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| Disease | Authors | Mode of therapy | n | Treatment duration | Efficacy | *Evidence (Design and journal type) |
|--------------|------------------------|--------------------------|----|--------------------|--|-------------------------------------|
| Fibromyalgia | Buskila et al. (27) | Sulfur baths (2000 mg/l) | 48 | 10 days | Improvement in clinical indices up to 3 months | A(A) |

* For details see table 3 caption

Table 3. Effects of balneotherapy in randomized controlled trials or clinical studies conducted on patients with chronic non-inflammatory musculoskeletal diseases.

| Disease | Authors | Mode of therapy | n | Treatment duration | Efficacy | *Evidence (Design and journal type) |
|----------------|-----------------------|--|-----|--------------------|--|-------------------------------------|
| Osteoarthritis | Nguyen et al. (28) | Spa therapy at Vichy (France) | 188 | 3 weeks | Improvements in pain and functional impairment up to 6 months | A(A) |
| | Kovacs et al. (29) | Spa therapy (Solute content 1675 mg/l mainly sodium bicarbonate and fluoride) | 58 | 15 days | Improvement in clinical indices compared to tap water | B(A) |
| | Green et al. (30) | Hydrotherapy in a deep pool, and home exercise | 47 | 6 weeks | Improvement of symptoms in both groups | C(A) |
| | Wigler et al. (31) | Dead sea balneotherapy | 33 | 2 weeks | Improvement in clinical indices specially with the combination of mineral bath and mud packs | A(A) |
| Low back pain | Guillemin et al. (32) | Spa therapy (total minerals <500 mg/l, mainly sulfate and sodium) with high pressure under water shower (36°C) | 102 | 3 weeks | Positive short term effectiveness on chronic pain compared to controls | A(A) |

Continued:

| Disease | Authors | Mode of therapy | n | Treatment duration | Efficacy | *Evidence (Design and journal type) |
|--------------|-----------------------------|---|-----|--------------------|---|-------------------------------------|
| | Constant et al. (33) | Spa therapy (total minerals 8073 mg/l, mixed bicarbonate, chlorine and sodium) and drug therapy compare with drug therapy alone | 121 | 3 weeks | Improvements in signs and symptoms in the combination group | A(A) |
| | Konard et al. (34) | Balneotherapy (bicarbonate 445.3 mg/l, sulfate 109.9 mg/l) and calcium (117.2 mg/l), underwater massage, underwater traction bath | 158 | 4 weeks | Reduction of analgesics and pain score in all intervention groups | B(C) |
| Chronic pain | Strauss-Blasche et al. (35) | Balneotherapy with mud and CO ₂ applications | 387 | 3 weeks | Seasonal variation in effectiveness, best response was between April and June | B(c) |

* For details see table 3 caption

Table 4. Effects of balneotherapy in randomized controlled trials or clinical studies conducted on metabolic conditions.

| Condition | Authors | Mode of therapy | n | Treatment duration | Efficacy | *Evidence (Design and journal type) |
|------------------------|-----------------------------|---|-----|--------------------|--|-------------------------------------|
| Blood viscosity | Shirakura et al. (39) | Whole body bathing in hyperthermal water (42°C or higher) | 7 | 10-15 minutes | Marked increase of blood viscosity and enhancement in the blood coagulation system | A(c) |
| | Kurabayashi et al. (40) | Drinking electrolyte water at midnight containing (meq/l) Na, 21; K, 7; ca, 1; Cl, 18.5 | 7 | 2 days | Decreasing in blood viscosity from midnight to 8 AM | A(C) |
| Platelet aggregability | Ohtsuka et al. (43) | Hydrotherapy with water temperature between 30 to 40°C | 12 | 4 weeks | Partial improvement of platelet glutathione metabolism | B(c) |
| Beta-thromboglobulin | Take et al. (45) | Hydrotherapy with water temperature of 47 and 42°C | 5 | 10 minutes | Increasing in plasma level of beta-thromboglobulin with 47°C bathing water | B(a) |
| Bone structure | Ay et al. (48) | Aerobic exercise in a spa resort pool with water temperature of 29-30°C | 41 | 6 months | Anabolic effects on the heel bone | A(A) |
| Plasma lipids | Strauss-Blasche et al. (49) | Spa therapy (CO ₂), exercise therapy, and dietary measures | 395 | 3 weeks | Mild decrease in total cholesterol, HDL cholesterol and LDL cholesterol | B(c) |

Continued:

| Condition | Authors | Mode of therapy | n | Treatment duration | Efficacy | *Evidence (Design and journal type) |
|---------------------|-------------------------|--|-----|--------------------|---|-------------------------------------|
| Stress hormones | Kuczera et al. (51) | Spa therapy at Wysowa (Poland) | 175 | 20 days | Increase of concentration of ACTH, cortisol, growth hormone and prolactin | plasma A(c) |
| Plasma homocysteine | Leibetseder et al. (52) | Spa therapy with Sulfur as the main mineral (7.3 mg/l) | 40 | 3 weeks | Reduction of homocysteine in sulfur bath group compare to controls | plasma A(A) |

* For details see table 3 caption

Table 5. Effects of balneotherapy in randomized controlled trials conducted on psychological conditions.

| Condition | Authors | Mode of therapy | n | Treatment duration | Efficacy | *Evidence (Design and journal type) |
|---|---------------------|--|----|--------------------|---|-------------------------------------|
| Psychological tension | Kamioka et al. (58) | Once a week balneotherapy(41.5°C) with lifestyle education and physical exercise | 56 | 3 months | Less psychological tension in the intervention group than controls | B(a) |
| Self-rating depression and vigorousness | Kamioka et al. (59) | Once a week balneotherapy(41.5°C) with lifestyle education and physical exercise | 56 | 6 months | Less self-rating depression and increasing vigorousness in the intervention group than controls | B(a) |

* For details see table 3 caption