

# Investigation of the Beneficial Effect of Balneotherapy in Mental Health

Eleni- Argyroula Tsounia<sup>1</sup>, Konstantinos Chandolias<sup>2\*</sup>, Aristi Tsokani<sup>1</sup>, Vasiliki Stefanouli<sup>1</sup>, Nikolaos Strimpakos<sup>3,4</sup>

<sup>1</sup>PhD candidate, Health Assessment and Quality of life Research Lab, Physical Therapy, University of Thessaly, Greece,

<sup>2</sup>Adjunct Lecturer, Post Doc researcher, Health Assessment and Quality of Life Research Lab, Physical Therapy, University of Thessaly, Greece,

<sup>3</sup>Professor, Chair of Health Assessment and Quality of Life Research Lab, Physical Therapy, University of Thessaly, Greece,

<sup>4</sup>Honorary Research Associate, University of Manchester, Division of Musculoskeletal & Dermatological Sciences

\*Corresponding author

## 1 Background

Balneotherapy is bathing in natural mineral water from hot springs and widely used in medicine as a cure for various diseases [1, 2]. In most European countries, balneotherapy preferred by elderly European citizens who are requesting alleviation mainly from musculoskeletal problems [3]. Many studies have been published to investigate the efficacy of balneotherapy on dermatological diseases [4], cardiovascular [5], metabolic [6], neurological [7], and respiratory conditions [8]. In most of the studies in balneotherapy, mental health outcomes are found as secondary measures, and these results come from the assessment of the quality of life [9, 10]. Recently, the research field in balneotherapy, focus clearly on mental health conditions' beneficial outcomes [11]-[13].

## 2 Purpose

The purpose of this study is to review the literature regarding the effectiveness of balneotherapy on mental health conditions.

## 3 Methods

A literature review was performed on 4 databases namely PubMed, Web of Science, Scopus, and OVID, from 2001 to 31 December 2021. The inclusion criteria of the study were the English language and involved randomized controlled trials or systematic reviews.

Results: Finally, 26 articles (25 randomized clinical trials and 1 systematic review) were included in this study. The findings of most studies revealed that mental health conditions [14] such as stress [15], anxiety, depression [11], and sleep problems [15, 17] seem to improve with a balneotherapy program.

## 4 Conclusions and Implications

Balneotherapy seems to have beneficial effects on mental health conditions. Reduction of drug application or the need of non - pharmacological treatments were the most significant effects of balneotherapy programs. However, further clinical research is required to determine the specific effect of several parameters such as the physicochemical composition of natural mineral water on human body and the balneotherapy protocol should be applied for specific diseases.

**Keywords:** balneotherapy, spa therapy, mental health



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