

A study on the effects of therapy aimed at health enhancement and prevention of disease using sea water

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Summary

In the present study, the effects of "sea water" on the body were evaluated from the aspects of flexibility, bloodstream, and reduction of load by comparison with fresh water.

1) Changes in flexibility and bloodstream were examined before and after jet stream bathing.

Eleven healthy males were required to take a bath (34-36°C) for 20 minutes and subsequently allowed to rest for 20 minutes. Bathing was conducted in sea water and fresh water under two conditions of jet stream known to have a massaging effect: bathing in sea water or in fresh water in the presence of a jet stream (dynamic water) or in the absence of a jet stream (static water). Flexibility showed no significant difference before and after bathing between any of the bathing conditions. However, bathing in sea water in the presence of a jet stream (dynamic water) produced the highest increase after bathing compared to the other conditions. At 20 minutes after bathing, the blood flow volume demonstrated a significant increase of 59% from the prebathing value for the condition of sea water plus dynamic water. The condition of sea water plus static water also produced a significant increase of 48%. Fresh water failed to produce any significant increases under either condition. Subjective comfort of the examinees was examined by 20-item questionnaire. The order of increases in the parameter of comfort after bathing was sea water plus dynamic water (28%) > fresh water plus dynamic water (16%) > sea water plus static water (10%) > fresh water plus static water (8%). The degree of comfort was highest for the condition of sea water plus dynamic water.

2) In the present study, an in-water weight measurement apparatus was produced in order to measure the degree of reduction in load (body weight) at various depths of water, and the relation between the depth of water and the rate of load (%body weight) was determined. The rate of load in sea water and the depth of sea water were 46% at the umbilical level, 33% at the xiphoid process level, 18% at the axillary region level, and 11% at the clavicle level. There was a difference of about 2% compared to the load rate in fresh water. These results can be used in prescribing exercise in sea water.