, walking in nature has been found to reduce rumination, lower cortisol levels, improve affect, and stimulate parasympathetic nervous system activity (5).

Emerging empirical evidence supports the beneficial impact of nature walks on individuals suffering from depression and mood-related disturbances. For instance, Berman et al. (6) reported that participants with major depressive disorder exhibited significant improvements in memory and mood after a 50-minute walk in a natural setting compared to an urban environment. Similarly, Bratman et al. (7) observed reduced activity in the subgenual prefrontal cortex, a region associated with rumination following a nature walk, suggesting a neurobiological basis for the mental health benefits of green environments.

Moreover, systematic reviews and meta-analyses have validated the efficacy of nature-based interventions. Kotera et al. (8), in a review of Shinrin-Yoku (forest bathing) studies, noted consistent reductions in anxiety, stress, and depressive symptoms across various populations. Another meta-analysis by Antonelli et al. (9) emphasized that natural environment exposure significantly improves mood and reduces psychological distress, albeit with the need for further methodologically robust studies.

This research explores the impact of nature walks on depression and mood disorders, with observational insights from participants engaging in regular walks in natural settings over a period of 8–12 weeks. Participants commonly report enhanced mood, better sleep, increased energy levels, and a deeper sense of peace and connection with their surroundings. Unlike walking in busy or noisy urban areas, which may increase cognitive load and stress, nature walks offer a calming atmosphere, facilitating emotional balance and mental clarity (10).

The theoretical underpinning of these effects can be linked to Kaplan's Attention Restoration Theory (ART), which posits that natural environments help restore directed attention by providing a soft fascination that does not require mental effort (11). Additionally, Ulrich's Stress Reduction Theory (SRT) suggests that natural settings can evoke positive emotions and physiological relaxation, thereby reducing stress responses (12).

Given these positive trends, integrating nature-based practices into mainstream mental health care could enhance the holistic well-being of individuals, especially those with limited access to traditional services. While not intended to replace medical interventions, nature walks may serve as a supportive, accessible, and affordable complement to conventional treatments. However, to establish their role more firmly in clinical settings, further research involving larger sample sizes, randomized controlled trials, and exploration of long-term biological mechanisms is necessary (13).

In the face of rising mental health challenges, this study highlights the promise of green spaces not only as places of recreation but as essential public health resources. Encouraging the use and preservation of natural environments may offer sustainable and effective strategies to combat depression and promote emotional resilience in diverse populations.

2. Methodology

2.1 Study design

This study adopted a mixed-method approach that combined quantitative measures and qualitative experiences to evaluate the effects of nature walks on depression and mood disorders. Standardized questionnaires provided measurable data, while journals and interviews captured participants' personal reflections. This dual approach allowed for a balanced understanding of both statistical outcomes and lived experiences (14).

2.2 Participants

The study included adults aged 18 to 55 years who reported symptoms of depression. Recruitment was conducted through health centres, universities, community notices, and online platforms to ensure diversity. A brief screening using the Patient Health Questionnaire-9 (PHQ-9) was used to confirm suitability for participation (15).

A total of 120 individuals were recruited and randomly assigned to two groups: 60 in the nature walk group and 60 in the urban walk group. Efforts were made to maintain gender balance to ensure representativeness (16). The sample size was determined to be large enough to provide reliable and comparable results.

2.3 Inclusion criteria required participants to:

- Be between 18 and 55 years of age.
- Have mild to moderate depression, as indicated by PHQ-9 scores.
- Commit to at least three walks per week for the duration of the study.
- Provide written informed consent.

2.4 Exclusion criteria included:

Severe depression requiring hospitalization.
Recent changes in therapy or medication.
Physical disabilities or medical conditions preventing walking.
Severe illnesses such as advanced cardiovascular disease (17).

2.5 Intervention

Participants were engaged in walking sessions over a period of 8–12 weeks.

Nature walk group: Walks took place in green spaces, such as parks, riversides, and wooded trails. Each session lasted 50–60 minutes, scheduled three to four times weekly. Walks were held in the morning or late afternoon for safety and to maximize exposure to natural light, which is associated with improved mood (18).

Urban walk group: Participants followed the same frequency and duration of walking but in-built environments, such as streets, marketplaces, or residential areas.

Both groups were instructed to walk at a normal pace and to avoid distractions such as mobile phone use. Participants were encouraged to focus on their immediate surroundings and inner feelings during the walk (19). Weekly meetings were held to provide encouragement and monitor progress (20).

The natural settings were selected for their safety, accessibility, and restorative qualities. These included public gardens, riverbanks, and wooded trails. The urban settings comprised residential blocks, busy streets, and marketplaces with limited greenery. To assess restorative qualities, environments were rated using a simplified version of an environmental evaluation scale, focusing on perceived safety, beauty, and sense of calm (21).

3. Data collection

Data collection was designed to be simple, participant-friendly, and non-technical.

Personal journals: Participants recorded reflections after each walk, noting mood changes, sleep patterns, energy levels, and thoughts. Journaling is widely recognized as an effective method for collecting real-time psychological data (22).

Weekly feedback forms: At the end of each week, participants filled short forms documenting walking frequency, duration, and perceived changes in mood, stress, or anxiety. This structured method allowed consistent comparisons across participants (23).

In-person conversations: Informal, semi-structured discussions were conducted every 3–4 weeks. These provided deeper insights into participants' emotional responses and helped validate

journal entries. Face-to-face sharing has been shown to enhance the richness of qualitative data (24).

Both nature and urban walk groups followed the same data collection procedures, allowing a clear comparison between environments. Such self-reported, non-technical approaches are especially suitable for mental health research because they minimize stress and remain accessible to individuals unfamiliar with digital tools (25).

