



Chromotherapy's Effectiveness in Treating Depression

Depresyon Tedavisinde Kromoterapinin Etkinliği

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ABSTRACT

Depression is a mental health disorder that has affected millions worldwide, causing immense impairment in one's quality of life. Some patients may not be treated effectively with conventional treatments such as pharmacotherapy and psychotherapy. Thus, complementary therapies like chromotherapy hold promise as an alternative or adjunctive approach. The following review summarizes the results of recent research into the effectiveness of chromotherapy in treating depression, describing its mechanisms, effectiveness in diverse populations, and benefits when combined with other therapies. Besides promising results, large-scale studies are necessary to standardize protocols and confirm efficacy for a longer period.

Keywords: Chromotherapy, depression, complementary therapies, light therapy

ÖZET

Depresyon, dünya çapında milyonlarca kişiyi etkileyen ve kişinin yaşam kalitesinde büyük bozulmalara neden olan bir ruh sağlığı bozukluğudur. Bazı hastalar farmakoterapi ve psikoterapi gibi geleneksel tedavilerle etkili bir şekilde tedavi edilemeyebilmektedir. Bu nedenle, kromoterapi gibi tamamlayıcı tedaviler alternatif veya yardımcı bir yaklaşım olarak umut vaat etmektedir. Bu derleme, kromoterapinin depresyon tedavisindeki etkinliğine ilişkin son araştırmaların sonuçlarını özetlemekte, mekanizmalarını, farklı popülasyonlardaki etkinliğini ve diğer tedavilerle birleştirildiğinde sağladığı faydaları açıklamaktadır. Umut verici sonuçların yanı sıra, protokollerini standartlaştırmak ve daha uzun bir süre boyunca etkinliği doğrulamak için büyük ölçekli çalışmalar gereklidir.

Anahtar kelimeler: Kromoterapi, depresyon, tamamlayıcı terapiler, ışık terapisi

Introduction

Major depressive disorder is one of the most found mental disorders worldwide. According to World Health Organization (WHO) estimations, it affects more than 280 million people and is considered a leading cause of disability and one of the most significant factors contributing to health burdens worldwide ¹. While pharmacological interventions like Selective serotonin reuptake inhibitors (SSRIs) and psychotherapeutic interventions using Cognitive Behavioral Therapy (CBT) are still very effective, because of the associated side effects or resistive nature of the treatments, these options may not be fitting or adequate for all patients ². This has thus spurred the interest in more alternative approaches to therapies like chromotherapy ³.

Chromotherapy, or color therapy, is a non-invasive treatment approach using selected colors to derive an emotional response and influence physiological pathways in the brain ⁴. Colors have been studied to possibly influence neurotransmitters like serotonin and dopamine, which play a role in maintaining mood ⁵. The current review describes the synthesis of evidence related to the use of chromotherapy in the management of depression, as an independent intervention, and as part of multimodal therapeutic intervention.

Methods

Search Strategy

A literature search of all relevant material was performed in various databases, including PubMed⁶, Google Scholar⁷, Cochrane Library⁸, and Web of Science⁹, from November 2005 to August 2024. The keywords



used were "chromotherapy," "color therapy," "treatment of depression," "mood disorders," and "alternative therapies for depression." Both qualitative and quantitative studies were considered for inclusion.

Inclusion and Exclusion Criteria

The listed features were considered to produce a strong, relevant set of data for the study in question.

- The studies selected must focus on chromotherapy used either as primary or adjunctive treatment for depression or mood disorders.
- Participants should have been diagnosed with clinical depression or significant depressive symptoms measured using the Beck Depression Inventory (BDI) or Hamilton Rating Depression Scale (HAM-D). English-language, peer-reviewed articles.
- Quantitative primary studies that report outcomes for depressive symptoms or related measures such as stress.

Data Extraction

Data extracted by the two independent reviewers included but were not limited to the following variables:

- Study design: randomized controlled trial, observational study, and pilot study
- Sample size and description of participants
- Intervention details-color type, duration of exposure, number of sessions
- Outcome measures-change in depressive symptoms
- Key findings and limitations

Data Synthesis

Data were synthesized into themes to provide an overall analysis about the effects of chromotherapy. Results were tabulated according to type of intervention and population, with statistical significance and effect size, where possible.

