

Hydrotherapy (Hot/Cold Baths) and Thermotherapy (Saunas) for Mental Health

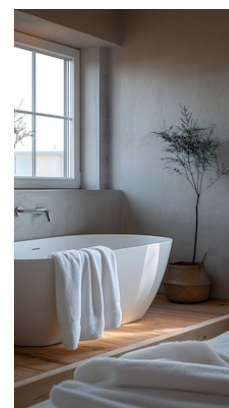


Image credit: Freepik

Summary: Many people enjoy hot baths or a sauna as part of their routine. Others prefer cold, such as a cold shower or perhaps a cold plunge. Certain countries, such as Finland, are famous for their cultural practice of using hot saunas and hot and cold water baths. Sweat lodges, using a hot steam bath, is a traditional indigenous practice for healing. The scientific evidence is now confirming what many traditional cultures already know -- that various water-based or heat-based interventions may be therapeutic for depression, anxiety, sleep, and mental health.

Introduction

Enjoying a hot bath is something that many people do as part of their daily routine. In Finland, saunas are extremely popular, and some have wondered if this is part of why the Finnish regularly rank as one of the happiest countries in the world, if not the happiest (Economist, 2024).

Evidence for Hydrotherapy (Hot and Cold Water Baths)

For depression

A study looked at 48 adults with moderate to severe depression (Naumann, 2018) followed at a university clinic. They were randomized into two groups:

- Physical exercise
 - One group received physical exercise (moderate-intensity aerobic exercise), with sessions lasting 45-50 minutes.
 - Dosage: Patients had exercise sessions with a trained exercise therapist twice a week for 8 weeks, for a total of 16 sessions.
- Hot water bath
 - The other group received a hot water bath at 40 C at a spa center near Freiburg, Germany.
 - All baths were taken between 2-6 PM.
 - Patients bathed until they felt too hot, or up to a maximum of 20 minutes.
 - After 20 minutes in a bath of 40 C, the core body temperature is expected to rise by 1.7 C.
 - Dosage: Patients received two treatments per week for eight weeks, with 16 sessions in total.

Study results showed that both physical and hot water baths helped improve symptoms of depression. In fact, hot water baths reduced patient's depression scores more than physical exercise.

For anxiety

A study showed that patients with anxiety had improvements in anxiety with a hot water bath of 37 C for 10 minutes (Dubois et al., 2010).

How Might Hot Baths Work?

It is theorized (Naumann, 2018) that whole-body hyperthermia (i.e. hot water baths) may have antidepressant effects, which might be mediated through:

- Improvements in sleep
- People with depression have changes in circadian rhythm, body temperature and sleep.
- People with depression have elevated body core temperature, whereas sleep quality is improved when the core body temperature decreases.
- After raising the core body temperature, the cooling may calm the body in various ways, such as releasing neurotransmitters that help sleep or calming the autonomic nervous system.

Evidence for Cold Water Interventions

There are many ways in which humans have utilized cold water to feel better:

- Cold foot baths
- Cold water plunges
- Regular cold showers

One theory explaining why so many people enjoy doing this is that exposure to cold water stimulates the 'mammalian dive reflex,' a calming reflex. The theory is that early humans, upon entering the water, would have had a greater chance of survival if they had calmed down (instead of becoming panicky and hyperventilating).

Evidence for Saunas

Research has suggested the following benefits for regular users of saunas:

- Relaxation/stress reduction ((Hussain, 2019)
- Improvements in sleep lasting 1-2 nights after using a sauna (Hussain, 2019):.
- People who used a sauna at least 5-15 times/month reported higher mental well-being scores (Hussain, 2019).
- Reduced risk of psychosis (Laukkanen, 2019).

Side effects of saunas

- Dizziness and dehydration (Hussain, 2019).

Recommendation

Many cultures practice cold or hot water baths and saunas. Evidence shows that these may be helpful for sleep, anxiety and depression. Compared to other treatments such as medications and psychotherapy, they are lower cost, can be tried at home, and have less risk of side effects.

For those who like cold, there are a variety of cold interventions ranging from a cold foot bath to cold showers, cold baths and 'cold plunges'.

For those who prefer heat, there are hot baths and saunas.

References

Dubois O, Salamon R, Germain C, Poirier MF, Vaugeois C, Banwarth B, Mouaffak F, Galinowski A, Olié JP. Balneotherapy versus paroxetine in the treatment of generalized anxiety disorder. *Complement Ther Med*. 2010;18(1):1-7.

The secret behind the world's happiest country: Sweating in the sauna helps, *Economist*, 2024 Apr 4.

<https://www.economist.com/europe/2024/04/04/the-secret-behind-the-worlds-happiest-country#>

Tanjaniina Laukkanen, Jari A. Laukkanen, Setor K. Kunutsor; Sauna Bathing and Risk of Psychotic Disorders: A Prospective Cohort Study. *Med Princ Pract* 1 March 2019; 27 (6): 562-569. <https://doi.org/10.1159/000493392>

Hale MW, Raison CL, Lowry CA. Integrative physiology of depression and antidepressant drug action: Implications for serotonergic mechanisms of action and novel therapeutic strategies for treatment of depression. *Pharmacol Ther*. 2013 Jan; 137(1): 108-18.

Hussain, Joy N., et al. "A Hot Topic for Health: Results of the Global Sauna Survey." *Complementary Therapies in Medicine*, vol. 44, 2019, pp. 223-234, <https://doi.org/10.1016/j.ctim.2019.03.012>. Accessed 31 May 2024.

<https://www.sciencedirect.com/science/article/pii/S0965229919300998>

Naumann, Johannes, et al. "Effects and Feasibility of Hyperthermic Baths for Patients with Depressive Disorder: A Randomized Controlled Clinical Pilot Trial." *bioRxiv* (2018): 409276.

<https://www.biorxiv.org/content/10.1101/409276v1.abstract>