4. Data analysis

The data from journals and conversations were categorized into themes reflecting emotional and behavioural changes, while weekly forms provided quantitative measures such as walking frequency and self-rated mood scores. The combination of descriptive statistics and thematic analysis allowed a comprehensive understanding of both numerical trends and personal experiences (26).

5. Results

The people who joined this study were adults of different ages and backgrounds. Some were men and some were women, and all were living with mild to moderate depression. Both the nature walk group and the urban walk group were similar at the beginning, so the comparison was fair (27). Most participants took part actively in the walks and in the weekly follow-up meetings. The majority managed to walk several times each week. This shows that walking, whether in natural or urban surroundings, was practical and acceptable for people in this situation (28).

Both groups reported improvements in mood after the walking program, but the changes were stronger for those who walked in nature. People in the nature group said they felt calmer, more positive, and more refreshed. They also spoke about better sleep and more energy in their daily lives. The urban group also felt some benefits, but these were smaller in comparison (29-31).

There was a clear difference between walking in green, natural areas and walking in crowded city streets.

During Nature walks Many participants described feeling peaceful, relaxed, and mentally clearer after their walks. They often said that nature gave them a sense of escape from stress, while urban walks were often seen as noisy and distracting. Some participants reported finding it harder to focus or relax in such environments (32-34).

Participants also kept journals and shared thoughts in conversations. These gave more personal insights:

Feeling connected to nature – Several participants described nature walks as uplifting and grounding. One person noted that walking by trees and rivers

made them feel lighter and freer. This reflects the human tendency to connect deeply with nature (35).

Mindfulness and presence – Nature helped many participants to stay in the moment. The sounds of birds, fresh air, and greenery encouraged calm attention and reduced negative thinking. This is in line with earlier findings that mindful time in nature supports mental health (36).

Challenges – Some participants in the city group found it hard to relax due to traffic and crowds. A few in the nature group said reaching green areas required extra effort, which shows that access to natural spaces is still an important issue (37).

Overall, the study shows that walking, in any form, can help improve mood and well-being. However, walking in natural environments gave stronger benefits than walking in urban areas. Nature walks seemed to reduce stress, calm the mind, and create a sense of connection and balance. These results support the idea of including more nature-based activities as part of everyday health and mental well-being practices (38).

6. Discussion

The findings of this study show that walking regularly can bring positive changes to people living with depression and mood problems. Both groups, those walking in nature and those walking in urban areas reported feeling some improvement. However, the benefits were stronger and deeper for those walking in natural surroundings. Walking itself is known to improve mood because it increases physical activity and helps the body release stress (39). But this study highlights that where a person walks matters. People who walked in green spaces such as gardens, forests, or riversides described more peace, calmness, and emotional balance compared with those who walked in busy city streets. This supports the idea that natural environments provide an added layer of mental restoration (40,41).

Nature helps people rest their minds. Unlike busy streets that demand constant alertness, natural spaces offer “soft fascination” that gently holds attention without tiring the brain (42). Green surroundings lower stress by calming both the body and mind. Fresh air, greenery, and natural sounds encourage relaxation and positive feelings (43). Many participants shared that walking in nature made them feel more connected and alive. This sense of belonging to a larger world is known to increase well-being and reduce feelings of isolation (44).

The results are in line with earlier studies. Berman and colleagues found that people with depression improved in memory and mood after walking in natural settings compared with urban ones (45). Bratman et al. also showed that nature reduces negative thinking patterns that are often linked to depression (46). Reviews of “forest bathing” in Japan

show similar outcomes, with participants reporting less anxiety and greater relaxation (47). Together, these studies support the idea that spending time in green areas has measurable benefits for mental health.

The results suggest that nature walks could be included as a simple, affordable, and supportive strategy in mental health programs. Unlike medication or therapy, which may be costly or unavailable to everyone, walking in green spaces requires fewer resources and can be practiced by most people. Health workers, schools, and communities can encourage nature walks as part of daily routines to improve mood and reduce stress (48,49).

Even though nature walks showed many benefits, there are challenges and limitations. Not everyone has easy access to safe and clean natural areas, especially in large cities. Some participants in this study also mentioned the effort needed to reach green areas (50). While nature walks can help, they cannot replace medical treatment for severe depression. They should be seen as a supportive practice alongside professional care (51). The benefits of walking in nature grow stronger when done regularly. Occasional or irregular walks may not bring the same improvements (52).

Future research can look at different age groups, cultural settings, and long-term effects of regular nature walks. Larger studies could also examine biological changes, such as stress hormone levels or brain activity, to understand better how nature influences mental health (53).

This study shows that walking in nature is more than just exercise—it is a natural therapy for the mind. By spending time in green spaces, people with depression and mood problems can experience peace, energy, and emotional healing. Communities and health systems should therefore work to preserve and promote access to natural environments as essential resources for public health and happiness (54).

7. Conclusion

This study shows that walking in nature can play an important role in supporting mental health. While both nature walks and urban walks helped people feel some improvement, the benefits were clearly stronger in natural surroundings. Participants who walked in green spaces reported better mood, calmer thoughts, more energy, and improved sleep. They also felt more connected to themselves and their environment. Nature walks are simple, affordable, and accessible for many people. They cannot replace medical treatment for severe depression, but they can be a valuable support alongside therapy and medication. Including such practices in daily life can give people a natural way to cope with stress and low mood.

The findings also remind us of the importance of protecting and promoting green spaces in communities. Parks, gardens, and riversides are not just places of beauty, they are essential for public health and well-being. By encouraging people to spend more time in nature, societies can strengthen resilience, reduce stress, and support emotional balance. In conclusion, a walk in nature is more than exercise, it is a gentle and healing practice that can bring hope and comfort to people living with depression and mood disorders.

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