Results

1. Chromotherapy for Depression as an Independent Treatment

Several works researched chromotherapy as an individual treatment. Femila, in 2018, did research on 20 head and neck cancer patients who were suffering from depression. Patients were exposed to blue and green light in sessions of chromotherapy. A significant reduction in depressive symptoms according to BDI was obtained in cases ¹⁰. These colors, being cool, affect the parasympathetic nervous system by maintaining emotional stability. Conclusively, Ifdil et al. 2019 established that chromotherapy, while it aims at reducing anxiety among primary school pupils, indirectly assisted in decreasing depressive tendencies by promoting their relaxation. This is according to the work done by Ifdil et al., 2019 as shown on page ¹¹.

2. Chromotherapy in Combination with Other Therapies

The introduction of other forms of therapy has shown a more effective tendency of chromotherapy. Suarez et al., 2024 conducted a study to test the application of chromotherapy with music therapy and light therapy on a sample of chronic pain patients with a high prevalence of depression. A significant reduction in symptomatology linked with depression and pain was observed, indicating that chromotherapy enhances the effectiveness of alternative therapies ¹².

3. Role of Chromotherapy in Reducing Stress and Preventing Depression

Stress is documented as one of the precursors to depression, and the capability for chromotherapy to reduce stress has been studied in much research. Hoda and Mahoklory researched the effect of chromotherapy in hypertensive patients and found notable reductions in levels of stress, therefore suggesting its potential in preventing the onset of depression ¹³. This study did not focus on depression but only on stress; it also showed that chromotherapy could potentially prevent the onset of mood disorders.

4. Long-term efficacy of Chromotherapy

However, only a few have reported the chronic benefits of chromotherapy in dealing with mood disorders. In this aspect, Kang 2021 designed an experiment on nurses subjected to color therapy frames for several months to reduce job-related stress and depression. The sustained improvements in mood were recorded, depicting a significant reduction in both depressive symptoms and job stress¹⁴. These findings hint that chromotherapy may be useful as a long-term intervention in high-stress professions.

5. Mechanisms of Action

Although the exact modes of action by which chromotherapy exerts its effects are still under investigation, a few theories have been postulated. The basic hypothesis infers that the action of specific colors initiates and activates neurohormonal pathways, inducing the secretion of serotonin and dopamine, neurotransmitters highly involved in mood modulation¹⁵. There is a substantial amount of evidence to prove that colors in the blue and green spectrum tend to trigger the parasympathetic nervous system while inhibiting physiological arousal associated with states of stress or depression¹⁶. Other studies on colored light modulated further go on to propose that it regulates the autonomic nervous system, hence giving further credence to its mood-enhancing effect¹⁷. Table 1 summarizes the features of research assessing chromotherapy's effectiveness in treating depression.

Table 1. Summary of studies that assess the efficiency of chromotherapy in treating depression.

Study	Sample Size	Intervention	Outcome	Limitations
Femila (2018) ¹⁰	20	Chromotherapy in head and neck cancer patients	Significant reduction in depressive symptoms	Small sample size; specific population
Ifdil et al. (2019) ¹¹	5	Chromotherapy for anxiety in school students	Improvement in mood, reduced anxiety, indirect effect on depression	Not focused directly on depression
Suarez et al. (2024) ¹²	44	Combined chromotherapy, music, and light therapy	Notable improvement in mood and pain reduction	Multimodal intervention; unclear specific effect of chromotherapy
Hoda and Mahoklory (2022) ¹³	120	Chromotherapy in hypertensive patients	Reduced stress, potential to prevent depression onset	No direct measurement of depression
Kang (2021) ¹⁴	29	Chromotherapy using color frames for nurses	Long-term reduction in depressive symptoms and job stress	Requires further long-term study

Discussion

The findings from this review present chromotherapy as a very promising complementary therapy in the treatment of depression, mainly when combined with other therapies like music and light. It also emerged from these studies that colors, especially those of blue and green, reduce symptoms of depression through creating emotional balance and relaxation.

This is, however, the present limitation with the available literature: extremely small sample sizes; a lack of normalization regarding treatment modality about duration, intensity, and frequency of chromotherapy sessions; and subjective perception of colors present difficulties for standardization among populations. And, more problematically, it is usually combined with other treatments, which raises further complications in the effort to isolate its specific effects.

Conclusion

This systematic review indicates that chromotherapy offers good promise as an adjunctive treatment in depression. The studies reviewed showed that chromotherapy could uplift mood, reduce stress, and overall improve symptoms of depression, especially when taken in combination with other treatments like music

or light therapy. On the contrary, the variations in study design and lack of uniformity in treatment modalities put up a case for further research.

Further studies will be required in the future, with emphasis on large-scale randomized controlled trials (RCTs) that could provide better estimations of efficacy regarding chromotherapy and long-term effects. Besides, standardization in treatment guidelines will be necessary for clinical application.

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